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A Weekly Journal ot Medicine and Surgery

EDITED BY
GEORGE F. SHRADY, A.M., M.D.

CONSULTING SURGEON TO ST. FRANCIS HOSPITAL, TO THE GENERAL MEMORIAL HOSPITAL, TO THE COLUMBUS HOSPITAL, TO THE HOME FOR INCURABLES (FORDHAM), TO THE HACKENSACK (N. J.) HOSPITAL, AND TO THE HOSPITALS OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK.

THOMAS L. STEDMAN, A.M., M.D., ASSOCIATE EDITOR,

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Original Articles.

WHAT SHALL WE DO WITH THE CONSUMPTIVE POOR.*

By S. A. KNOPF, M.D.,
NEW YORK.

IN an audience of charity workers, largely composed of laymen, it goes without saying that I shall not attempt to answer this question from a purely medical point of view. What we are anxious to know is how we can help in the solution of the tuberculosis problem in its sociological aspect. Yet it seems to me essential that those of us who labor, not only with tuberculous patients, but also with their friends and relatives, and the large portion of the community whose sympathy we desire to enlist in our cause, should know the true status of a consumptive. We must make a concise, correct, and just idea of what kind of a malady pulmonary tuberculosis, or consumption, really is in order to combat it successfully as a social disease, that is to say, a disease of the masses. Permit me, therefore, to summarize our present knowledge in this respect, and to state the basis on which a trained and scientific charity organization should work.

We now know that tuberculosis, especially in its pulmonary form, is an infectious and *communicable* disease. I lay stress upon the word communicable, for I do not classify pulmonary tuberculosis with the dangerous contagious diseases, and I shall give briefly my reasons for not doing so. It is my firm conviction, based on the experiences and experiments of our greatest European and American scientists, such as Koch, Straus, Grancher, Prudden, Biggs, and others, and on a somewhat extensive experience of my own, that tuberculosis is not a dangerous contagious disease, but only a communicable one. To be in contact with a tuberculous individual who takes care of his expectorations or other secretions, which may contain the bacilli, is not dangerous. In sanatoria for consumptives, where the precautions concerning the sputum are most strictly adhered to, one is perhaps safer from contracting tuberculosis than anywhere else. The great danger from infection lies in the indiscriminate deposit of sputum containing the bacilli, which, when dry and pulverized, may be inhaled by susceptible individuals and then cause the disease to be developed. The communication of the germ of the disease is, however, less obscure to us in its process, and far more easily guarded against than the contagion arising from such maladies as diphtheria, scarlet fever, or smallpox. What has just been said concerning the absolute security from infection in a well-kept sanatorium cannot very well be said of a smallpox hospital, no matter how well directed the hygienic precautions may be. Against the danger from contracting smallpox we have thus far no other means than preventive vaccination, and, in case of an outbreak of the disease, the most rigid isolation. It is entirely different with tuberculosis. The simple contact of a smallpox patient may suffice to convey the disease. This is never possible with a consumptive, even should he be careless or unclean. To the average individual a prolonged exposure is necessary to the transmission of the disease. Herein lies the difference between communicable and contagious.

If pulmonary tuberculosis should be a dangerous contagious disease, as the authorities in the United States Marine Hospital Service would wish us to consider it, scientific charity workers would be powerless to do anything toward the solution of the problem, which is as much a social as it is a medical one. They would not dare to enter the homes of these unfortunate ones to bring them comfort, consolation, and relief. From the admirable paper of Dr. George F. Kean of Providence, R. I., and that of Dr. Lyle of Cincinnati read at a previous meeting of this conference, and from the articles of other authors on the subject which have appeared in the official organ, *Charities*, edited by Dr. Edward T. Devine of New York, you have learned why tuberculosis should be considered a decidedly preventable, and in many instances, absolutely curable disease. It is now also almost universally known to the medical profession, as well as to many of the laity, that tuberculosis in its pulmonary form can be cured in nearly all climates where the extremes of temperature are not too pronounced, and where the air is relatively pure and fresh. In other words, it is not always necessary for a consumptive patient to travel long distances and seek special climatic conditions. In most instances he has a chance of getting well even in his home climate. The sooner the patient puts himself under the care of a competent physician the greater are his chances of recovery. The well-trained physician is the most competent person to guide the patient in the way to prevent reinfection of himself or the infection of his fellowmen. The most modern and most successful methods of treating consumption consist solely and exclusively in the scientific and judicious use of fresh air, sunshine, water, abundant and good food, and the help of certain medicinal substances when the just-mentioned hygienic and dietetic means do not suffice in themselves to combat the disease. The thorough and constant supervision of the pulmonary invalid, the immediate intervention when new symptoms manifest themselves or old ones become aggravated or do not disappear rapidly enough, the prescription of proper food and drink can only be had at the hands of the thoroughly trained physician in the patient's home, or in a well-equipped sanatorium constructed specially for that purpose.

In how many cases which come under our observation can we provide the most modern and most successful methods of treating consumption? From the experience I have had myself as a medical worker among the consumptive poor, I should venture to say that we come in contact with three classes of consumptives, and each class, to my mind at least, needs our assistance as urgently as the others. Of these three classes the first are the absolutely poor, with or without medical attendance, who come for help. The second class are those absolutely poor and consumptive persons whom we meet by chance and whose material need we discover at a glance; lastly, those who cannot be called absolutely poor, who earn enough from day to day so as not to be in want, but who are too proud to appeal for aid when ill, and would rather labor until they are carried home exhausted and put to bed, which they probably never leave again.

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*Address delivered by invitation before the National Conference of Charities and Correction, at the meeting in Detroit, June 2, 1902.

What shall we do with the first class, the absolutely poor, who live in the crowded, unclean, badly-lighted and badly-ventilated tenement houses? What is the friendly visitor to do when he comes face to face with a family in want, of which the father, mother, or one of the children, who may be the breadwinner, is ill in bed with consumption?

If there are in the city, among whose poor you work, enough hospital facilities, the first thing would be the removal of the sufferer to the nearest consumptive hospital, removal from the sad, dark, and dreary surroundings, in which the poor consumptive constitutes a permanent center of infection, and where he has no possible chance of improvement, much less of cure. The next duty would then be to inform the sanitary authorities that they should disinfect and renovate the rooms occupied by this family, and the third duty would, probably, be to provide them with food and clothing until such a time as the breadwinner shall return to them, ready to take up again the support of the family. If he dies, the family will probably remain a burden to the community until the children become, in turn, breadwinners. With the second class of consumptives, with whom we come in contact accidentally, but whose social and physical conditions are the same, we could not, nor would we wish to, act differently. Then comes the third class, that is to say, the not-absolutely poor, who work until they can work no longer. This class has always seemed to me particularly pathetic, just as interesting, and just as much in need as the one which applies directly for help to the Bureau of Charities.

It has been my privilege to see, among this class of patients, men and women who were veritable heroes. An example is the honest laborer, who has had the misfortune to become tuberculous, and finally phthisical, who, at the onset of the disease, had sought the advice of a physician. Presuming that a correct diagnosis had been made, the doctor most likely prescribed, with some tonic and codliver oil, also a few weeks' rest. This treatment, under the most favorable circumstances, meant the sacrifice of a good part of the savings of better days. After a while the patient, seemingly improved, resumed his former occupation, but the improvement was not lasting. He was again and again obliged to take a rest; the intervals between the periods of work became longer and longer; there were no more visits to the doctor. Occasionally, the nearest dispensary was visited, but, owing to the steady decrease of the little reserve fund, there must not only be economy in regard to the physician's visits, but also in the diet. Private, as well as dispensary physicians, urged that the food should be rich and abundant, and that the prescribed tonic was for the purpose of increasing the appetite.

Pardon here a little digression, for an experience which I had in younger days, when engaged as a dispensary physician, seems important enough to be related on this occasion. This experience was a great lesson to me. I have borne it in mind ever since, and I wish I could impress it upon philanthropists who create dispensaries, impress it upon physicians and charity workers alike. A young man who had been out of employment for some time, owing to a moderately advanced case of tuberculosis, came to me for advice. I examined him, took his weight, and found him in a fairly favorable condition. I advised the regular treatment and ordered an additional tonic, so as to increase his appetite. He returned to the dispensary after about ten days, when he did not look quite as well. He was again put on the scales and I found that he had lost nearly four pounds in weight. My first question was "how did the tonic act, has it not increased your appetite?" The answer was "yes, it has indeed; my appetite has been increased, but I have virtually no means to gratify it. I have lived on bread and crackers and a little milk, and I must continue to do so in order to pay my rent." When prescribing that tonic, in order to increase the appetite of the young man, it never entered my mind to also ask him whether he would be able to gratify the appetite which I hoped to increase.

A dispensary for the consumptive poor, no matter how elegantly built, how hygienically constructed, no matter how skilled the mechanical staff, nor how abundant the supply of medicine, becomes a farce if there is not attached to it a system whereby the consumptive without means can be provided with food. It there is ever an occasion for co-operation between the medical profession and organized and scientific charity it is in the perfect working of a tuberculosis dispensary. The charity organizations could investigate the cases which apply at the dispensaries and determine whether there was an abuse, or the greatest need of charity. They could be helpful in providing food, when it was evident to them that the patient had no means to do so himself, and then even the dispensary treatment might prove a success in ambulant tuberculous cases.

The importance of the work done by special tuberculosis dispensaries has been fully recognized in France and Germany, where a number of such institutions are in operation. Only very recently two ladies donated 800,000 francs to the city of Paris for a municipal dispensary for the treatment of tuberculous patients.

After this little digression, let us return to our friend, the honest laborer. His life story is soon finished. He has lingered for a little while, hopeless, helpless, until the end came. He had to die a far too early death, not because his disease was an incurable one, but for the reason that an early, timely, and constant treatment was not within his reach. Concerning this class of consumptives, I have said that your first impulse would be to remove the patient to a special hospital or sanatorium. In a paper on "The Present Aspect of the Tuberculosis Problem in the United States," which I prepared for the meeting of the American Medical Association, I give the result of careful inquiry into the provisions which the States and principal cities of this country have made for the consumptive poor. I will not burden this paper with statistics, but will simply summarize. Thus far, out of the forty-eight States and Territories which have reported to me, only one, Massachusetts, has a State sanatorium in operation, but in the following nine States, viz., Connecticut, Louisiana, Maryland, Minnesota, New Hampshire, New York, Ohio, Rhode Island and Wisconsin, the establishment of State sanatoria for the consumptive poor is under consideration, and in several States some are already in process of construction. Maryland has a State hospital for the consumptive poor; Minnesota has a hospital for tuberculous prisoners, Mississippi has a hospital for the tuberculous insane, and Texas has an agricultural colony for tuberculous prisoners. Only four cities, Cincinnati, Boston, New York, and Buffalo, have special institutions, provided by municipal funds.

New York City has, at the utmost, 1,000 beds to accommodate 10,000 absolutely poor consumptives, and 10,000 consumptives of moderate means. You will agree with me when I say that the people of few States and cities are better off than we are in New York. There is no disease in which the physician is so powerless to benefit his patient as in consumption among the poor, and there is no disease where, by proper hygiene, abundance of food and good nursing, the physician can accomplish more in the home of the well-to-do.

What good could scientific and trained charity workers and medical men accomplish had they the means at their command? And these means are nothing more nor less than a sufficient number of well-equipped special hospitals and sanatoria for the consumptive poor.

Whatever may be our work in preventing the development of tuberculosis, for the time being we must exert all our influence with the municipalities, statesmen, and philanthropists, to impress upon them the urgent necessity of a sufficient number of sanatoria in which to place immediately all cases of consumption which either constitute a source of infection to their kin and neighbors, or who cannot receive in their homes the proper treatment which their condition demands.

All those cases which we classified under numbers one and two are in such urgent need of better shelter and treatment that we must not even lose time in investigating the reasons for the evident extreme poverty. That excellent maxim of modern charity work, "help the poor to help themselves," cannot find immediate application in these cases. Widely different, however, is work when directed toward preventing tuberculosis among the poor. In New York the charity organizations have long since discovered that the families most frequently reported destitute and principally afflicted with tuberculosis were the ones living in the worst and most crowded tenement houses, under the most deplorable hygienic conditions. The New York Charities Organization, the New York Society for the Improvement of the Condition of the Poor, the United Hebrew Charities Organization, and others united to bring about the enactment of a tenement-house law which, even with its present modification, brings terror to greedy landlords, sweatshop bosses, unscrupulous contractors, and speculators. This new tenement-house law resulted in the creation of the office of a permanent tenement-house commissioner. Through the enactment of wise and restricted legislation, the erection of unsanitary tenements is no longer possible, buildings which are unfit for habitation are condemned and old tenement-houses must be improved and properly managed. Indirectly, this tenement-house reform movement stimulated the building of model tenement-houses as a commercial enterprise.

To my friends, the charity workers of the city of New York, who have brought about this tenement-house reform, I gladly concede the honor of having accomplished one of the best, most practical, and most important portions of the work in the combat of tuberculosis as a disease of the masses. It is here where we must commence our work in preventing further development of pulmonary tuberculosis, for no matter how many sanatoria and special hospitals we may have, so long as there are unsanitary, filthy, dark and dreary tenement-houses, so long will consumption prevail among their inhabitants. Without the better housing of the poor the tuberculosis problem will never be solved.

Thus, after pleading for sanitoria and special consumptive hospitals, let it be our next duty to urge upon our philanthropists to stop for a little while building libraries, colleges, and churches, and build model tenement-houses in their stead. Let them give to the laboring man an opportunity to enjoy, at a moderate price, the comfort of a cheery, healthful home. They will thus render happy many a family, and indirectly help prevent the dissemination of tuberculosis. By giving to the laborer a comfortable home at a moderate price the philanthropist does not pauperize the honest workingman, but helps to make of him a more dignified and, probably, a more sober citizen.

No one knows, perhaps, better than the visitors of the poor and workers among the unfortunate how the untidy, dreary, badly-ventilated and badly-lighted rooms in the crowded tenements, stuffy and close in summer, insufficiently heated and cheerless in winter, often drive the laborer, after a day's hard work, into the brightly lighted and seemingly cheerful and attractive liquor saloon. As is well known, alcoholism is a strong predisposing factor to tuberculosis. Another is malnutrition. Here we know that it is just as often, and perhaps more frequently, the ignorance of the housewife among the poor, who does not know the art of choosing and preparing the right kind of food, which so often causes discontent. Education in housekeeping of factory and shopgirls before they marry seems to me the only remedy to counteract this evil. I say again, give to the laboring man a clean,cheerful home, be it ever so modest, and an intelligent housewife who can prepare good and appetizing meals, and the rumshop will have less temptation for him.

And now let us see whether it is not possible without pauperizing the poor to solve the problem in connection with the third class of tuberculous patients. There exists in the German empire a law whereby every laborer and employee earning less than 800 marks per year must be insured against accident, old age, and disease (including tuberculosis). These State invalidity and insurance companies, realizing that it is to their advantage to treat the tuberculous cases as early as possible, instruct their physicians to exercise the greatest care in the detection of early tuberculosis, and when such case is discovered the patient is sent immediately to one of the existing sanatoria. Often in less than four months' treatment these cases are discharged as cured. The insurance companies, seeing the advantage of the early treatment, particularly in sanatoria, themselves created such institutions. Independent mutual benefit organizations imitated the work of the State insurance companies, and the result is that there exist now in Germany nearly one hundred sanatoria, accommodating about 9,000 patients, a small number of them for the absolutely poor, but a large majority for patients who, by right of their insurance policies, or membership in mutual benefit associations, must be considered paying patients.

How would it be if one of our most thickly populated States, after having created a number of sanatoria, would try the experiment of a State tuberculosis insurance company? How many families, even of the classes in fair circumstances, but in which tuberculosis is dreaded on account of the disease having been the cause of the death of some of their members, would not gladly avail themselves of this opportunity, especially since the existing life insurance companies refuse applicants with a family history of tuberculosis? This opportunity offered by the State would mean giving to their children the certainty of being offered the best possible chance of recovery should they be taken down with the family disease. No matter at what age, so long as the individual remains insured, there would be the State Sanatorium to receive and treat him. A payment of 50 cents a month from the birth of the child would give to the State insurance companies, after fifteen years, with the accrued interest, a capital of nearly $150. By paying the aggregate amount up to the date of application, any predisposed individual might be insured at any time, and such an institution be called into life at once.

It is well known that the greatest chance of a predisposed individual being taken sick is between the age of puberty and thirty. The chances of the disease becoming healed without ever having been discovered are at least between 20 and 25 per cent., that is to say, that out of every hundred autopsies made on people having died accidentally, or of diseases other than tuberculosis, twenty to twenty-five show evidences of healed tuberculous lesions (cicatrization or calcarious formation). The chances of this disease being cured in from six to nine months, if it is discovered at an early period, are at least 50 per cent.

It is not necessary to be an insurance expert to see that the State could hardly be a great financial loser by creating such an insurance institution. But the greatest benefit which would accrue to the State or commonwealth through such an enterprise would be the paving of the way toward a complete State or municipal control of tuberculosis among that portion of the population, which, owing to its social conditions, could otherwise not be properly cared for, and would constitute forever an impediment to the thorough prophylaxis and possible eradication of the disease.

We have thus far endeavored to answer the question "What shall we do with the Consumptive Poor?" as it relates to the absolutely poor who appeal for help, those whom we meet by chance, and the not-absolutely poor. For the ambulant cases, who are up and about, doing a little work, we have pointed out the value of special tuberculosis dispensaries, and how they should be managed in order to effect cures. There are two more classes of tuberculous patients who are of interest to the scientific charity worker. One is that large class of individuals who work, although afflicted with tuberculosis. They work in shops, factories, and stores, and they continue to work until they can work no longer, or until their disease becomes objectionable to their employers or fellow workers. Yet I believe that the lives of the vast majority of these patients could be saved if they had an opportunity to change their occupation; if they were allowed to do outdoor work instead of being compelled to live a sedentary or indoor life. If some sort of agricultural colony could be established, for patients suffering from the early stages of pulmonary tuberculosis, I am sure that many patients would not only be restored to perfect health, but that such a colony could be made self-supporting and, perhaps, prosperous. It goes, of course, without saying, that such a colony must have a physician who should not only watch over patients, but should also decide the amount and kind of work the patients should do. In Texas, where the first colony of tuberculous prisoners has been created, and where they make farming and gardening the principal occupation of the colonists, the experiment resulted in the cure and improvement of a large number of prisoners, and in an actual surplus from the earnings of the colony. I wonder whether it would not be a wise and judicious procedure to inaugurate similar colonies, for the consumptive poor of large cities, supported by either the State, municipality, or by philanthropically inclined private individuals. As to the amount of good that could thus be accomplished it is hardly necessary to say more. Such a colony might even be in connection with a sanatorium, where the earlier cases are treated.

The last class of patients which interest us are the thousands of children afflicted with some of the many forms of tuberculosis, or who are strongly predisposed to consumption. We all have seen in our wanderings through the crowded streets of the tenement districts the many pale and emaciated children, with evident scrofulous and tuberculous manifestations. It is an interesting, but significant fact that while tuberculosis in the adult is curable in many cases, in children the disease *is twice* as curable. In European seaside sanatoria from 50 to 75 per cent. of absolute cures are annually reported. Seacoast climate, good food, and bathing in the ocean, seem to be almost the specific treatment for children suffering from tuberculosis, or scrofulosis, the latter being only a milder form of the former. Is it not strange that we in this country, with our far-extending, beautiful seacoasts, have virtually no such institutions, while France alone has, according to *La Tuberculose Infantile* of December, 1901, along its seacoasts no less than twenty-four sanatoria for tuberculous and scrofulous children, offering accommodation to 3,923 patients. All these sanatoria are provided with educational facilities, so that the children's intellectual development does not suffer. To place these little invalids in such institutions would be another answer to the question what to do with the consumptive poor, and to make propaganda for such school sanatoria for tuberculous and scrofulous children must be as imperative to us as our pleas for the establishment of sanatoria for adults. The child of to-day is the man of to-morrow, and the more children we cure of this disease now the smaller number of consumptives we will have to take charge of in the future.

I will now summarize as briefly as possible: We must remove those suffering from tuberculosis in the second and more advanced stages of the disease to either special hospitals or sanitoria. We must try to get as many as possible of the incipient cases to submit themselves for treatment to special tuberculosis dispensaries, and, from the frequenters of such dispensaries, select, according to their condition, as many as can be accommodated for either the tuberculosis agricultural colony or a sanitorium for incipient cases. In the seaside school sanitoria, which should be numerous, we should place all tuberculous and scrofulous children and those strongly predisposed to consumption. Every charity organization society, which wishes to deal with the tuberculosis problem effectively, must engage a competent physician to examine not only the patient pointed out to him, but also all the other members of the family, and thus detect, as far as possible, all existing cases of tuberculosis. Many lives may thus be saved; and the physician, being at the same time a sanitarian, will give directions to the family to stop, as far as possible, the propagation of the disease.

To do such effectual work we need money, and a great deal of it, and the question now is where to get it. Even if the municipalities would be willing to help us, and a great many are, no city in this country, nor in any other, is able to cope alone with the tuberculosis problem. In Europe the royalty and the aristocracy of birth and finance have created hundreds of sanatoria, and these institutions have made their influence felt already in a marked reduction in the mortality from tuberculosis. We have no emperors, no kings, no aristocracy by birth in this country, and let us be grateful for it. We have something better. We have an array of philanthropists whose generosity has never been equalled. According to Dr. Rossiter Johnson, $107,360,000 were given by American citizens for educational, religious, and general philanthropic institutions during the single year of 1901. All previous records have been outdone by this aggregate, the highest total for any previous year having been $62,750,000. It is a good augury that the first year of the twentieth century should have distinguished itself so remarkably. Our Carnegies, our Rockefellers, Vanderbilts, Morgans, Pearsons, our Helen Goulds, Phœbe Hearsts, Jane Stanfords, (Mrs.) Emmons Blaines, have given us fortunes for universities, colleges, and libraries, and have thereby made us and our children their lasting debtors.

It is but natural that those familiar with the needs of the consumptive poor in this country should look for help in solving this difficult tuberculosis problem to the large-hearted American men and women who make such noble use of their wealth. There are now, perhaps, plenty of libraries and colleges, and even general hospitals, everywhere; but there is a penury of good model tenement-houses; there is a need for public baths, which should, at a moderate price, be at the disposal of the people winter and summer, and for some hours in the evening. There is a scarcity of decently-kept places of amusement, open all the year, where the laborer and his family may spend a pleasant Sunday afternoon and partake of non-alcoholic drinks. There is a penury of hospital and sanatorium facilities for thousands of poor consumptives who could be cured if only taken care of in time. Sanatoria for consumptive adults, as well as seaside sanatoria for scrofulous and tuberculous children, are a crying and urgent necessity for the majority of our large American cities. The more consumptives we cure, the more breadwinners we create, and the fewer will become burdens to our communities. As the conditions are now in most of our cities and towns, the majority of consumptives are doomed to a certain and lingering death; and, if they are careless or ignorant of the necessary precautions, they will infect some of their own kin and neighbors.

When you call on your philanthropic friends to help you solve this great tuberculosis problem describe to them the sufferings of mind and body of these people who must suffer and die, not because their disease is incurable but because there is no place to cure them. I am convinced that if our generous and wealthy fellow citizens could but see for themselves these conditions, instead of more new libraries, universities and colleges, we would soon have better tenements, more playgrounds and parks for children, and an abundance of sanatoria and hospitals for our consumptive poor. Thus we would come nearer to the solution of the tuberculosis problem than we have ever been before in the United States.

INTUSSUSCEPTION WITH A REPORT OF THREE ADDITIONAL OPERATIVE CASES.*

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In an active service of over six years in an emergency hospital, located in a densely populated district, I have seen but few cases of acute intussusception, although in my private practice I have been particularly fortunate in seeing, in consultation, what might be considered (judging from the rarity of this condition) quite a number of cases of this disease.

The earlier that we consider intussusception purely a surgical condition and so treat it, the better results we shall obtain. I base this assertion entirely upon the histories of the cases previously reported by myself and included in this paper with the additional cases reported herewith. It will readily be observed that every hour after the first twelve the dangers of gangrene, sepsis, etc., rapidly increase, and, therefore, I believe, should mechanical measures at reduction, such as posture and enemata with abdominal massage, be used without positive success during this time, that surgical interference is absolutely demanded. To make it more forcible, I would say that, given an unsuccessful attempt at reduction by means of a high enema with posture, abdominal section with a view of reduction, etc., is the only hope for recovery of the patient.

The conditions arising in the gut can be allied to those following in acutely irreducible hernia, as adhesions, engorgement with strangulation, and gangrene, and these of necessity accompanied and followed by the symptoms and signs usually seen in each of the above-mentioned conditions.

The question of operative shock in children is not worth discussing, as they bear operative interference as well, if not better, than adults, and it is an interesting picture to observe the change from shock due to intussusception to the condition of absolute quietude following operative procedure.

The question of the site of the incision is one of importance only when a tumor is not palpable. This latter condition may be due to the mass being behind either the hepatic or splenic costal arch (instances of these conditions were observed by me in several cases), or where there is so much abdominal distention as to prevent deep palpation. In these cases it is an invariable rule with me to open the abdomen through the right rectus. This conclusion has been arrived at as a result of the preponderance of cases in which the mass is found to the outer border of the right rectus, and again due to the fact that the final section of gut for reduction is, in practically every case, the ileocæcal portion or ileum near the cæcum. Those cases in which the tumor presents in the region to the outside of the left rectus can usually be manipulated through the above incision until the mass is within easy reach for exposure. Resection is demanded in those cases where reduction is impossible, due to adhesions or engorgement of a portion of the gut, and in cases of gangrene, in which the patient's physical condition will allow of a more extensive operative procedure. In a former paper I advocated making an artificial anus temporarily, but at present I am of the belief that a few minutes more of operative time devoted to resection will not exaggerate the grave aspect of these cases, but is likely to be followed by a successful result rather than by an exhaustive artificial anus or intestinal fistula, as is seen when an enterostomy is performed. In cases of poor physical condition with gangrene, enterostomy naturally is the only procedure countenanced. I feel certain that no physician or surgeon at the present date places any reliance in the former method of inflation, and, personally, I would not suggest enemata with posture in cases in which the tumor appears to be proximal to the cæcum, for in this class of cases time is lost at the expense of the physical condition, and a certain risk of rupture of the gut is accepted.

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*Read before the Orange Mountain (N. J.) Medica Society.

The method of procedure at reduction is simple enough, and exceptionally easy in all non-adherent and non-strangulated cases. Success usually crowns one's efforts if it be remembered never to try to pull the intussusceptum out, but to reduce it by gently squeezing at the distal or colonic end.

All of the cases of trauma, *i. e.* peritoneal lacerations, etc., seen by me were due to pulling and haste in attempts at reduction. Occasionally one will meet with a case in which there is a degree of irreducibility, due either to adhesions of a few hours standing or to a circular contraction of the intussuscipiens or both. These conditions can frequently be overcome by gently introducing a blunt instrument between the intussusceptum and intussuscipiens, thereby liberating the adhesions and also overcoming this circular contraction or spasm, bearing in mind during this procedure to continue the gentle taxis from the distal or colonic end. Whether the mesentery or mesocolon shall be plicated or shortened after reduction is a question which must be dealt with according to the conditions found. Personally, I see no need for this additional feature, and have practised it in but one case, and in that ininstance I had an abscess develop, which I always attributed to the catgut used, although, fortunately, the result was a recovery.

One cannot pass the subject of operative interference without a due consideration of the possibility of ventral hernia. This has occurred in one of my cases, and in this case my incision was directly over a palpable tumor in the left lumbar region. The incision was made over the outer border of the left rectus, but owing to lack of suture material on hand, a number one formaldehyde gut was used to sew up the rectus sheath. Another causative factor of the hernia, besides the size of the catgut used, was that the patient, a seven-year-old girl was an uncontrollable one. She got out of bed during the night of the operation, in search of water, and was found sitting up in bed a number of times afterward. In this case there was a distinct ventral hernia of some size at the time of the first dressing on the seventh day, possibly due to the absorption of the No 1 catgut before union had become solid. This herniation was improved, under bandaging and strapping, to such an extent as to be hardly noticeable at the present time, about twenty-one months since the operation.

I do not believe that, given the proper suture material and a proper degree of attention by the nurse or attendants, the question of hernia should ever receive a second consideration if the incision be made through or behind either rectus, or if it be an intermuscular one and done after the manner of McBurney's interval appendix incision.

In one of my cases, case number twelve, the last of the three reported, there was a double invagination, the first occurring in the ileum, about five inches from the ileocæcal valve, while the second was of the ileocæcal variety. The first was intussuscepted in the colon also. That this condition may exist must be borne in mind, and also that more than one intussusception at remote points may exist. It is, therefore, necessary to carefully palpate the entire intestinal tract before closing the abdomen.

The ages of my patients ranged from sixteen weeks to thirty-eight years.

The duration of the intussusception in the fatal cases was from two and one-half to seven days, while in the operative recoveries the duration of the intussusception was from ten to seventy-one hours.

It will be seen that the deaths were in cases, generally speaking, of over sixty hours' duration (the one of two and one-half days was a case of gangrene with resection in a child nine years of age), while the recovery cases, all but one, a child of six months, case number twelve, were under thirty hours, four of them being under one day's duration.

Thirty per cent. of all cases of acute obstruction may be assigned to intussusception, and of these 30 per cent. fully 50 per cent. occur in children under ten years of age, and of this percentage fully one-half are found in children under the age of one year. The percentage of cases rapidly diminishes between the ages of five and fifty, and after this latter age an increase is again noted. Should an analysis of these cases be made, it will be found that after fifty the majority are due to causes within the bowel, chief among them being tumors and strictures. The varieties of intussusception that we see are in the order of frequency in which I met them: Iliocolic, where the ileum and cæcum pass up into the colon; ileocæcal, in which the ileocæcal valve forms the apex of the intussusception; ileal, or enteric variety, where the intussusception is made up entirely of small intestines; and colonic, made up entirely of colon.

My observation in the ten operative cases reported is at variance as to the frequency with the reports of former writers, as in looking up the literature with reference to this subject the enteric or ileal has heretofore been placed first. This may be due to the findings, on autopsy, of cases of enteric intussusception that are now proven to be entirely post-mortem in nature.

It would seem to the writer that all cases should be classified with reference to intensity and fatal termination into:

(1) Acute, those lasting less than seven days; (2) Sub-acute, those terminating between seven and twenty-eight days; and (3) Chronic, those terminating after a month or more.

Some of the causes producing the irregular peristalsis that is invariably necessary to the production of intussusception have been classed under the general headings of (*a*) Former conditions of health; (*b*) Pathological nature; (*c*) Anatomical causes; (*d*) Sex and nationality.

(*a*) *Former conditions of health.*—Diarrhœa may be assigned as the chief factor, as in several of my cases the history shows a preceding diarrhœa with much straining. Children of robust health, it is said, are less liable to this disease than puny children. The writer cannot agree with this latter statement, as the majority of his cases were well nourished.

(*b*) *Pathological nature.*—Tumors, polypi, etc., and Meckels diverticulum. (See case number 2.)

(*c*) *Anatomical causes.*—Include long and lax mesentery, although I am not satisfied that there was any extra length to this structure in a single case operated upon by me.

(*d*) (1) Sex, and (2) nationality. (1) In the twelve cases reported six cases are credited to males and females alike; (2) Five were of Irish or Irish-American, two were of German, and five were of Polish or Russian parentage.

The following is the order o frequency in which important diagnostic signs and symptoms occurred in the cases reported by the writer: pain, shock, vomiting, restlessness, tenesmus, passage of bloody mucus or blood, tumor, obstruction, peritonitis and sepsis. Pain was present in every case seen by the writer, the patient crying out for some time. With this condition distinct evidence of sensitiveness or pain on pressure was elicited in all cases. Shock was observed in the majority of cases; a few minutes in some cases, while in others it was present to the time of reduction or death. Vomiting was not an early symptom, *i. e.* in the first twenty-for hours, but was present in almost every case of over that duration. Diarrhœa and vomiting, it is well to remember, exist in many cases previous to the onset of intussusception, and should, therefore, not be taken as diagnostic factors. Restlessness—the majority of my cases were moving and tossing from side to side during the non-septic period; after this period the picture is one of general septic peritonitis. Tenesmus was present in every case, except those in which sepsis predominated.

Blood or bloody mucus had been present in every case seen by the writer. If a careful history were taken the fact would be established that a fair small-sized stool with blood was passed, and that this was followed by straining and the passage of apparently pure blood or bloody mucus. The fecal matter passed in these cases is not an evidence of a pervious bowel, but means that the fæces below the intussusception have been extruded. Evidence of flatus after the first blood-tinted stool is usually absent. Tumor is not a frequent evidence by rectal palpation, and certainly not always found by abdominal palpation. As before stated, the tumor may be behind the costal arch, or the abdominal distention so great as to prevent palpation of the tumor, even if in the accessible regions. When the tumor cannot be palpated either through the wall or by rectum, reliance must be placed upon the symptom complex, which usually is sufficient for diagnostic purposes.

In this disease, as in all cases where peritonitis is prone to arise, the use of opium cannot be too strongly condemned. Small doses of paregoric in case number eight masked the general condition so thoroughly as to be directly the cause of a fatal delay in operating.

SYNOPSIS OF CASES ALREADY REPORTED.*

CASE I.—Age, eight and one-half months. Sex male. Born in United States. Parents, Irish-American. Duration, four days. Condition of patient, septic. Tumor palpable, no. Water tried, unsuccessful. Operation, yes. Condition of gut, gangrenous. Variety, enteric. Reduced, no. Resection, yes, Murphy button. Result, death in twelve hours.

CASE II.—Age, nine years. Sex, male. Born in United States. Parents, German. Duration, two and a half days. Condition of patient, septic. Tumor palpable, yes. Water tried, unsuccessful. Operation, yes. Condition of gut, gangrenous, Variety, enteric. Reduced, no. Resection, yes, Murphy button. Result, died on fourth day.

CASE III.—Age, four months. Sex, female. Born in United States. Parents, Poles. Duration, seven days. Condition of patient, septic. Tumor palpable, no. Water tried, unsuccessful. Operation, yes. Condition of gut, congested and œdematous. Variety, ileocæcal. Reduced, readily. Resection, no. Death in twelve hours.

CASE IV.—Age, seventeen weeks. Sex, female. Born in United States. Parents, Poles. Duration, eighteen hours. Condition of patient, fair. Tumor palpable, no. Water tried, unsuccessful. Operation, yes. Condition of gut, congested and œdematous. Variety, ileocolic. Reduced, readily. Resection, no. Result, recovered, complicated with pneumonia.

CASE V.—Age, five months. Sex, female. Born in United States. Parents, Poles. Duration, twenty hours. Condition of patient, poorly nourished. Tumor palpable, no; felt by rectum. Water tried unsuccessful. Operation, yes. Condition of gut, congested and œdematous. Variety, ileocolic. Reduced, readily. Resection, no. Result, recovered.

CASE VI.—Age, thirty-eight years. Sex, male. Born in Poland. Parents, Poles. Duration, sixteen hours. Condition of patient, good. Tumor, palpable, yes. Water tried, successful. Operation, no. Result, recovered.

CASE VII.—Age, three and one-half months. Sex female. Born in United States. Parents, German. Duration, two days. Condition of patient, fair. Tumor palpable, no; felt by rectum. Water tried, unsuccessful. Operation, refused. Result, death on twelfth day.

CASE VIII.—Age, four months, four days. Sex, male. Born in United States. Parents, Irish-American. Duration, thirty-six hours. Condition of patient, apparently good. Tumor palpable, yes. Water tried, unsuccessful. Operation, yes. Condition of gut, congested, œdematous; two large lacerations of wall; peritonitis. Variety, ileocolic. Reduced, some difficulty. Resection, no. Result, died; small doses of paregoric; marked symptoms.

CASE IX.—Age, ten months. Sex, male. Born in United States. Parents, Poles. Duration, ten hours. Condition of patient, good. Tumor palpable, yes. Water tried, unsuccessful. Operation, yes. Condition of gut, œdematous and congested. Variety, ileocolic. Reduced, readily. Resection, no. Result, recovered.

CASE X.—Previously presented to the section on pediatrics of the New York Academy of Medicine, April 12, 1900, and commented upon under the section transactions in the *Archives of Pediatrics* of August, 1900. This case was referred to me by Dr. L. K. Neff, March 11, 1900, with the following history: Mary C., female child, aged seven years, was seized with a pain in the abdomen at about 5 o'clock in the afternoon. The pain was followed by a small amount of blood in a stool that passed a few hours afterward. There had been no illness before that could have any bearing upon the diagnosis or causation of the condition found. Her family physician, upon being called, used all the remedies usual in such cases. I saw her at 9 o'clock the following day—twenty-nine hours after the onset—at which time she presented the following signs and symptoms: anxious countenance, restlessness; pulse rapid, 116; temperature, 100.4°F.; respiration, shallow; abdomen, slightly distended; tumor visible and palpable through the abdominal wall in the left lumbar and iliac regions and a palpable tumor in the rectum. Owing to the duration of the illness and to the fact that ordinary attempts at reduction had been practised, operation was done at once. The patient was chloroformed and an incision was made through the left rectus sheath, the rectus was pushed aside, and the posterior portion of the sheath was cut through. Upon opening the peritoneal cavity a tumor, involving the descending colon, sigmoid and rectum was exposed. No general peritonitis was present. Reduction was readily accomplished, but great care

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*In the *Annals of Surgery* for February, 1900 was necessary on account of two rents in the serosa, produced by distention, due to the rather firm packing of the gut in the sigmoid. One rent was about one-and one-half inches in length, in the long axis of the gut; the other was about one inch in the transverse diameter. These rents were sewed with fine catgut, and then the intestine was reduced by means of pressure at the distal end of the mass. It was found that the colon alone had to be dealt with, the intussusception beginning at the hepatic flexure of the transverse colon; at this point the intestine was very œdematous and ecchymotic. No attempts at shortening or plication of the mesocolon were made. In all previous cases this procedure was found unnecessary. This is the case mentioned in which a hernia followed operation.

Case XI.—April 26, 1901, while making rounds at Gouverneur Hospital, one of the dispensary staff referred this case to me. Boy, nine months old, well nourished, history of diarrhœa and cramp for several days. Pain in abdomen three days ago. Blood and mucous stool for the greater part of three days. Temperature, 100°; pulse, 138. Abdomen distended. Tumor not palpable until under ether; then found in right iliac fossa; no rectal tumor. Operation iliocæcal variety. Marked difficulty in reduction. Large laceration of serosa, which was sutured. Death in three days. Enema previously tried.

Case XII.—Case referred to me by Dr. J. F. Moore and seen with him by Dr. Emmet Holt, May 2, 1901. Child six months and four days old; female, fair state of nourishment, attack seventy-one hours' duration, condition apparently excellent. Early manifestations of pain, mucous and blood stool. Tumor not positive, even under ether. Operation—tumor apparently of iliocolic variety; later proved to be an ileocæcal intussusception containing an ileal intussusception. Position of tumor from usual site of hepatic to splenic flexures and high up under the arch. Upon reducing the iliocolic portion, which was an easy matter, it was seen that an ideal or enteric intussusception was extruded from the cæcum and colon that involved the ilium about five inches from the iliocæcal valve. This was also readily reduced. The entire operation was done through a three-inch incision. Patient in bed fifteen minutes after anæsthesia was complete. Recovery.

Summing up the salient features presented in these twelve cases, we find

1. That there were ten operative cases, of which five were of the iliocolic, one iliocæcal, two enteric, one colonic, and one multiple—iliocolic and enteric, varieties.

2. That only one case recovered by the use of injections.

3. That one death occurred in which enemata, etc., had been used. No operation allowed.

4. That of ten operative cases five died and five recovered, and of the deaths three were cases operated upon as a last resort after all mechanical means had been exhausted, two being resections for gangrene and the third septic from a seven-day duration of the intussusception.

5. That tumor could be palpated though the abdominal wall in five cases, while through the rectum only three cases were palpable.

6. That had we cases 1 and 2 to operate again, resection would not have been done, but a temporary enterostomy would have been made.

Although the mortality rate is 50 per cent. in the entire lot, it must be remembered that the cases terminating fatally were of two and one-half, three, four, and seven days' duration when operated upon, and that of these, three were practically moribund at the time of operation.

N. B.—Since writing the above the author has operated upon five more cases, all under twelve months of age.

ON THE TRANSPORTATION OF MOSQUITOS BY VESSELS.

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We have read articles in which the presence of mosquitos on board of vessels is assumed, but in view of the absence in medical literature, as far as we are aware, of any regular publication bearing on the transportation of mosquitos by vessels, we present the following information, although it is not as complete and satisfactory as we intend to make it later on.

The fact that the presence or absence of mosquitos on board of vessels may be considered as a basis for quarantine regulations is the reason of this rather premature and immature communication.

The observations were made by the Marine Medical Inspectors which the Louisiana State Board of Health places aboard of fruit vessels coming from the fruit ports of Central America which carry passengers, or which trade with infected ports or specially dangerous ports.

As few and incomplete as these observations are, they are quite interesting and valuable since they are the only cases scientifically observed and reliable. They are as follows:

I. 1901.—Dr. D. C. Anderson, fruit steamer *Foxhall* from Bocas del Toro, United States of Columbia: "Some time ago you requested me to look for mosquitos while *en route* from Bocas del Toro. I searched diligently for them in every crook and cranny of the steamship *Foxhall*, but was unable to find any at all."

II. 1901.—Dr. R. W. O'Donnell, fruit steamer *Breakwater* from Port Limon, Costa Rica: "In compliance with your request to inspect the vessel for mosquitos, will say that each day for three days I went down in the hold of the vessel, but was unable to find any."

III. 1901.—Dr. D. S. Wilson, fruit steamer *Olympia* from Port Limon, Costa Rica: "In accordance with your request that I find if mosquitos are carried in the hold of the steamship *Olympia*, I wish to state there were none this last voyage, nor have I ever seen any there, although having been down there many times."

IV. 1901.—Dr. George J. Tusson, fruit steamer *Anselm* from Belize, British Honduras: "According to your request, I have looked for mosquitos in hold of vessel plying between here and Central America and would report that none were found on the day previous to our entering the Jetties."

V. 1901.—Dr. W. B. Robertson, fruit steamer *Hispania*, from Port Limon, Costa Rica: "Just before reaching Port Eads, I made required examinations with negative results. It may be desirable to state that a very fresh breeze was blowing for upward of forty-eight hours prior to making the bar, consequently the strong currents of air down the wind-sails would in all probability have blown the mosquitos away from any accessible parts of the hold."

VI. 1901.—Dr. T. S. Adams, fruit steamers *Condor* and *Hiram* from Bluefields, Nicaragua: "I beg to state that I went down in the hold just prior to entering Port Eads and did not find a mosquito, but as this was an exceptionally rough trip

I am inclined to think the strong winds and rough sea may have had more than usual force in clearing them up. There were three mosquitos that stayed in my state-room from New Orleans to Bluefields. I did not kill them just to ascertain how long they would stay, though the weather was good going down and the room was well ventilated."

VII. 1901.—Dr. W. G. Thigpen, fruit steamer *Alabama* from Bluefields, Nicaragua: "I find that some few mosquitos are to be found at all times, though after the first two days they are present only in the unventilated parts of the ship, *i.e.* lower hold, etc. They are only to be found by a careful search."

VIII. 1901.—Dr. G. H. Tichenor, fruit steamers *Utstein, Origen, Alabama, Olympia* from Bluefields, Nicaragua: "I have watched during the present quarantine season to ascertain whether or not mosquitos remain aboard ship during the entire voyage between this port and Port Limon, C. R., and conversely, and am of the opinion that they do *not* remain during the whole voyage. I have not discovered them later than three days after leaving port."

IX. 1901.—Dr. J. E. Heidingsfelder, fruit steamer *S. Oteri* from Belize, British Honduras: "I have examined the hold of the steamship *S. Oteri* for mosquitos, beg to advise that I have done so on two trips of the above vessels and found same free from mosquitos three days after leaving Central American ports."

X. 1901.—Dr. W. W. Samuell, fruit steamer *Venus* from Port Limon, Costa Rica: "I have observed mosquitos in cabin of steamship *Venus* in considerable number during entire passage, five and one-half days, from Port Limon, C. R., I think drain from ice-box serves as breeding place."

In résumé six medical inpectors report they found no mosquitos aboard, but two of these state that the rough weather was likely the cause that none were found.

Four medical inspectors report that they found mosquitos aboard, one of them throughout the whole voyage from Limon, five and one-half days."

It is noteworthy that at Port Limon the vessels are at least 300 yards from the shore and that mosquitos were seen on one of the vessels, the *Venus*.

The marine medical inspectors of the Louisiana State Board of Health, placed this year on board of the Morgan steamers which anchor away from shore in Havana Bay, reported verbally to the president that mosquitos have been seen on board while at anchor.

As stated above, we recognize that these observations are too few and too incomplete to be accepted as definitive, and readers will kindly bear in mind that this paper is to be regarded merely as a preliminary note.

The subject has been taken up again this year in a more elaborate and systematic manner. The medical inspectors are instructed to report on each trip whether they saw mosquitos at the wharf, at the fruit ports, in what number, the time of the day they were first seen, how long they remained visible, and direction and force of the wind. The same observations are to be made when the vessel is at anchor away from the shore, without having come to the wharf at any time. The inspectors are to visit all parts of the vessel as soon as she starts from the fruit ports and note the foregoing points: also, when the vessel has been at sea for one day, two days, three days, four days, five days, six days.

They are instructed to make the last inspection before the vessel arrives at the Mississippi River Quarantine Station, where mosquitos always invade the ships.

At the end of the quarantine season there will be about 125 reports on file, and from them it will be possible to definitely settle the question of the absence or presence of mosquitos on board and of the time they remain aboard, all points of great interest from a quarantine regulation view point.

The two following instances are the only ones we could find. They are reported in the Public Health Reports of August 9, 1901, page 1792:

MOSQUITOS BLOWN ABOARD SHIP TEN MILES FROM LAND.

Gulf Quarantine Station, August 2, 1901.

Sir: Referring to the question of mosquitos as a means of infection in disease, I have to report that the captain of the ship *America*, arriving in quarantine July 24, stated that mosquitos came aboard the vessel on the previous night, at a distance of at least ten miles from land, the nearest point being Chandeleur Island.

The opinion prevails in this locality that mosquitos are blown by southwest winds from the Louisiana marshes to this island, a distance of from ten to twenty miles, and the experience of this summer seems to accord with the opinion.

Mosquitos were few in number until about the middle of July, when, after several days of southwest winds, the number was vastly increased. At that time there was no other local condition to explain the sudden increase.

Respectfully,

(Signed.) P. C. Kalloch,
Surgeon, U. S. M. H. S.

NUMEROUS MOSQUITOS AND COCKROACHES ON SPANISH BARK MARIA BLANQUER.

South Atlantic Quarantine Station, August 2, 1901.

Sir: I have the honor to inform you that numerous mosquitos were collected on board the Spanish bark *Maria Blanquer*, remanded from Brunswick to this station. The vessel is from Rio de Janeiro, with no sickness or history of sickness *en route*.

The vessel is interesting in that there was a perfect plague of the insects as well as Blatta Orientalis (cockroaches), on board, the personnel having to cover themselves to have rest.

When the forecastle was opened, after fumigation, mosquitoes could be scooped up by the hand.

The master is positive that there were none on board until the twenty-second day out, when some were noticed in the water-tank when opened.

The water all came from Rio de Janeiro.

Respectfully,

(Signed) Hugh S. Cummings,
Past Assistant Surgeon, U. S. M. H. S.

The writer's personal experience bears out the statement of Dr. Kalloch regarding the blowing of mosquitos from quite remarkable distances.

All those who have stayed at Bay St. Louis, on the Mississippi Sound, know that when the wind blows from a certain direction it brings with it swarms of mosquitos.

The Intercommunicability of Human and Bovine Tuberculosis.—Mazyck P. Ravenel concludes a long and detailed study of the subject by saying that the evidence at hand forces us to the belief that human and bovine tuberculosis are but slightly different manifestations of one and the same disease, and that they are intercommunicable. Bovine tuberculosis is, therefore, a menace to human health. We are not in a position at present to define positively the extent of this danger, but that it really exists cannot be denied. In the past there has probably been a tendency to exaggeration, but however great this may have been, it does not now justify any attempt at belittling the risk, and it is folly to blind ourselves to it. The eradication of bovine tuberculosis is amply justifiable from a purely economical standpoint; viewed in its bearing on human health it becomes a public duty.—*University of Pennsylvania Medical Bulletin.*

CONTAGIOUS OPHTHALMIA IN INDUSTRIAL, RESIDENTIAL AND PUBLIC SCHOOLS, AND IN ASYLUMS AND HOSPITALS.

By RICHARD H. DERBY, M.D.,
NEW YORK.

In 1886 the New York Academy of Medicine appointed a committee to study and report on the subject of contagious eye disease in the asylums and residential schools of this city. This committee invited prominent ophthalmic surgeons to conduct this investigation, and they, acting in full coöperation with the Board of Health, made an exhaustive study of the subject. These surgeons, whose names were well known to the profession of the State and the country, accompanied by inspectors of the health department, visited the fifty and more asylums of New York city. Drs. Agnew, Noyes, Loring, Roosa, Bull, Gruening, Pomeroy, Pooley, Callan, Andrews, Webster, Mittendorf, Emerson, Oppenheimer, Barker, Moore, Dennett, Isham, Lewis, Huntington, Hepburn, Carey, Bowles, and Ring made careful investigation of the condition of the dependent children cared for in the asylums of New York city, and their report was printed. Of these children they found that one out of every four had contagious eye disease. While there were asylums where but few cases existed, there were others in which more than half of the inmates had eye disease of a severe and dangerous type, and where, as Dr. Roosa reported in the case of St. Joseph's asylum, "It is a marvel to me that there is a healthy eye in the establishment."

After an analysis of these various reports, it was found that in many of these asylums, the eyes of the children were not examined before admission and that those who were known to have sore eyes were not quarantined. In a common dormitory, lavatory and living room children were found with pronounced opthalmia, in daily contact with those whose eyes were as yet unaffected.

Dr. Loring reported that in one asylum the children were all washed in one lavatory, where a group of eighteen were provided with two or three towels per day. Grave defects in plumbing were found. In St. Patrick's Orphan Asylum, the female branch, Dr. Agnew found 203 cases of communicable eye disease among 409 children examined; of these, two had one and twenty-two both eyes seriously injured. In the male branch of the same institution, among 357 inmates, Dr. Noyes reported but 105 children with healthy eyes. In the Ladies' Deborah Nursery Dr. Loring found, among 223 children, fifty suffering from contagious ophthalmia.

In St. Joseph's Asylum Dr. Roosa examined the eyes of 521 children. He reported that contagious ophthalmia existed in all classes of this asylum, that its most severe form was among the younger children, that no adequate quarantine was maintained, that eight children had one eye seriously injured.

At the St. Joseph's Industrial Home, Dr. Gruening reported 137 cases of chronic conjunctival blenorrhæa among 605 girls, making a percentage of 22.6 per cent. Here were three children with one eye seriously injured, one with both.

In the Mission of the Immaculate Virgin, Dr. Pooley examined 372 boys, of whom 127 were found with one or both eyes affected, making 34 per cent.

In the Catholic Protectory, of 2,137 children, Dr. Mittendorf found 871 afflicted with the disease—more than 40 per cent. of the entire inmates. Dr. Mittendorf wrote that "the cases were more frequent among the older children, and the longer a child remains the more liable it is to have the disease. There was great carelessness in admitting children and then neglect in treating them. No isolation whatever was practiced."

The committee appointed by this academy received reports from fifty-one institutions, containing 12,684 inmates; of these 3,862 were declared to have contagious ophthalmia. To meet the exigencies of the case the committee was satisfied that legislation was needed, and to that end "an Act for the better preservation of the health of children in institutions" was drawn up.

This act provided that each institution caring for children should have attached thereto a regular physician, whose duty it was to examine each child applying for admission. It declared that no child suffering from any contagious or infectious disease should be allowed to enter or remain in any institution in contact with children not so affected, but should be immediately isolated or placed in a proper room or infirmary, provided for that purpose. It provided against the overcrowding of dormitories. It made it incumbent upon the physician of each institution to render to the local Board of Health a monthly report, declaring therein all cases of contagious disease whatever that existed among the children under his charge.

This act was passed by the Legislature on June 14, 1886, and became chapter 633 of the laws of that year. The passage of this act was made possible by the wise counsel and earnest effort of Elbridge T. Gerry of the Society for Prevention of Cruelty to Children, and the late James Gallatin of the New York Association for Improving the Condition of the Poor.

With the passage of the act, the committee, appointed by the Academy of Medicine, was discharged and now, after fifteen years of operation of the law, it is in every way proper that a brief account should be rendered of the efficiency of the remedial measures which it embodied. The monthly reports of all the asylums and residential schools of New York city are on file at the Health Department, and these contain a statement of the physical condition of the children, the existence of any contagious or infectious disease, particularly of the eyes or skin.

Dr. Moreau Morris, the efficient medical inspector of the Board of Health, and who has, perhaps, more than any other official had to do with the enforcement of the law, has prepared a table, showing the relative frequency in these asylums of contagious ophthalmia in 1886 and 1902.

From these figures a few comparisons are instructive:

In 1886 the New York Juvenile Asylum showed 17.7 per cent. of ophthalmia; in 1902, 2.5 per cent.

In 1886 the Five Points House of Industry showed 66.5 per cent. of ophthalmia; in 1902, 4.4 per cent.

In 1886 the House of Our Lady of the Rosary showed 18.3 per cent. of ophthalmia; in 1902, 1.6 per cent.

In 1886 the House of Refuge showed 16.2 per cent. of ophthalmia; in 1902, 7 per cent.

The diminution in the number of these cases is most remarkable, and it is not extravagant to say that the benefit accomplished by this law is one of the most important contributions ever made to the well-being of society. While the statistics of all the institutions are at hand, it will be, perhaps, instructive to consider the two following reports more in detail, for here we shall see in what way a great reform has been quietly accomplished.

The graphic description of the Protectory and St. Joseph's Asylum, as given by Drs. Mittendorf and Roosa in 1886, has already been referred to in this paper.

I have had an opportunity to inspect both of these institutions in the last few weeks, and the following reports by Dr. C. Cole Bradley, to whose unselfish and unceasing labor this great improvement is largely due, I can completely verify:

It will be remembered that in 1886 the inmates of the protectory showed 40 per cent. of ophthalmia. Now, of 2,484 inmates, there are 93 cases, and of these only 48 can be classed as actively contagious ophthalmia. The percentage of the contagious cases therefore would be 3.7 per cent. These are reported monthly to the Board of Health, as required by law. The children on admission are examined and immediately isolated as they exhibit contagious eye disease. A building has been constructed for the purpose of isolation, which is equipped with school-room, work-room, sleeping-room, shower baths, etc. This isolation is absolute until the cases are cured. Then they are sent to the main buildings, where they wash apart from the others, and are inspected tri-weekly for fear of a relapse, in which event they are returned to the eye pavilion.

Each child in the institution has its individual towel, and its own jet of water—no basins or bath tubs being used in the institution. The linen and towels of the contagious pavilion are disinfected and washed separately. Each month the eye-lids of each inmate are everted and examined as required by law. Each day a visit is made and treatment given.

In the male department 14.4 per cent. of the newly-admitted children showed trachoma, and it is noticeable that in 1900 this percentage was 18.5. It is regrettable that an institution cannot be totally purged of contagious eye diseases. This could only be done by preventing the influx, which prevention would necessitate the establishment of a correctional institution, maintained solely for the treatment of such diseases.

In St. Joseph's Asylum in 1886 Dr. Roosa found 58.34 per cent. of trachoma. On May 25, 1902, there were here 798 inmates, and among them four cases of trachoma; six children had conjunctivitis on the border line of contagium, and reckoning these there were ten contagious cases, making a percentage of 1.2 per cent. In this asylum each child is examined on application for admission, and that admission is refused if the child shows active contagious eye disease. There are no severe cases among the younger children as formerly, the trachoma occurring in children over twelve years of age. All contagious cases are quarantined. The lids of each child in the institution are everted at the monthly examination, required by law. Each child has its own towel, and this, as well as each article of clothing, bears the child's institution number. No bathtubs or basins are used at all, and for them the shower and jet of water are substituted.

Much as has been accomplished in limiting the disease in these asylums much remains to be done. We have seen that there present themselves at these institutions children suffering from contagious eye disease. From such statistics as are at hand, it would appear that at least 19 per cent. of all these candidates have trachoma. The severer of these cases are either sent back to their homes, or, in the case of children, committed by the courts, are taken, placed in quarantine, and there treated until they are considered safe to mingle with those whose eyes are well. The striking fact remains that nearly all these children attend the public schools of New York city. Of the actual percentage of trachoma at these schools we have a fairly definite idea from these two inspections, which were ordered by the Board of Health in the last few days.

A competent ophthalmic surgeon, attended by a health inspector, makes the following report:

The eyes of the children of public schools, No. 1 (in Henry street) and No. 75 (at 25 Norfolk street) were examined.

In school No. 1, Principal Dr. Ettinger, the lids of 1,045 boys were everted and 201 cases of communicable eye disease found—19.2 per cent.

Of these 201 cases 130 were of pure trachoma and seventy-one of incipient trachoma and conjunctivitis—sixty-six of the trachoma cases were of the most severe type, with upper and lower culdesacs filled frequently to the degree of palpably narrowing the palpebral fissure, and calling, in my opinion, for almost immediate operation.

In school No. 75, Principal Mr. Boyle, the lids of 736 boys were everted, and 114 cases of communicable eye disease found—15.5 per cent.

Of these 114 cases eighty-seven were of pure trachoma, and twenty-seven of incipient trachoma and conjunctivitis. Sixty of these trachoma cases were of the most severe type, as mentioned in report of school No. 1. In making the examination only cases considered communicable were recorded. In school No. 1, which is equipped with shower baths, the number of cases was noticeably less in the classes where such baths were frequently used. The practice of having the children bring their own towels (frequently old rags) appeared to me decidedly dangerous, considering the homes of these children and the great amount of contagious disease, other than that of the eyes, in that section of the city. In school No. 75 the system of double and quadruple desks is to be deprecated, on account of the proximity of the children and their tendency to use pens, pencils and rules in common. It appears that in neither school is an examination of the eyelids of the children made. Any child showing an active and *apparent* inflammation (with redness and secretion) to the *teacher* would be sent to the medical inspector, who might send it home if, in his opinion it was contagious; the discovery of the case, however, rested with the teacher; no notice whatever being taken of the slow insidious trachoma cases.

In both schools cases were found which I recommended to be immediately excluded until the visit of the regular inspector, as the presence of such cases for a few hours would be sufficient to infect many others, if not to start an acute epidemic.

It is impossible to read these statements of the condition of the eyes of children attending our schools without acknowledging the fact that a great evil calls urgently for prompt and systematic action for its relief. Fortunately, a beginning has been made. The present department of health has already instituted a partial inspection. They will, undoubtedly, see that the work does not stop here. They will see that no less precaution for the safety of these children shall be taken where ophthalmia is found to exist than is now observed when a case of scarlet fever is recognized.

If we are to exercise an adequate control of this disease, a rigid and universal inspection of all the pupils of the schools of this city must be undertaken. This inspection must not be based upon the statement of the teacher that this child or that has sore eyes, but in each and every case by competent men the eye-lids must be everted and the condition of the conjunctival sac inspected. Then and then only can a diagnosis be made. In the vast majority of cases, and often in the most dangerous, the external appearance of the eye shows nothing. It is in the culdesac of the lid that the blennorrhoic process goes on silently, destructively undermining the health of the organ, until the catarrhal period, when the swollen lids, profuse purulent secretion, chemosis, corneal ulceration, make evident to all the acute ophthalmia that often defies all medical treatment. As well might the medical man undertake to assume the non-existence of diphtheria in a patient whose throat he has never examined as to deny the presence of trachoma among children whose eyelids he has never everted.

In view of what we have already found among the children of our schools and that contingent, who by reason of the conditions of their eyes must be refused admission to our asylums, the fact forces itself upon us that we have nowhere in this city a hospital adequate for the reception and care of these cases. Fifteen years ago, in a paper on this subject, the writer advocated the erection of such a building. The success that has attended the efforts of the physicians attached to our asylums in reducing the percentage of trachoma among their inmates, confirms him now in the wisdom of that suggestion.

In conclusion, we have the high authority of the Superintendent of the New York Institution for the Blind for the statement that the number of children in that institution at the close of the school year of 1898 was 169—a reduction since the end of the school year of 1886 of forty-seven pupils. This decrease, Mr. Wait says, for the last thirteen years is really more considerable than it appears when we take into consideration the growth of the city population within the period covered by these figures. If reckoned as percentages, the decrease would fitly emphasize the great gain in this matter of blindness, which has been the result of better sanitary and medical supervision.

Here, in New York city, we have a dense population, where we might expect to find the proportion of eye troubles much greater than in the country districts, but, thanks to better sanitation and to the timely aid furnished by our numerous dispensaries the city figures are vastly more favorable than those of the rural districts. A careful study of the figures of the last Federal census shows that in the counties of New York and Kings the number of blind persons is one to every 2,500 of population, while in the five rural counties of Allegany, Clinton, Oswego, Madison, and Schuyler there is one blind person for each 650 of population. This is a very striking comparison, and shows how great an improvement we may expect in the future.

Improved sanitation and timely medical examinations are certain to weed out a vast number of cases of incipient blindness.

In this field, as in so many others, modern science and resourcefulness are showing themselves able to overbear what seem at first sight like irremediable ills.

SUBGLOTTIC SARCOMA REMOVED ENDOLARYNGEALLY WITH GALVANOCAUTERY SNARE.*

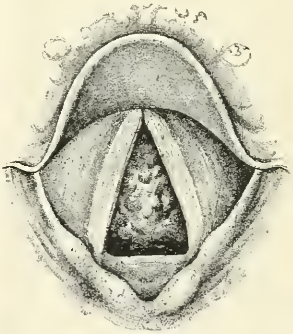
By J. W. GLEITSMANN, M D.,
NEW YORK.

SUBGLOTTIC and tracheal sarcomata are not of rare occurrence, and Bergeat[1] has compiled a complete list of published cases of sarcoma of the larynx and trachea, which was later supplemented by v. Bruns[2] in Heymann's handbook. When I therefore venture to relate to you the history of such a case, it is not for the purpose of putting another one on record, but for the two-fold reason of its successful removal per vias naturales, and of its non-recurrence thus far, after its removal five months ago; a result which, if permanent, may be added to the very few cases successfully operated in a similar manner. The family history of the patient is negative. He is fifty-two years of age, and in spite of his loss of weight is of healthy appearance, which is accounted for by his occupation as watchman at the door of a large factory, necessitating him to be constantly in the open air. Thirty-one years ago he had pneumonia, he had no gonorrhœa, no syphilis, drinks moderately, but is a heavy smoker.

I was asked to see the patient December 16, 1901, at the German Hospital, to which he had been admitted a few days before. I learned from him that his present illness began four months previously with hoarseness, which came on rather suddenly one morning upon awakening. He also suffered during two months from a severe dry laryngeal cough with occasionally a little bloody expectoration. He suffered no pain, had no dysphagia, and only recently experienced some dyspnœa when walking fast or climbing stairs.

Having lost twenty-five pounds during his sickness his strength was below par, although his appetite and other functions were normal. His voice could not be raised above a whisper.

It being evident that the source of the ailment was situated in the air passages, the attention naturally centered in the laryngoscopic examination. Fortunately, the patient did not present any local difficulties for inspection; on the contrary, he was extremely docile and not at all irritable at the introduction of the mirror. The larynx proved to be free from any anomaly except a very slight congestion of the vocal cords, both of which had normal movements and approached each other in the median line sufficiently to produce a sound, but which was not forthcoming. This seeming incongruity was at once explained by the existence of a growth below the cords, which, by its contact with the lower surface of the cords, interfered with their vibrations, necessary to voice production. The tumor, of which a drawing *in situ* is shown, filled the larger part of the tracheal space, leaving only a small opening posteriorly for respiration. The small aperture, without any undue dyspnœa, except on exertion, shows again how well the system adapts itself to slowly invading disturbances, when, on the other hand, a similar suddenly arising obstruction might have caused immediate death.



The size of the tumor could not be definitely determined by inspection, but it seemed to be as large as a small walnut, and it had to be assumed that its lower portion extended considerably downward. Its surface was uneven, and the probe met with some resistance, showing density and compactness of the tumor. From the free aperture posteriorly it was evident that the point of fixation of the tumor was anteriorly and at the beginning of the trachea.

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*Paper read at the meeting of the American Laryngological Association, May 28, 1902.

Although no enlargement of lymphatic glands of the neck could be detected, malignancy of the growth was most probable and the proper means of its removal had to be considered.

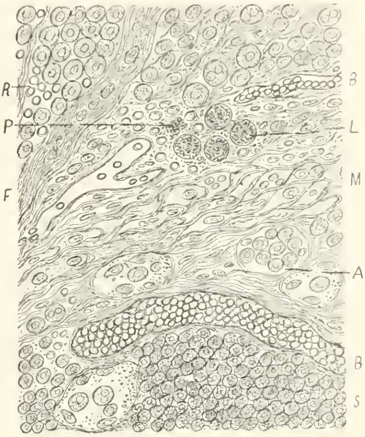
Although the difficulties of its extirpation per vias naturales with a reasonable degree of assurance of a complete removal to prevent recurrence was apparent, it was decided, after consultation with the surgeon of the hospital, to make such an attempt, to which decision I was also led by the natural desire to see what could be accomplished by laryngological measures. For such a proceeding four points had to be taken into consideration: (1) The possibility of lateral adhesions, which would make an encircling of the tumor by the snare an impossibility, but the absence of which was proven at a thorough cocainization and exploration to this effect; (2) The question if the apparent density of the tumor extended throughout its whole mass, and the accident of a fragile portion becoming separated and falling down into the trachea; (3) Although the tumor did not seem very vascular, the possibility of a hemorrhage could not be excluded; (4) The technical difficulties consisted in the ability of introducing a sufficiently wide loop through the glottis and carrying it deep enough to slip over the lower surface of the growth. Further, great care had to be exercised, to be sure that after the tumor was successfully grasped and detached by the tightening snare it could be brought upward through the glottis intact and without slipping from the snare when drawn through a passage presumably smaller than the tumor itself. It is unnecessary to mention here that all preparations for a tracheotomy were made before the laryngeal operation was begun.

Fortunately, none of the above eventualities took place, and the operation was beyond all expectation—simple, easy and a complete success. December 19, several applications of cocaine and a few of adrenalin were made to the patient's larynx and trachea, and the length of the shank necessary to reach the tumor and the size and shape of the cautery loop determined. Schech's handle and canula were employed and the iridoplatinum wire devised by me 1894[3], which is almost as elastic as steel wire, used to be carried around and under the growth. The tightening of the wire was done very slowly to avoid hemorrhage and also to be sure not to loose the growth from the loop by burning through too quickly. The removal was effected at the first introduction of the wire snare and the tumor brought through the glottis without difficulty. The basis was cauterized immediately afterward energetically with a flat burner. The two instruments used show you better than any description the depth of the seat of the tumor, the vertical bend to the lower end of the loop being 4¾ inches. No ill sequelæ followed the operation, the patient's voice began to improve the next day, and two days afterward he asked for his discharge from the hospital to celebrate his wife's birthday.

The tumor which I now show you, as also a microscopical drawing, was carefully examined by Dr. Heitzmann, whose report I herewith submit to you:

"The tumor in its different portions presents somewhat different aspects, being partly pure round-celled sarcoma, both small and large, partly myxosarcoma, and partly showing even a commencing alveolar structure. In a number of places the structure closely resembles the so-called adenoid or lymph tissue; here numerous small, round, coarsely granular, nucleated corpuscles are either closely packed together or a delicate fibrous reticulum holds varying numbers of these corpuscles. In other places the corpuscles are large and less abundant, containing either one or more nuclei; at times even nucleoli. Many of these contain a varying amount of pigment, and pigment clusters are also found irregularly scattered throughout this portion of the tumor.

"A few comparatively small and not fully formed alveoli, surrounded by a scanty fibrous connective tissue and containing variously sized granular corpuscles and developing pigment, are also found. Other portions of the tumor consist of partly fibrous and partly myxomatous connective tissue, the meshes of which contain corpuscles in different stages of development. Blood vessels, both of large and small size, are scattered throughout the specimens, and red blood globules are irregularly scattered throughout many parts of the tumor, showing a blood extravasation."



ROUND-CELLED AND MYXO-SARCOMA MAGN 300 DIAM.

BB—Blood vessels
S—Group of small round cells.
L—Large round cells, partly pigmented.
M—Myxomatous connective tissue with variously-sized corpuscles.
A—Alveolar structure.
R—Red blood globules.
P—Pigment cluster.
F—Fibrous connective tissue.

The subsequent history of the patient presents no especially interesting features. A small remaining stump was removed January 11, 1902, and the basis cauterized in the same manner. The fear that by the two operations of tightening the heated snare so near to the lower surface of the cords they might become singed with subsequent sloughing or adhesion, was fortunately unnecessary, and the voice became as strong as before with a light shade of huskiness. In this condition the patient was seen by members of the laryngological section of the New York Academy this spring.

The patient was examined under sunlight in the presence of a laryngologist on May 4, and the last time on May 18, and no anomaly could be detected.

If permitted, I hope to be able to make a short report to you about the condition of the patient one year hence.

1. Bergeat, Hugo, "Das Sarcom des Kehlkopfs und der Luftroehre." *Monatschrift für Ohrenheilkunde,* August to December, 1895, May, 1897.
2. Bruns, P. v., "Heymann's Handbuch der Laryngologie," Vol. I, p. 967.
3. Gleitsmann., "The Application of the Galvano-cautery in the Nasal Passages." *Annals of Ophthalmology and Otology*, April, 1895.

46 East Twenty-fifth Street

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.
THOMAS L. STEDMAN, A.M., M.D., ASSOCIATE EDITOR.

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SURGERY AND PULMONARY TUBERCULOSIS.

THE possibility of accomplishing good by surgery in cases of pulmonary tuberculosis has always been attractive, and several different methods have been suggested by which the tuberculous process might be limited or eradicated. A recently-suggested plan involves the injection of nitrogen into the pleural cavity of the side chosen first for treatment in case both lungs are involved, so that the lung may be thus collapsed and, to a certain extent, compressed by its own resiliency. This compression causes a diminution in the size of any cavities which may be present, and decreases to a large extent the blood supply and, consequently, the physiological activity of the part. All this is supposed to have a favorable influence upon the pathological processes with which we are dealing. An observer, Lemke of Chicago, has recently given the results of his experiences in *American Journal of Surgery and Gynecology*, January, 1902, and at first sight these seem to be extremely encouraging, but it must be remembered that mere mechanical pressure on the diseased lung cannot have a truly specific action on the tuberculous process. The technique for the introduction of nitrogen or even ordinary air into the pleural cavity is very simple, and does not need comment, but the necessity for sterility may be emphasized.

The results reported from this sort of treatment have in many instances been remarkable, though even in the best we cannot yet draw unequivocally favorable conclusions. It has been reported that fever has diminished, that expectoration has become less after a few days, and that with the amelioration in these symptoms, there has been a gain in weight. The reasons for these occurrences are clear enough and depend almost entirely on the decrease in the size of the area of disease from the collapse of the lung, and upon the fact that that organ is placed in a condition of physiological rest by the operation. A condition of rest is of great value and importance in any inflammatory condition, and the analogy of the success of our treatment in many cases of tuberculous joints is distinct in treating pulmonary tuberculosis by this method. Lemke makes what he considers a classification of points which are indications for attempting this sort of treatment, and many of these will suggest themselves to the reader at once. It is claimed that in some cases characterized by the acuteness of the symptoms, the effect of lung compression has been very marked, and this is also true of some other cases in which hemorrhage occur rather frequently, though the rest of the symptoms and the physical science may not be so severe. We can justly attribute the favorable effect of the procedure in such cases to the diminished blood and lymph circulation and to the lowered physiological activity in the lung.

In some other cases in which the presence of cavities of not too long standing can be diagnosticated, we may reasonably hope that lung compression would be of considerable assistance in closing such cavities, and thus reducing the suppurating area, the presence of which is an important drain upon the patient's vitality, and a serious retardation to his progress toward recovery.

It is possible that intrapleural gaseous injection may have a small field of usefulness in the treatment of persistent or profuse pulmonary hemorrhage from tuberculosis or other cause, and it would seem to be in such conditions a powerful adjunct to other resources, though not one which should be employed without grave consideration. There is some danger that compression of a tuberculous lung might, to a certain extent, cause a dissemination of the disease, for it is euident that when a tuberculous cavity is compressed, while most of its contents and most of the pathogenic material in the vessels of its walls tend to be driven outward, it is possible for a certain amount to remain in these vessels, to be forced deeper into the tissues at first and to be drawn in later by suction as the lung expands when the gas is gradually absorbed. Such a condition would not occur in most cases, but it must be thought of as a possibility, especially with cavities which have not existed very long, the walls of which are more or less soft, and do not afford the protection which the fibrous barrier of an older cavity offers. It is too soon to assign a definite value to this mode of treatment, but there is undoubtedly room for experiment and observation, so that other investigators may, if possible, bear out those whose results have been given. The foundation of any possible future success will certainly depend upon a careful selection of cases, and it must be remembered that there can be no success without the employment, in addition to the operative treatment, of all the well-recognized tonic and roborant means at our disposal, for increasing the general health of the patient.

THE RADICAL CURE OF BUNIONS.

MR. A. H. TUBBY, M. S. Surgeon to the Westminster and National Orthopedic Hospitals, writes, in the *London Hospital*, May 17, on this common and troublesome deformity of the foot.

Of the large number of persons who are afflicted with bunions, there are few, if any, who have derived permanent benefit from the various modes of treatment extolled as curative. Perhaps in slight cases the displacement and enlargement may be relieved by wearing well-fitting shoes and by other simple remedies, but the effectual treatment of more severe cases is a matter of great difficulty, largely owing to the fact of not only the soft parts being involved, but also the bony structures.

Mr. Tubby says that the term "bunion," although usually limited to the swelling formed by the subcutaneous tissues and false bursa, should be extended to include the hypertrophied head of the first metatarsal bone and the overgrown base of the first phalanx.

The commencement of a bunion is in a slight dislocation outward of the base of the first phalanx, leaving the inner part of the head of the first metatarsal bone bare, and on the latter prominence a bursa forms. As the dislocation proceeds the extensor proprius pollicis tendon is displaced outward until it forms the base of a triangle, the two remaining sides of which are composed of the first phalanx and the first metatarsal bone. When the displacement is well marked, hypertrophy of the inner side of the first metatarsal bone takes place, and oftentimes a distinct exostosis appears.

Mr. Tubby opines that palliative measures in dealing with bunions are of little avail, the enlargement of the head of the metatarsal bone continues, and some more radical method must be attempted. The only means whereby to effect a cure is an attack on the bone itself. Some surgeons have tried the plan of chiseling off the internal prominence, but this is ineffectual, because the enlargement also affects the other aspects of the head of the metatarsal bone, while excision of the false bursa is, of course, useless, since it only forms again. Other surgeons have tried removal of a wedge-shaped piece from the neck of the first metatarsal bone, but this method fails. There is, according to Mr. Tubby, only one method of radical cure in these cases, and that is excision of the first metatarsal bone. The technique of the operation is as follows:

An incision of about two to three inches long is made on the inner side of the great toe with its center opposite the most prominent part of the head of the metatarsal bone. The incision may be straight or curved, or be made so as to include the piece of skin covering the false bursa removed. If it be inflamed great care must be taken not to allow its contents to escape and be distributed in the deeper tissues. The soft parts on either side of the incision are then reflected well outward until the outer side of the bone is reached, due regard being had to the integrity of the extensor proprius pollicis tendon. This it is not necessary to divide. The joint is then freely opened, the ligaments being completely divided. With a small saw the neck of the first metatarsal bone is divided just behind the articular cartilage. The direction of the division of the bone is of importance It should be oblique from above downward and before backward. The head of the bone can now be removed with a few touches of the knife. The sharp edges of the neck of the first metatarsal bone are then trimmed off with a small pair of bone forceps, especially underneath and on the outer side. Underneath so that the edge shall not worry seasamoid bones, and on the outer side so that there shall be no sharp pressure on the branch of the internal plantar nerve. All hemorrhage having been arrested, the wound is closed. A pad is placed between the first and second toes, so as to ensure that, when healing takes place, the first toe shall be in a right line. In most cases it is better to place between the great toe a small malleable iron splint, curved in such a way that the great toe shall point sightly upward. After a week to ten days the stitches are removed and passive movements begun, and generally in two to three weeks the patient is able to get about.

It is stated that the final result of this operation is shown to be fully justified. The foot is of almost normal appearance, the great toe slightly shorter than the second, but in a straight line, and has free movement. The operation is declared to be without risk.

Bunions are looked upon as among the lesser evils to which flesh is heir, but at the same time there are few deformities which are more troublesome and more painful. An operation therefore which will effect a permanent cure—although at first thought, a more serious measure than the circumstances warrant—will, upon further consideration, be regarded as the wisest course to be taken.

TUBERCULOSIS AMONG CATTLE, FROM A COMMERCIAL STANDPOINT.

Dr. J. G. Adami of McGill University, Montreal, in his paper upon tuberculosis among cattle read at the American Congress on Tuberculosis, recently held in New York City, dwelt chiefly on the menace of the disease in relation to the livestock industry. This view of the situation is the most important, for the reason that the danger of transmitting tuberculosis from cattle to the human race is generally acknowledged to be slight, and also because anything that appeals to the pocket is a forcible cause for investigation.

Dr. Adami says squarely that the existence of tuberculosis among the live stock is a menace to that industry in this country, not only on account of the fact that the herds in America are already very extensively affected, but also owing to the tendency of the disease to spread.

In the Eastern States its ravages are already serious enough, much more so than in the West, where the existence is in the open air, and in consequence the cattle are less susceptible to the disease.

Nevertheless, Dr. Adami thinks that bovine tuberculosis is spreading westward, and points out that what we have to recognize is, that once tuberculosis gains a hold in any country it spreads with appalling rapidity.

The history of the dissemination of the malady in Denmark, Germany and Australia is a conclusive demonstration of this fact. The reason for the alarming spread of tuberculosis among cattle during the past seventy years is due to the greater development of the cattle industry, and especially to the ease of transportation.

Contrary, to the general opinion, agriculture is still far and away the greatest industry of the United States. Only two-fifths of the population of the country live in towns of 25,000 inhabitants, or more, three-fifths gain their living from the soil. If then, only 1 per cent. of the animals slaughtered were found to be the victims of advanced tuberculosis, the loss would be enormous, and Dr. Adami declares that unless the progress of the disease be arrested we must be prepared to encounter such loss.

The time to act is now, before the disease gets "out of hand."

The eradication of tuberculosis from a herd, or from a district, need not be, according to Dr. Adami, a costly matter, either for the individual or for the community. The employment of Bang's method of isolation of reacting animals will render a herd wholly free from the disease in the course of from three to five years.

Effective legislation is needed to bring about the general use of this remedy. There is a prejudice in the minds of farmers and breeders against the enforcement of any methods whereby their immediate profits would be curtailed, but a present comparatively small loss is preferable to a future large one, and if owners of herds cannot be made to appreciate the force of this argument, the alternative must be that government steps in and initiates legislation to this effect. The matter is of national significance, and should be taken in hand at once, so that a great calamity may be averted.

Dust and Disease.

There has arisen within the past few years a distinct impression, with some reaching to a certainty, that dust is a potent factor in disseminating certain diseases. It assuredly goes without saying that phthisis is greatly aggravated, if not in some instances actually initiated, by the irritating effect of dust upon the respiratory organs. Dust as a means of infection we will not discuss.

That an individual suffering from pulmonary tubercolosis in its early stages, or even a person with a predisposition to that disease, should be compelled to live in an atmosphere continually surcharged with dust is a seriously harmful matter.

Suspicion, almost amounting to assurance, is also now entertained that dust plays an important rôle in the spread of typhoid fever. This probability was referred to and commented on by Dr. Victor Vaughan at the time of the Spanish-American War, and the theory has been emphasized and its likelihood accentuated by the result of experience gained by British Army surgeons during the long campaign in South Africa—a country particularly notorious at one season of the year for its clouds of dust and multiplicity of flies.

Dr. Tooth and others have definitely stated that, in their opinion, the scope of an epidemic of enteric fever is greatly augmented by the agency of dust. This being so, it might naturally be thought that extreme care would be taken in large cities to keep the dust pest within reasonable limits. Such, unfortunately, however, is not the case in New York, where "the powers that be," with a cynical disregard for the comfort of, and a callous carelessness regarding the health of the inhabitants, allow the dust—that is now so plentiful in the city—to be wafted or swished around by every breeze or wind that blows. The dust is omnipresent and penetrating, and constitutes a veritable plague of Egypt. It invades street cars, railway cars, and houses; no place is safe from its inroads.

There are side streets in New York at the present time in which building operations are going on that are almost impassable, and in which the denizens dare not open their windows for fear of the dust.

There is no exaggeration in saying that in no city outside of the United States would its inhabitants patiently bear the conditions now prevailing in New York as do the long-suffering citizens of the metropolis of the western hemisphere.

Why are not steps taken to abate the nuisance and menace to health produced by the extensive building operations progressing at the present time in New York City.

The Lancet Commission on Glycerinated Calf Vaccine Lymphs.

At the present juncture, when accusations are being levelled at glycerinated calf as a probable cause of tetanus, the report on the subject by the Lancet Commission comes appropos.

The first report by this Commission was published in the *Lancet* on April 28, and attention was drawn to the fact that although the lymphs then on the market differed very greatly as regards their bacterial purity, they were, taking them as a whole, eminently satisfactory. The bacterial purity of all the samples examined was found to be high, while those in the first class retained their vaccinal activity.

The report given in the issue of June 7 is even more satisfatory than that of April 28, with the exception that the anacrobic organisms are much more numerous than they were on the first occasion.

The Commissioners conclude, as they did two years ago, that "there is still room for improvement, since there is yet much diversity in respect to the degree to which extraneous bacteria are present."

The results of the investigation carried on by the Commission, says the writer in the *Lancet*, appear to indicate still more clearly that the efficacy of the vaccine is not necessarily impaired in those cases in which the glycerination has been carried to such a point that practically all the bacteria have been eliminated. It cannot, however, be insisted too strongly that agents for the sale of vaccine lymphs should be careful not to send out lymph of which they do not know the exact date, and must avoid sending it out after the date given by the manufacturer as limiting its due period of action. The Commissioners have had placed at their disposal the results of a large number of cases in which various vaccines have been used, and they are even more firmly convinced than they were by the results of the earlier investigation that the freer the lymph is from extraneous pyogenic and other organisms, the less marked will be those inflammatory concomitants which are so familiar to all vaccinators.

Vaccination by glycerinated lymph is a great improvement on former methods of performing this operation, but vaccine virus prepared in this way is not entirely free from defects. The greatest possible care is necessary in its manufacture, so that the finished article may be, as far as human skill can devise, free from contamination. The preparation should also be used while fresh.

The Diagnosis of Malaria.

Dr. Patrick Manson has contributed to the *Lancet*, May 17, a useful article on the diagnosis of malaria. He begins his remarks by saying that slipshod diagnosis is not to be commended, but somewhat spoils the point of this statement by declaring that really after all a mistaken diagnosis is no great matter, so far as the interests of patients are concerned, in the vast majority of diseases, as we possess little or no power for good. There are, however, he admits, a few diseases over which we can exercise absolute or relative control, and of course with these it is of the utmost importance that a correct diagnosis be made—malaria, for instance. Dr. Manson draws attention to the fact that such is the exaggerated idea of the insalubrity of tropical countries, of the universal prevalence of malaria in them, that a very large proportion of the febrile and even non-febrile diseases coming from them are diagnosed and treated as malarial. Dr. Manson asserts that nowadays no mistakes should be made with regard to the diagnosis of malaria, and proceeds to recapitulate and accentuate the principles of such diagnosis.

He divides the pathognomonic indications of malarial infection as follows: (1) The clinical; (2) The therapeutic; and (3) The microscopical.

Through lack of space it would be impossible to deal with each of these divisions, so thus it must suffice to touch briefly upon the clinical diagnosis of malaria.

There is only one clinical symptom, according to Dr. Manson, that justifies a positive diagnosis. This is periodicity—periodicity of a particular type—tertian or quartan periodicity—a rhythmical recurrence of symptoms every forty-eight or seventy-two hours. In no other morbid condition are these to be found, and whenever they are well marked malaria is present.

Quotidian periodicity, although it often occurs in malaria, is no certain symptom of the disease. It is general in almost all febrile attacks. Therefore quotidian periodicity is to be absolutely disregarded as diagnostic of malaria, while quartan and tertian periodicity may be taken as a sure basis of the malady.

There are undoubtedly more mistakes made in diagnosis of malarial fever in this country than in England, for the reason that a much larger number of cases are encountered. Many medical men who are called in to treat a patient suffering from a febrile complaint in which one of the prominent symptoms is a daily recurring fever, term it at once malaria. Dr. Manson shows that this diagnosis is incorrect, and further points out that it may be and often is attended with inconvenient results, insomuch as the treatment is governed by the diagnosis.

If the malady is malaria quinine will cure it, if not the drug will do no good and may probably do some harm.

Studies of Snake Poisoning.

Dr. Simon Flexner and Dr. Hideyo Noguchi are publishing, in the *Journal of Experimental Medicine*, investigations made by them on "Snake Venom in Relation to Hæmolysis, Bacteriolysis and Toxicity."

Dr. Fraser of Edinburgh and Dr. Calmette of Paris have made valuable researches into the matter, and both have discovered an antevenim.

Drs. Flexner and Noguchi found that red and white corpuscles are destroyed by snake venom. In order to obtain a sufficiently large quantity of leucocytes for experimental purposes, a substance having a chemical attraction for the leucocytes was injected into the pleural and peritoneal cavities of the rabbit. The fluid in these cavities was found to be—in the space of from eighteen to twenty-four hours—rich in leucocytes, and could be drawn out by a capillary tube without fatally injuring the animal. The leucocytes were then placed on the warm stage and microscopically examined. Solutions of venom were used varying from 10 per cent. to .002 per cent., which was the weakest effective solution.

Only the large granular cells showed the usual migratory motions, and these were first affected by the poison. The largest ones were the first to be affected, and in the course of six hours most of them had disintegrated. Two to 10 per cent. solutions of cobra venom instantly stopped the movement of the leucocytes.

Rattlesnake venom acts more slowly—a 2 per cent. solution requiring two hours to dissolve corpuscles, while a 2 per cent. solution of cobra venom dissolved the white corpuscles in thirty minutes. The investigations in regard to the bactericidal properties of snakes were especially interesting.

The disease-resisting germs contained in blood serum were shown to be affected by snake venom.

When bacteria were injected into the blood of animals in a normal condition, these disease-producing germs were wholly destroyed, but when animals which had been previously treated with snake poison were thus inoculated, they exhibited much loss of bactericidal power.

Cobra venom was in all respects shown to be the most actively destructive. Concentrated copperhead venom was also found to possess strong bactericidal destroying properties.

The bactericidal power of many normal blood sera can be destroyed by a certain amount of any venom, but this is only possible when the venom will unite with the bactericidal elements in the serum, otherwise its destructive action is nullified.

Calmette's antevenim was tested and came out of the trial in a satisfactory manner, as it was demonstrated that it will neutralize venom and destroy its dissolving and antibacteriolytic properties.

Immunity can be conferred on animals by means of the venom, when they will yield an antitoxin, just as an animal is rendered immune by the action of bacteria, thus showing that the venom poisons are closely related to the toxins of bacteria and of the higher plants.

The researches being conducted by Drs. Flexner and Noguchi are of great scientific importance as well as of a definite practical value.

The Medical Aspects of the West Indian Islands.

The islands of the West Indies may be compared, not inaptly, to tropical fruit, beautiful to look at, luscious and tempting, but, when opened, generally devoid of fine flavor, and too often rotten at the core.

There are no more beautiful regions on the face of the earth than are the West Indian Islands.

Mountainous, covered with a luxuriant vegetation, surrounded by blue sea, where the climate is one long summer, it might be imagined that they would provide an ideal home for the invalid.

Dr. Louis Vintras has written in the *Hospital*, May 31, an account of the West Indian Islands, considered from a health standpoint. He instances Kingston, Jamaica, as a typical West Indian town, built on marshy soil, with its sultry, moist, lowering heat, and above it the free slopes of the mountains, rising to shaggy crests, which cut a clear outline across the blue sky—below the heavy miasma-laden air; above the light, pure atmosphere, the fresh breezes, and the promise of health.

The above description, it is said, applies to most West Indian towns. They are built on the low, swampy, malaria-stricken grounds, and are, consequently, unhealthy, while the heights revel in pure health-giving air.

Both Martinique and St. Vincent—the ill-fated islands lately wrecked by volcanic eruptions—were considered among the most healthy of the group.

Trinidad, Dr. Vintras says, is the most unhealthy, and, in Port of Spain, the carrion crow is protected by law to act as a general scavenger.

On the whole it would seem that, until conditions are changed, it would be unwise to recommend the majority of the West Indian Islands as health resorts.

News of the Week.

The Condition of King Edward VII.—The latest reports from Buckingham Palace are to the effect that King Edward VII. is slowly progressing toward recovery, and the wound is healing, as is proper in such cases, from within outward. So far no complications, local or general, have manifested themselves, and the outlook is exceedingly gratifying.

Pay of Fire Department Surgeons.—In the old city of New York the salary of a surgeon in the fire department was $2,000 a year, and, according to the charter of the consolidated city, the compensation was to remain the same. But, in 1898, the Fire Commissioners and the Board of Estimate and Assessment concurred in setting aside $9,000 as compensation for three surgeons to the fire department for that year. The surgeons contended that that action fixed their salary at $3,000 per annum each, and they brought suit against the city for the increased amount and arrears since 1898. The Supreme Court, however, recently found against them, holding that the provisions of the charter were final and, moreover, came into effect prior to the action of the Commissioners in raising the surgeon's salaries; so the surgeons get only their $2,000—a small enough compensation in truth, yet one that many would be glad to accept for the service rendered.

A Murderous Nurse.—Mention was made in these columns some months ago of the arrest of Miss Jane Toppan, a professional nurse in Massachusetts, on suspicion of having killed several of the patients under her care. She was indicted for the murder of three persons, but was suspected of having killed eleven. On the trial recently concluded, she was found not guilty of murder in the legal sense, but was adjudged insane and committed to the Taunton Insane Hospital. At the conclusion of the trial the woman denied that she was insane, but said she knew she was doing wrong, yet could not help committing the crimes. She said she had killed, not eleven, but thirty-one persons, many of whom were intimate friends; others the patients of physicians who had employed her on account of her skill in nursing. The poison used in each case was morphine.

Outings for the Aged.—It is stated in *Charities*, that an association has been organized in Baltimore to provide outings for aged people. Persons more than fifty-five years of age will be sent into the country for a week's vacation at cottages already provided. In addition to sending away as many persons as their funds will allow, the association will arrange car and carriage rides for those who must remain in the city.

Dr. William M. Leszzusky has been appointed consulting neurologist to the Harlem Hospital.

The Philadelphia County Medical Society at its June business meeting unanimously instructed its delegates to vote for its ex-President, Dr. William M. Welch, as president of the Medical Society of the State of Pennsylvania.

The Prevention of Venereal Disease.—The following resolution, introduced by Dr. Ludwig Weiss of New York City, and seconded by Dr. L. D. Bulkley of the same place, was unanimously adopted by the Section on Cutaneous Medicine and Surgery of the American Medical Association at its meeting June 12, 1902; and a committee, consisting of Drs. L. Weiss and Dr. L. Bulkley of New York and Frank H. Montgomery of Chicago, was appointed to present the same to the Section on Hygiene and Sanitary Science of the American Medical Association, for coöperation:

"*Whereas*, There is a burning necessity to check the spread of venereal diseases, and assuming that the States cannot with impunity ignore the condition, it lies in the province of the medical profession to discuss and recommend to the respective State legislatures and municipalities means, not regulamantative, but social, economic, educative, and sanitary in character, to diminish the danger from venereal diseases.

Resolved, That the Section on Cutaneous Medicine and Surgery of the American Medical Association invite the Section on Hygiene and Sanitary Science to coöperate with the Section on Cutaneous Medicine and Surgery in bringing about a propaganda in the different States, looking toward a proper recognition of the dangers from venereal diseases and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year at Brussels, under the authority of the Belgian government at Brussels."

The House of Delegates of the American Medical Association, in its meeting June 13, 1902, has acted favorably upon this resolution, and appointed a committee of six to study the matter and to report to the Association at its next year's meeting. These are the members of the Committee appointed by the Chair: Henry D. Holton of Brattleboro, Vt.; George M. Kober, Washington, D. C.; W. H. Sanders, Alabama, from the Section on Hygiene and Sanitary Science, and Ludwig Weiss, New York; L. Duncan Bulkley, New York; Frank H. Montgomery, Chicago, from the Section on Cutaneous Medicine and Surgery.

Cholera in the Philippines.—From the date of the first appearance of cholera in Manila some months ago to the middle of June there have been registered 1,530 cases with 1,236 deaths in Manila, and 7,369 cases with 5,440 deaths in the provinces. Ninety American soldiers have died all within the month preceding the date of the report. Nearly every case among the troops can be traced to neglect of the army rules regarding the drinking water.

American Association of Life Insurance Examining Surgeons.—At the annual meeting of this society, held under the presidency of Dr. James H. Stowell of Chicago, in Saratoga, on Monday, June 9, the following officers were elected: *President*, Dr. Charles Lyman Greene of St. Paul, Minn.; *Vice-Presidents*, Drs. W. B. DeGarmo of New York, James Taggart Priestley of Des Moines, Ia., P. Maxwell Foshay of Cleveland, Ohio, and Wm. A. Adams of Fort Worth, Texas; *Secretary* and *Treasurer*, Dr. J. J. Morrissey of New York.

The Hospital Corps Company at Gettysburg.—Plans are being made to have the U. S. Army Hospital Corps Company, stationed at Washington

Barracks, D. C., march to Gettysburg, Pa., and take part in the exercises of the Pennsylvania National Guard, in camp at that place during the week beginning July 15. The Hospital Corps Company, which is 125 men strong, will give daily drills in first aid, transportation of wounded and field hospital establishment for the benefit of the similar branch of the service of the National Guard.

Major Walter Reed.—In addition to the degree of LL. D., recently conferred upon him by Harvard University for his discoveries relative to the prevention of yellow fever, Major Walter Reed, Surgeon, U. S. Army, has also received the degree of LL.D. from the University of Michigan.

The Medical Missionary Society in China has decided to establish a medical college for men in connection with the hospital operated by the society in Canton. The sum of $50,000 is to be expended upon its organization and equipment.

The Woman's Medical College of Pennsylvania.—Dr. Anna E. Broomall has resigned as head of the Department of Obstetrics. Dr. Ella B. Everitt, at present resident physician in the Woman's Hospital, has been elected to the Chair of Gynecology in succession to Dr. Hannah T. Croasdale, recently resigned.

The State Board of Pharmacy.—An association of retail druggists recently applied for a mandamus to compel the election of a new set of members of the State Board of Pharmacy for the Eastern District, contending that all the present members had been legislated out of office by an amendment to the Pharmacy Law passed by the Legislature last winter. The application was denied, and in the ensuing election Mr. Clarence O. Bigelow was chosen to succeed himself.

Cholera in Manila.—With respect to the outbreak of cholera in Manila, a report, dated March 30, recently received, says: "I think cholera has existed for some time in Canton, and was brought here in vegetables imported into Manila from that city. Assistant Surgeon Kerr, on duty in Hongkong, cabled, March 3, that cholera was present in Canton and immediately stopped the shipment of all articles prohibited by the regulations from cholera-infected ports, but evidently vegetables admitted prior to knowledge of the disease in Canton introduced the infection. If information had been received one month sooner, no doubt the introduction of the disease could have been prevented. The first cases occurred on March 20. The city at that time was already divided into sanitary districts, and inspection work was daily carried on in order to detect any plague cases that might occur, and a detention camp, large enough to accommodate 2,000 people, had recently been completed. In addition, new stations were established in all sections of the city, the number of inspectors and physicians increased many times, and the inspection work carried on with vigor night and day. Every case of illness was examined, and all that were suspicious were sent to hospital. Cholera cases were sent to the cholera hospital, and all contacts and suspects sent to the detention camp, the infected house being at once disinfected, closed, and placed under guard. In this way the cases were secured early and contacts caught before they had time to escape. In a few days, the number of cases continuing to increase in the Farola district, the property was appraised and burned, thereby destroying the worst foci. Immediately after this the daily number of cases commenced to diminish. A cordon was immediately thrown around the city, ferryboats and passenger trains were stopped, and all passengers going to the neighboring provinces, either by rail or boat, were required to secure permits from the board of health. All old wells and cisterns in the city were closed, and a guard was placed on the river supplying the city with water, in order to prevent pollution and infection. All green vegetables in the city and markets that were considered as liable to convey the disease were bought and destroyed. People were advised by circular of the precautions to be taken, and distilled water was furnished free at different stations throughout the city. The quarantining of the city against the provinces was immediately put in effect, in order to prevent an exodus of people, and to prevent, if possible, the spread of the disease to other places in the islands."

Obituary Notes.—Dr. William N. Fisher died at the Columbia University Hospital in Washington, on June 26, as the result of a fall down the elevator shaft of that institution the night before. He had called to see a patient, and on leaving walked into the open door of the elevator shaft. His skull was fractured in five places and he did not regain consciousness. Dr. Fisher was born in Richmond, Va., and moved to Washington in 1876.

Dr. John T. Winter died at his home in Washington on June 22, at the age of sixty years. Dr. Winter was born in Petersville, Md., and went to Washington at the beginning of the Civil War. He was a graduate of the Georgetown Medical School in 1870. He was one of the founders of the National University Medical School and a member of the attending staff of several hospitals in Washington. He was President of the Board of Commissioners of Pharmacy of the District of Columbia and a member of the American Medical Association, the District Medical Association, and the District Medical Society.

Dr. Frederick W. Thum of Newark, N. J., died at his home in that city on June 27, at the age of thirty-seven years. The cause of his death was pyæmia, following inflammation caused by the scratch of a pin. He was a graduate of the Medical Department of Columbia University in 1891.

Dr. Ernest Potter Jenks died at his residence in this city on June 25, of Bright's disease. He was born at Boston, May 18, 1866, attended the Brookfield (Mass) High School, and after graduation from that institution entered Brown University, from which he was graduated in 1889. While there he took a special course in natural history under his uncle, the professor in that department, assisting him in many ways, and on graduating presented to the Jenks' Museum, founded by his uncle, a number of fine specimens prepared and mounted by himself. He was reported to be one of the best amateur taxidermists in this country. Dr. Jenks was graduated from the College of Physicians and Surgeons in 1898. He was connected with the Demilt Dispensary as assistant house surgeon, and also had charge of the class in diseases of the heart and lungs; he was also an assistant physician at the Vanderbilt Clinic. Dr. Jenks was a man of great natural abilities and a conscientious student, and his literary attainments covered a wide range. A genial disposition won him many friends among his fellow practitioners and outside of the profession. A widow survives him.

Dr. Benjamin Andrews died at his home in Brooklyn on June 26. He was born in this city in 1820, and graduated from the College of Physicians and Surgeons in 1847. After practising his profession for some years he retired, and devoted his attention to his property interests.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL AND ITS APPROACHING BANKRUPTCY—LEPROSY—COLOTOMY FOR COLITIS; AFTER HISTORIES—SMALLPOX—POLYCLINIC—THE CORONATION AND THE HOSPITAL FUNDS—PRELIMINARY EDUCATION—MIDWIVES' BILL—FATAL FIRES—MUZZLING DOGS—DEATH OF DR. COTMAN.

London, June 6.

The Medical Council has once more shown itself unable or unwilling to conclude its summer session within the week, and so carried its business over the Sunday and did not wind it up until Tuesday afternoon. This may suit some members who like the opportunity of a trip to London at the expense of the profession, for you will remember they are paid five guineas a day for attendance and their hotel bills are defrayed for them. This may seem a trifle but deserves notice, because most of the Fridays and Saturdays' sittings were spent in discussing the financial straights to which the Council has been reduced by its reckless accumulation of yearly recurring deficits. A further sum of more than £1,500 has to be added to the Council's debt—that being this year's excess of expenditure over its income. The annual deficit for the past seven years has averaged £1,200.

Even these learned representatives of colleges and universities see that this cannot go on forever, but they seem sorely puzzled as to the remedy. One proposed to leave the President to carry on the business as economically as he could. Another wanted a committee to consider what economies are possible. The first proposal was properly rejected; as to the second, the Report of the Finance Committee was before the Council and that contained definite suggestions.

One of these was to impose a registration fee on students, but, while registration is only optional, that would not produce much. Another suggestion was to increase the fee for registration of practitioners, and this found favor with the Council. Mr. Horsley advocated an annual payment by practitioners, but it was naturally contended that such a charge would render the Council unpopular, and that on going to Parliament they would be required to show that they were doing good work and doing it economically—two requirements in which I think they would certainly fail, and, as one member remarked, the question might be raised whether it was "worth while to pay for more of this sort of thing."

The analogy of solicitors, who pay an annual sum, is not exact. A good lawyer who cannot establish a connection of his own, can earn a respectable income in another's office. Not so a doctor who falls on evil times. Medical assistances scarcely give bread and cheese. To a successful surgeon, like Mr. Horsley, an annual fee may be a fleabite. I know some men on whom it would be a serious tax.

One member made the most sensible suggestion of the sitting, viz., to reduce the number of members of the Council, a plan which would assuredly add to its administrative efficiency and materially diminish its expenditure not only by the fees and hotel bills of members, but by curtailing the speeches which have been calculated to cost about a guinea a minute—rather a large price for the resulting disputation with which the council-chamber so often resounds.

At one stage of the proceedings a member remarked that they had considered economies which might reach £200 a year, but the fact remained that they had spent £200 in discussing that saving. Another member declared it would be better if they would circumcise their tongues.

Eventually the Council decided to suspend the sinking fund and prepare a bill for Parliament to enable them to raise the registration fee. As to this, Mr. Brown made the suggestion that as they had already two or three bills in hand they might as well amalgamate all and endeavor to get a complete reform. There was too much common sense in this idea for the Council to like it.

As an earnest of its economy, the Council afterward appointed visitors of examinations at five guineas a day with traveling and hotel expenses.

On Tuesday the Midwives' Bill was discussed, and Mr. Brown carried a resolution against it; but I fear this will have no effect, for the report stage of the bill is down in the House of Commons.

Two communications on leprosy were read at the Medico-Chirurgical Society's last meeting and are to be discussed at the next. One was by Mr. T. J. Tonkin, and was concerned with the disease as he observed it in the Soudan and Northern Nigeria—an area of some 500,000 square miles—over which it is very common.

Mr. Tonkin is satisfied that clothes are there the chief vehicles of contagion—the dirty habits of the Soudanese lending themselves to this.

The native cloth is woven in narrow strips, which are sewn together to make a garment. Rich persons will buy their clothes new and sell or give them away when soiled. A single robe may thus have a number of owners before it is quite worn out, any one of whom may have been a leper. Even when stiff with exudation the natives do not think it necessary to wash them. They would wear them day and night, and rolling about on the hard-matted surfaces, which serve them as beds, they would have nothing between these clothes and the provinces of their bodies, on which usually the first signs of leprosy appear. Bites of mosquitos or vermin or a scratch would still further facilitate the entrance of the baccillus. Predisposition to leprosy Mr. Tonkin referred to diet defective in nitrogen, and said this was characteristic of the diet in every known leper district. The weakness of the peripheral tissues in the low-class members of tropical races is well known. The ulcers which so often follow insignificant injuries to the skin in India is an example. Deficiency of nitrogen in the dietary is not the only factor, but Mr. Tonkin regards it as the most important—the other accidents of the patients' life might contribute to break down the resistance of the entrance of the baccillus. As to heredity, out of 220 of his cases, Mr. Tonqin could only trace it in eighteen, and therefore did not regard it as an important, still less, as a necessary factor.

The other paper was by Mr. Jon. Hutchinson, F.R.S., who has lately returned from South Africa, where his view as to the fish theory has been confirmed. This, of course, directly traverses the view expressed in the other paper. Mr. Hutchinson argued that the disease was unknown in South Africa before the Dutch occupation, and that many cases now arise *de novo*, especially in the Kaffir kraals, where it is then communicated from person to person and, particularly, to young children. He thought the irregularity of the communication suggested that it could not be by inhalation or by any form of skin inoculation. He suggested that the bacillus entered by the stomach. It might be taken in by eating food direct from a leper's hand—this he called "commensal communication"—and this, in conjunction with the fish production hypothesis, he thought would account for all the difficulties.

Next week these papers are to be discussed and, I hear that Dr. Hansen of Bergen is expected to be present and join in the debate.

The after-history of cases is too seldom obtainable. Dr. H. White and Mr. Golding-Bird have reported to the Clinical Society such history of three cases of right lumbar colotomy performed several years ago in which the artificial anus was subsequently closed. Two of the cases (one membranous colitis, one chronic dysentery) were quite cured. The third remained quite well for eighteen months after the closure but then relapsed. It was suggested by the authors that in all cases the artificial anus should be kept open for a long time—in their cases it had been so from one to two years. They thought that in severe cases it might be kept open for ten years. Irrigations they thought harmful. This last point was questioned by Dr. Percy Kidd, who said he thought they had been useful in a recent case.

Dr. Sidney Coupland asked if the operation could be satisfactorily performed on the insane, as colitis caused 10 per cent. of the mortality in large asylums. As to this, Mr. Golding-Bird expressed his willingness to colotomize any insane patients, the after-treatment falling on Dr. Coupland.

The smallpox admissions have varied during the week from sixteen to thirty-three per day. There are still more than 1,300 cases in the hospitals. The case mortality, including infants, is computed to be 16.7 per cent.

The Polyclinic dinner was held last evening, the object being to aid the finances.

London, June 23, 1902.

The King's sympathy with hospital work, long well known, has received another striking illustration this week. A meeting was called by the Lord Mayor at the Mansion House to determine the nature of a gift from the people to the King. The City, the Court, the Legislature, the Church, dissent and empire, were all represented. A letter was read from the King's secretary, in which it stated that among many benevolent schemes for celebrating the coronation "none appeals more deeply to His Majesty than that for augmenting the Hospital Fund which was instituted by him in 1897 when he was Prince of Wales, in commemoration of the Diamond jubilee of the late illustrious queen, and the welfare and prosperity of which the King has always watched with the greatest and most unfailing interest."

The Lord Mayor said £55,000 had already been received, including £1,000 given in pennies by the laboring classes. The Duke of Fife said it was an insoluble mystery to him that London had allowed her hospitals to get into such a deplorable state, and pointed out that they are not the concern of London only, but the universities of medicine, not beneficial to the poor alone, but to the rich, as in them men acquire the skill and practice which enable them to deal with the diseases of rich and poor alike. The Bishops of London and Winchester, the Chief Rabbi, Lords Glenesk and Strathcona, and other representative men having spoken, the plan was enthusiastically adopted, and the Lord Mayor's Fund is now a national one.

Here is another illustration of the King's interest in his hospital fund. A difference of opinion in a town council as to the propriety of devoting to the fund the money which would otherwise be spent in an address was referred to the King's secretary, who replied that "His Majesty cannot help thinking that altogether it would be more satisfactory were the corporations to contribute to his London hospital fund, instead of forwarding addresses to him." Another fund for the same purpose is claiming attention, for Hospital Sunday is near, and it is hoped the collections will be worthy of the coronation year. The *Lancet* has issued its usual supplement on behalf of the fund and by way of change in the appeal gives letters and statements from grateful patients. The average receipts of this fund for the last five years have been £48,326. This year it is hoped more than double that amount may be raised. Last year there was a deficiency of more than £250,000, which swallowed up all the legacies. All the hospitals are also making their own special appeals for help.

The deputation of the British Medical Association was duly received by the Education Committee of the Medical Council, and its statements promised consideration.

The object of the deputation was to persuade the Council to raise the standard of preliminary education. The committee were inclined to think they had done enough in this respect, but it may be pointed out that the age limit and examination are now actually lower than the committee themselves proposed in 1898. This is the result of the Council's inveterate habit of asking opinions and making recommendations instead of regulations. In this case they asked the advice of some so-called educational experts, and received a report which contradicted itself, not an unusual thing with that sort of "expert." So now a boy sixteen years old, who ought to be at school, may, if his parents are foolish enough to let him, begin professional study. The Association wants the age raised to seventeen. No one doubts that eighteen would be better, with an examination suited to that age. It has been objected that this would restrict the ranks of the profession and so inconvenience the public. It really looks like contemptible hypocrisy for these sleek councillors to pretend they have never heard of the bitter cry of their poorer brethren about the overcrowded state of the profession.

Most of the councillors are connected with hospitals and schools. Is it possible they are blinded by the competition of these institutions for pupils? The suggestion to postpone the question until the secondary education of the country has been placed on a better footing by Parliament is just of the kind to commend itself to the dilatory element of the Council. And this leads to another aspect of prelimina,y education. The London University, which long ago killed Greek, under its new organization has attacked Latin, which is now to be made an optional subject and the advocates of so-called practical and modern education clap their hands while one of them gravely proposes to institute a degree in commerce! When "the butcher, the baker and candlestick-maker" become university graduates, the physician and surgeon may be content with the diplomas of the corporations which ask a "little Latin and less Greek."

Much nonsense is being talked about eight years being spent on dead languages and the small return in ripe scholarship. No one expects a boy of eighteen to be a ripe scholar, but there is no reason why he should not have learned the elements of Latin and Greek as well as two living languages. That would prepare him for entering either of the professions and pursuing what he found most useful or most to his taste.

The Midwives' Bill duly passed the report stage—it may be said to have been forced through by the determination of its advocates, stimulated by the outside pressure of those women who pose as defenders of the rights of their sex. But with all this some amendments were carried in the teeth of official opposition. The Home Secretary, with the fear of wealthy women before him, begged the House to pass the bill this session as it stood and reserve further action for another. But this legislation by instalments did not find favor, naturally enough, for the House is always laboring under a plethora of bills. The plea of protecting poor women in their hour of need, so pathetically dilated upon, was obviously mere pretence, for the greatest resistance was offered to an amendment forbidding women to practice midwifery unless registered under this act. The amendment was carried with a period of grace until 1910. So if this becomes a law we shall have all the present midwives legalized and eight years hence protected. In fact, as was admitted in the House, though so many denials have been made outside, the bill is creating a new profession for women. That new profession must for many years consist of uneducated members, some with absolutely no training, and some with three months in a lying-in hospital. And these will be a protected inferior female doctor. Can any one credit the pretence that they will not encroach on the practice of medicine, especially in districts where the doctor can scarcely earn a living? And this is the plan supported by obstetricians and other leaders against the starving general practitioner! The bill is down for its third reading; that stage is mostly a formality and further opposition must be in the Lords, but little can be expected now from those who have been thus far apathetic while their own interests are at stake.

Some indignation is expressed at the indifference of the government to the loss of life from fires occasioned by lamp accidents. It is said that low-flash oil is generally the cause. Questioned in the House, Mr. Ritchie said that he was not convinced that raising the standard would diminish the number of accidents, and so the holocaust goes on, while a careless minister takes no steps to convince himself of the danger of low-flash oil. I know it is said that the lamps are equally to blame. But if human life is as important as we pretend, both causes might easily be eliminated by legislation. Can it be that legislators are interested in the low-flash oil trade?

More firmness has been displayed in respect to muzzling. Worried to make exceptions for the selfish fashionables who pathetically plead that they cannot leave their pet dogs behind when they take a trip to Paris, Mr. Hanbury replied that the government could make no exceptions, as "no loophole should be left for the spread of so terrible a disease as rabies."

The death of Dr. J. S. E. Cotman while on a cycling trip is calculated to warn enthusiastic athletes of advancing years. He left home on the 26th ult., and his body was found by the roadside twenty miles away between two and three hours afterward. His bycicle was standing against the fence, and it looked as if, feeling faint, he had got off and laid down to rest. He was sixty years of age, and had for many years taken an active part in London municipal work, being an influential and highly esteemed member of the Common Council of the city.

STEVENSON AND SYMONDS AT DAVOS.

To the Editor of the Medical Record:

Sir: In a recent issue (May 17) of your valuable journal, while discussing the treatment of consumption in high altitudes, you incidentally give credit to Robert Louis Stevenson for having had "something to do with rendering Davos popular." I do not wish to discuss the relative merits of high altitudes and lower levels in the treatment of this disease further than to point out the fact that many physicians are to-day inclined to deny any specific influence or advantage to the former, while but few could be found ten years ago who did not insist upon such difference. My object in sending this communication is rather to call attention to the fact that the popularity of Davos, both in England and in this country was due more to the efforts of the distinguished writer, biographer and critic, James Addington Symonds, than those of Robert Louis Stevenson, or of any other layman or literary man who spoke from personal experience with the disease and the resort. Symonds' visit not only preceded Stevenson's by more than three years, but he had already been contributing articles on the climate and treatment at Davos to the *Fortnightly Review*, the *Cornhill Magazine*, and the *Pall Mall Gazette*, which were published later in book form under the title: "Our Life in the Swiss Highlands." Symonds reached Davos in August, 1877, Stevenson not until November, 1880; in fact the latter's biographer says that "the great feature of the place for Stevenson was the presence of John Addington Symonds." Stevenson himself says in one of his letters: "Beyond its splendid climate, Davos has but one advantage, the neighborhood of J. A. Symonds." Your readers may be interested in some quotations from Symonds of a medical nature—although these cannot compare with his marvellous word pictures of scenery, color, and life in the Alpine highlands. He writes: "Accustomed as we are to think that warmth is essential to the satisfactory treatment of pulmonary complaints, it requires no little courage to face the severity of winter in an

Alpine valley, where the snow lies for seven months, and where the thermometer frequently falls to 10° or 15° F. below zero. Nor is it easy, by any stretch of the imagination, to realize the fact that, in spite of this intense cold, the most sensitive invalids can drive in open sledges with impunity, expose themselves without risk to falling snow through hours of exercise," etc. Again: "The worst symptoms of pulmonary sickness, fever, restless nights, cough, blood spitting and expectoration, gradually subside by merely living and breathing." And finally: "Not only the cases recorded in technical treatises, but the testimony of many persons with whom I have conversed upon the details of their cure, together with my own experience based upon a comparison of Davos with Italy and the Riviera, convince me that it is the soundest surest, and most radical system as yet discovered."

As is well known, both men finally succumbed to their disease, Stevenson having spent but two winters at Davos, and Symonds about twenty.

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The Boston Medical and Surgical Journal, June 26, 1902.

Some Cases of Malaria Accompanied by Acute Abdominal Symptoms.—James M. Jackson reports a number of cases of malaria in which the chief symptom was abdominal pain of such intensity as to warrant the diagnosis of peritonitis or appendicitis. It is not uncommon to have some abdominal pain, at the time of the chill, but it is very unusual to have severe cramps in the abdomen preceding, as in one case, for three weeks the onset of the chill. Examination of the blood and the administration of quinine were usually sufficient to establish the diagnosis.

Typhoid Spine (Spondylitis Typhosa; Perispondylitis Typhosa.)—Elbridge G. Cutler reports a case of this affection, which is a condition of the spine resembling Pott's disease, and occasionally occurs after typhoid fever, but without the deformity which follows Pott's disease. The patient complains of pain in the lumbar or sacral region, perhaps after a slight blow, or shock or jar, or independently of such injury. The chief symptoms are stiffness, of the back, pain on movement, and tenderness on pressure, the latter symptom being the least constant. In addition there are certain nervous manifestations, sometimes even hysterical. The physical examination, aside from the tenderness mentioned, reveals nothing. Fever is not usually present, unless there are other complications. The prognosis is favorable, complete recovery following in most cases, though deformity has been observed. The treatment consists of rest in bed on the back, and the application of a plaster or leather jacket, to give support.

Analysis of Twenty-six Cases of Typhoid Spine.—Frederick T. Lord says that from 1889 to 1902 twenty-six cases of typhoid spine have been reported in the literature. He gives a detailed analysis of these cases. In general, the pathology of the process seems to be a perispondylitis or spondylitis, or both. A few of the cases may be neuroses. The coexistence of a deformity and nervous symptoms in one-half of the neurotic cases suggests that all the neurotic cases may be organic as well. Localized pain was present in all the twenty-six cases. It was associated with local tenderness in sixteen. Stiffness of the spinal column was noted in eight. These symptoms, taken together with radiating pains, in ten cases; disturbed knee-jerks in eight, and the association of these two in five, with muscular spasm in other than the adjacent spinal muscles in three, and disturbed sensation in the distribution of the spinal nerves in five, suggest the involvement of the nerve roots in a periosteitis. A rise of temperature in seven, without other cause than the spinal lesion, is still further suggestive of organic trouble. The existence of kyphosis in eight cases seems to confirm the organic character of the nerve-root symptoms, and definitely to indicate bony as well as periosteal involvement.

Journal of the American Medical Association, June 28, 1902.

A Contribution to the Treatment of Pneumonia with Antipneumococcic Serum.—In this article B. W. Goldsborough collates the results in 447 cases treated by various physicians, including sixty-one cases treated with antidiphtheritic serum. Results have been as follows; total recoveries, 377; total deaths, 70; mortality, 15.7 per cent. He contributes abstracts of the clinical histories of nine personal cases. The percentage of deaths in 395 cases treated with antipneumococcic serum was 16½. Of his own nine cases two died. He has used the serum in doses of 20 c.c., repeated in eight hours if there is not a very marked change for the better. He says that one cannot expect to obtain the same results in cases of bronchopneumonia with possibly a mixed infection as in lobar pneumonia, but his experience is, nevertheless, that the serum is of great benefit in both affections.

Medical News, June 28, 1902.

The Causes and Manner of Death in Epilepsy.—William P. Spratling declares that any epileptic may die suddenly at any time. The manner and causes of death in epilepsy may be summarized as follows: (1) It may occur suddenly in any case as the result of a single seizure; (2) It may result from a series of seizures occurring in rapid succession and ending in status epilepticus; (3) It may result from an accident suffered because of a fit; (4) It may result from any of the other causes that ordinarily produce it, with a seeming preponderance in favor of diseases of the heart and lungs. As a rule, the status epilepticus should be feared when more than three or four well-marked and distinct attacks occur within an hour's time. The most vigorous treatment to prevent status should be instituted at once. Status develops entirely irrespective of the type of epilepsy.

General Enteroptosis.—Robert T. Morris, discussing this condition, says that a snug corset is a splint. The abdominal muscles under the corset become atrophied. If the corset engages the lower rib line and prevents the liver from sliding over the right kidney, as it normally does in respiration, this organ acts like a pump piston and pushes the kidney away from its loose anchorage. Corsets may be classified as splint corsets and pump corsets. During parturition the weakened abdominal muscles are apt to pull apart along the line of the linea alba. Most women suffering from general enteroptosis are invalids to a certain degree. Palliative treatment can do much for them. The corset which now cannot be dispensed with, must be applied snugly while the patient is recumbent and after the liver and kidney have been replaced as well as possible. The afternoon bloating will then probably cease. Dyspepsia will be relieved by stomach lavage. Abdominal massage and electricity properly and persistently applied will develop the abdominal muscles and will stimulate the functions of the viscera. Operative treatment is indicated in those cases in which palliative treatment is not beneficial.

American Medicine, June 28, 1902.

The Significance of Eosinophilia in Pemphigus.—John W. Coe reports the blood examinations of two cases of pemphigus. The first patient was a woman aged forty-four years. It was a case of relapsing pemphigus, extending over a period of nine months. The eosinophilia was very marked, in one examination amounting to 51.8 per cent. The patient finally regained her usual health. The second patient was a man aged forty-four years. Several blood examinations were made and the eosinophiles reached only 6 per cent. The author suggests that in such conditions an increase in the eosinophilic leukocytes of the blood may be comparable to a polynuclear neutrophile increase, as in pneumonia, and is indicative of a more favorable prognosis. This last patient grew rapidly worse and died.

The Ear from a Medicolegal Standpoint.—W. Scheppegrell believes that a careful examination of the ear from a medicolegal standpoint is indicated in a wide range of cases. In cases of violent explosions it is important to eliminate the effects of chronic catarrhal processes which may have been present but not observed. Railroad employees are required to pass an examination of their hearing capacity to avoid accident due to defective hearing, as is also the case in military service. In cases of simulation, when the cases are supposed to be bilateral, the patient is unexpectedly called, or a sudden noise is made near him, while he is carefully watched. When the deafness is claimed to be only on one side, the most efficacious method is by means of two rubber tubes, one for each ear, and both connected with a mouthpiece behind the head of the subject. By compressing the tube leading to the healthy ear the sound will be transmitted only to the other ear, and confusion soon results. An insufficient examination may result in the escape of a criminal from his deserts, or it may subject an innocent person to unmerited punishment.

Philadelphia Medical Journal, June 28, 1902.

A Case of Acute Articular Rheumatism with Pyæmic Temperature Treated with Antistreptococcic Serum.—R. J. Chipman reports the case of a woman aged twenty-five years, who, after exposure to cold wind and low temperature, had a very severe attack of acute articular rheumatism. At one time the temperature reached 105.4°. Salicylates were given, but were not tolerated by the stomach. About six weeks after the initial attack it was decided to try the use of antistreptococcic serum. After the first injection, improvement began. In less than two months after the beginning of this treatment the patient sat up, and was convalescing very rapidly. The profound septicæmic condition present at the time this treatment was instituted seemed due to some germ infection, possibly the streptococcus. It seems impossible to ascribe the sudden remission of symptoms to mere coincidence.

A Remarkable Case of Coma, Apparently Due to Acid Intoxication Sui Generis.—This case is reported by D. L. Edsall. The patient was a man aged sixty-three years. While in apparently good health, he was suddenly overcome by vertigo, followed by prolonged coma. The coma lasted about ten hours, during which time the patient was given alkaline transfusions. He exhibited during this time the symptoms and the urinary signs of acid intoxication. He then rapidly recovered and subsequently remained perfectly well, the symptoms as well as the urinary signs of the acid intoxication disappearing coincidently with his improvement. The signs of diabetes were absent at all times. The only satisfactory diagnosis that can be made in the case is that of cryptogenic acid intoxication, which was, in all probability, of gastrointestinal origin. The man's tendency to digestive disturbance, and the presence of such disturbance for some hours preceding his attack, made this source of the intoxication a likely one. The man was completely saturated with alkalies in the treatment. He was given about 75 gms. (2½ ounces) of sodium bicarbonate intravenously, and his urine, which was tested with each portion passed, remained distinctly alkaline for about seventy hours after the alkaline transfusions were given.

The Lancet, June 21, 1902.

A Case of Rabies Latent for Twenty Months.—The case reported by D. C. Rowlands is that of a powerful man of sixty-three years, who was bitten with considerable lacertion on the metacarpo-phalangeal joints of the thumb and forefinger of the left hand. The wounds were cauterized. Three weeks later the patient was sent to the Pasteur Institute in Paris, where he remained for nineteen days. He then returned home, feeling perfectly well. Twenty months later symptoms of rabies came on, with pain in the left arm and in the stomach. Soon there developed the typical symptom-complex of rabies, and the man died in forty-eight hours.

Embryological Aspects and Etiology of Cancer.—The nature of the argument advanced by J. Beard is as follows: Cancer is derived from vagrant primary germ-cells, which, instead of forming a more or less complete embryo or embryoma, skip this and give rise to a larva or phorozoon of indefinite. unrestricted powers of growth. This is, of course, purely hypothetical, but it becomes the true explanation by the following facts: On the one hand, as researches have shown, the hypothetical "verirrte Keime" or "lost germs" of pathologists not only exist, but they are numerously represented, and by things capable of abnormal development, the vagrant primary germ-cells. On the other hand, the carcinomatous nature of such an abnormal growth of a larva or phorozoon has been abundantly demonstrated by Marchand for the instances of the pernicious growth of the chorion, chorion-epithelioma. If such a chorion, the representative more or less complete of the asexual generation, when robbed of its embryo, or when it fails to form such, can—and this is established—give origin to a malignant carcinomatous tumor, the nature of cancer is clear. The vagrant primary germ-cell is the seed, while its fruit, sometimes represented by an embryoma, may, on occasion, take the form of a carcinoma.

A Case of Difficult Diagnosis with a Rare Complication.—The patient of H. J. Mackay was a married woman of thirty-seven years. It was thought at first that she was suffering from an influenza of gastroenteric type. A change in the clinical conditions led to the theory of a possible typhoid fever, but on the twelfth day of the disease the diagnosis was still in doubt. At this time signs of cardiac weakness appeared, and the patient was cautioned to avoid all exertion. While thus situated she was seized with a sudden desire to evacuate the bowels, and forgetting previous warnings, actively coöperated with the nurse by raising her hips and trunk from the bed while in the dorsal position. She was immediately seized with abdominal pain, followed by pain in both legs from the middle of the thigh downward. To this succeeded tingling in the legs and feet and soon afterward numbness and coldness of the extremities. Examination shortly afterward showed that the lower extremities were cold from the toes to the knees. The feet and the legs were pale. Pulsation was present in both femorals at the groin and in Scarpa's triangle, and the impulse was more forcible and larger than usual. Pulsation was absent in the popliteals, in the posterior tibials, and in the dorsales pedis. Anæsthesia to touch, pain, and temperature was present over the area involved. These findings and the subsequent course of the case left no doubt as to existence of symmetrical blocking of both femoral arteries. On the sixteenth day of the illness, there was a sudden fall of temperature from 101° to 97.6°. Collapse supervened, and the patient died eleven hours later.

The British Medical Journal, June 21, 1902.

Menstruation in a Newly-Born Female Child with Convulsions.—Wm. Frew reports the case of an apparently healthy child that was taken with convulsions the day after its birth. Nothing abnormal could be found on examination. The bowels had been opened, and urine had been passed. The rectal temperature was normal, but the surface of the body was cold. Small doses of chloral and bromide were given. The child improved. The next day a discharge of blood from the vagina was observed. This lasted for three days and then ceased. The nervous symptoms gradually subsided and ceased altogether with the cessation of the menstrual discharge. The child has been perfectly well since.

On the Employment of Adrenalin as an Adjunct to the Light Treatment of Lupus.—W. Allan Jamieson has used this treatment in several cases of lupus with very satisfactory results. When adrenalin in the 1 to 1,000 solution is closely applied by means of a piece of absorbent cotton wool moistened with it for ten to fifteen minutes to such a patch, the effect produced is a distinct paling of the skin 'round the lupus spot, but no great diminution of redness in the lupus area itself. Still the effect of light on the lupus spot after the employment of adrenalin is certainly greater than in those cases in which it is not used. The reaction is more quickly obtained, the tendency to blister is enhanced, there is more rapid flattening down, and the obliteration of the lupoma is accelerated.

A Gallstone Simulating Cancer.—Bernhard Morris describes this case. The patient was a man of sixty-seven years, who had had, on several occasions, attacks of hæmoptysis and hæmatemesis. There was loss of appetite, vomiting and severe pain. During the paroxysms the symptoms simulated those of intestinal obstruction. Several times he brought up large quantities of blood. Cancer was thought of, but no tumor could be detected. The attacks of coffee-ground vomiting were repeated. On one occasion he became unconscious, and after being revived by artificial respiration, he complained of severe pain in the anal region. Examination disclosed a gallstone about the size of a walnut with corrugated surface It was removed, and was found to weigh 259 gr. Since passing this stone the patient has improved rapidly, and has had no more attacks of pain.

Deutsche medicinische Wochenschrift, June 5, 1902.

Etiology of Typhoid Angina.—Ernst Bendix and Adolf Bickel report a case of typhoid fever which was complicated by a severe angina which first made its appearance during the latter part of the second week of the disease. Marked pain and swelling appeared in the affected region, and a considerable interference with respiration was caused thereby. On inspection there was seen a circumscribed indurated swelling about the size of a large bean on either side of the arcus palatoglossus. These were pierced with a sterile needle and cultures made therefrom. From these cultures typhoid bacilli were isolated. A similar swelling also developed on the uvula. The involved tissue subsequently ulcerated and appeared as a typical typhoid ulcer. Recovery took place and the course of the disease was not materially altered by the angina. This case shows that typhoid angina may be due to the presence of the specific bacillus, although in all probability such is not always the case.

Treatment of Pulmonary Hemorrhage.—Otto Niedner reports six cases which show that oftentimes pulmonary hemorrhage may be successfully treated by immobilization of the chest on the side from which the bleeding originates. This is best accomplished by strapping with adhesive plaster in the ordinary manner. The whole affected side of the chest is to be strapped beginning at the lower extremity of the lung and continuing upward over the entire shoulder and clavicular regions. In order to equalize the pressure, pads of absorbent cotton are placed beneath the plaster in the axilla and also in the infra- and supra-clavicular fossæ. The strapping should be so done as to produce the greatest equaliz pressure possible. It may be left in place for days or even weeks. It may be applied with but little inconvenience to the patient. In the six cases reported the hemorrhage was thus successfully treated in every instance. The extended use of this method is desirable in order that a more definite opinion of its exact value may be obtained.

Berliner klinische Wochenschrift, June 9, 1902.

Marriage and Venereal Diseases.—E. Lesser considers this question and the duty of the physician with respect thereto. So far as gonorrhœa is concerned, cases may be divided into three classes: The first class comprises those cases in which the patient is not engaged to be married but anticipates such an engagement. Here if subjective symptoms and gonococci are present the engagement should be postponed until complete recovery has taken place. If no subjective symptoms are present and repeated examination fails to detect the presence of gonococci, the engagement may be immediately entered into. A decision is most difficult in those cases in which no gonococci can be found, but in which threads (mucus) and leucocytes are present in the urine. Many of these cases so run on for years, and are practically incurable. In most of them the history shows numerous attacks of gonorrhœa. When the last attack dates some years back and the mucous threads and leucocytes are scarce in the urine an engagement may be permitted. In all other cases it should be postponed until improvement has taken place. In the second class of cases the patients apply for advice after the engagement has occurred. Here the same general rules should be applied as given for the first class, and the marriage must be postponed until their requirements are met. In the third class of cases the symptoms of gonorrhœa first develop after the marriage has been consummated. Here all marital intercourse should be interdicted until the requirements mentioned above have been met. While the statements here made are given with especial reference to gonorrhœa of the male the same general rules should be observed with respect to females. When we come to the consideration of syphilis the same three classes of patients as above mentioned present themselves. It should be laid down as an absolute rule that no person should marry sooner than three years after contracting this disease, during which time he or she has been appropriately and energetically treated. In all cases in which the secondary symptoms are at all severe this period should be increased to five years. In those cases in which syphilis first develops after marriage has been consummated it is practically impossible to prevent the infection of the wife or husband. In securing adherence to his advice more depends upon the tact of the physician than anything else, and each case must be dealt with according to its own particular conditions.

The Blood-Purifying Function of the Kidney.—H Strauss considers the blood-purifying function of the kidney in its relation to the excess of nitrogenous compounds, other than the albuminoids, which accumulate in the blood serum, and transudations during the course of chronic nephritis. To this end 200 cases of chronic interstitial and chronic parenchymatous nephritis were examined with respect to the quantity of such retention products in the above-named fluids. The amount of uric acid and ammonia present in such fluids is always greater in chronic interstitial nephritis than in chronic parenchymatous nephritis or in normal individuals. This increase is absolute but not relative except in cases of uræmia. The amount of salt and ashes (dry residue) varies within small limits, and shows no constant relation with either form of nephritis. The molecular concentration of the blood serum is not increased in chronic parenchymatous nephritis, and but slightly in the chronic interstitial form. The toxicity of the blood serum is greater in chronic interstitial than in chronic parenchymatous nephritis. All of these facts go to show that the method of compensation which nature employs in chronic parenchymatous nephritis is essentially directed toward the dilution of the retained products within the blood vessels, while in chronic interstitial nephritis the same result is obtained by an increase in the cardiac action and polyuria. In the latter form of the disease, therefore, the greatest importance should be attached to therapeutic measures which improve and sustain cardiac power. Nor should the same be overlooked in the treatment of chronic parenchymatous nephritis, since observation has shown that in many instances there occurs a lessening of the cardiac power coincident with the transformation of this type into the chronic interstitial form. Much has recently been written, pro and con, with respect to limiting the supply of liquids in chronic nephritis. So far as the chronic parenchymatous form is concerned, it would seem as though a sufficient amount of liquids should be allowed, since this favors dilution and assists nature in its efforts at compensation. There is no doubt but that the amount of retained nitrogenous compounds is less upon a non-nitrogenous than upon a nitrogenous diet. For this reason in chronic nephritis all nitrogenous food should be limited and carbohydrates and fats substituted therefore. A sufficient amount of nitrogenous food requisite for proper cardiac nutrition should, however, always be allowed. Sweating, purging, the removal of transudates, and blood-letting are valuable means for the removal of retained poisonous compounds. Their application to individual cases is a matter for direct personal consideration. In general, however, it may be said that the necessity for their use should be anticipated, and that they should be employed before uræmia or severe subjective symptoms demand their use.

Münchener medicinische Wochenschrift, June 10, 1902.

Concentric Hypertrophy of the Right Ventricle. Navel Cysts.—Karl Walz reports the case of a man, fifty-one years of age, who was suddenly seized with pains in the umbilical region and violent diarrhœa. The temperature and pulse were normal. Upon examination there was found protruding from the umbilicus a tumor about the size of a hen's egg, which was irreducible and very tender upon pressure. Upon questioning the patient it was ascertained that the tumor had appeared at intervals for some years previous, but had never been painful, and had always been easily reduced by the patient himself. A diagnosis of strangulated omental hernia was made and operative procedures were immediately instituted. Upon opening the hernial sac a serous fluid escaped, and further examination showed that a cyst had been opened. The same was removed and submitted to microscopical examination when it was found to be of the connective tissue type. The wound was closed and union took place by first intention.

Extensive Calcification of the Walls of a Partial Cardiac Aneurysm.—Franz v. Pessl reports the case of a man forty-five years of age who, in May, 1901, first complained of a swelling of the cervical and axillary glands. This subsided somewhat under arsenic, but reappeared in November, 1901, and was not further influenced by the drug. The pulse became accelerated, varying between 94 and 108 per minute. Marked dyspnœa developed, which was ascribed to pressure upon the trachea of some of the enlarged glands, and an operation was untertaken for their removal. The patient bore the anæsthetic very badly, and the operation was completed with difficulty. The pulse remained persistently high and death took place two days subsequently. At autopsy the following cardiac lesions, which were wholly unsuspected, were found; chronic partial aneurysm of the left ventricle, chronic myocarditis with secondary calcification of the larger portion of the wall of the left ventricle, chronic endarteritis with calcification of the descending branch of the coronary artery, also a compensatory concentric hypertrophy of the right ventricle.

French and Italian Journals.

The Presence of Fatty Acids in Water.—M. H. Cause concludes that fatty acids are found in potable waters united to the salts of lime, magnesia, and to ferrous oxide. They increase the hardness of water, and are a proof of past contamination. As long as the temperature is about 48° F., their presence does not seem to exercise any harmful influence. Above that the impurity of the water shows its effects. Consequently the same water, good in winter, becomes suspicious or bad in summer.—*Lyon Médical*, June, 1, 1902.

Anatomical Tubercle.—Hassler reports the case of a young student who, in making an autopsy on a subject with acute miliary tuberculosis, cut his middle finger. The wound was carefully disinfected and was then covered with collodion. Sometime later a small abcess appared at the spot, and this was followed by engorgement of the epitrochlear gland, and later by engorgement of the axillary glands. Ablation of the primary focus was performed, and of the epitrochlear gland. The diseased glands of the axilla were also removed. Inoculation of animals later proved the trouble to be tuberculosis. Instead of collodion in such cases, wet dressings should always be used, for one cannot be sure of complete disinfection.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 8, 1902.

Myxœdematous Conditions and Soft Cutaneous Fibromata.—Francesco Calderonio says that clinically, etiologically, and histologically myxœdema should be regarded as a soft fibromatous condition of the skin, similar to soft fibroma, and not as a mucous degeneration. This form of fibroma is due to neuropathic predisposition, and to a general or local infection, which may be syphilitic or due to pyogenous agents. In the treatment, simple removal is not enough, but should be followed by the application of caustics, as this will result in better resolution of the endophlebitis, and the interstitial infiltrations, and will facilitate the formation of more resistant cicatrices.—*La Riforma Medica*, June 11 and 12, 1902.

Chronic Meningomyelitis and Its Treatment.—Stefano Personali holds that this affection is a pathological entity, which is as yet little recognized by practitioners, and is confounded with other forms of disease that resemble it. He gives his reasons for this statement. As to treatment, suspension, with the usual apparatus, should be applied daily from one to four minutes a day for four days, then four minutes for twelve days, after which the patient is placed in a plaster jacket while suspended. This jacket is kept on for three months, the patient being on his back in bed. After that he is allowed to sit up in bed a little longer each day, and when he can walk a bit about the house, the jacket is removed and another one applied, which remains on for two months, the patient not being kept as strictly in a reclining position as with the first one. It is then removed and a third one made of strong muslin applied and left on for three months, which ends the treatment. The results obtained are remarkable—pain disappears in a few days, and the patient improves rapidly in every way.—*La Riforma Medica*, June 6 and 7, 1902.

The Pigments of the Organism.—Hugounenq states that there is a formation of pigments in the organism in all diseases in which there is a great destruction of the blood corpuscles. All of these pigments are rich in iron. Sometimes peroxide of iron occurs. This probably comes from the destruction of hematin. Hematin is not yet perfectly understood, in spite of the recent studies. It appears to be composed chemically of two substances, which are joined together by an atom of iron. They are rather easily separated. The first element is colorless and has no iron, while the second is colored and carries all the iron. The writer has been able to obtain different intermediary products. These are amorphous and soluble only in caustic potash. Hæmoglobin, freed by the destruction of the red corpuscles, is the seat of successive oxydations, which destroy it and transform it into a series of intermediary products.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 5, 1902.

A Case of Acromegaly.—Carlo Mastri reports the case of a woman of thirty-seven years, who, in 1894, suffered from a severe attack of typhoid fever, and about a year later suddenly stopped menstruating, gradually lost the power of vision, which became completely absent in the left eye, and became swollen and enlarged in body. Loss of strength, curvature of the spine, pain in the lower extremities, pain in the head, and constant somnolence were some of the symptoms which accompanied her condition, which was diagnosed as acromegaly. The thyroid gland treatment has not caused any perceptible diminution in size, but the patient states that the pains are lessened, and that she is no longer troubled with somnolence. The author holds that the pituitary gland in some way regulates the function of the thyroid, so that if it be affected the influence of the lesion will extend to the thyroid, and result in functional disorders capable of causing such a condition as is described above.—*Rivista Critica di Clinica Medica*, May 24, 1902.

Treatment of Uræmia.—Cassine declares that the intoxication of uræmia is not due to any one substance contained in the urine, but to all of the substances which ought to be eliminated from the body through the urine, but which, owing to the diseased kidneys, accumulate in the blood, thus giving rise to the condition of uræmia. In severe cases the patient should be bled if possible, as this eliminates a great deal of poison. This lowers vascular tension and facilitates the absorption of the visceral œdema. If bleeding is impossible, leeches may be applied. Artificial serum should be subcutaneously injected after the bleeding, as this supplies a fluid identical with normal serum. The best diuretic is water. Laxatives given in an intermittent manner, contribute to the antisepsis of the intestines. Those prescribed should not be too severe. Hot baths are very useful. If pilocarpine is given, the greatest prudence should be observed, as it is a dangerous remedy. A great deal can be done by these means to alleviate the sufferings of the patient.—*Le Nord Médical*, June 1, 1902.

The Different Methods of Surgical Anæsthesia.—Chaput concludes that ethylchloride is the anæsthetic of choice for small operations. It is indicated, when it is possible in patients who dread general anæthesia, and in the diathesis which are known to contraindicate general anæsthesia. It may be used in superficial laparotomies, in herniæ, and in a large number of important operations. It is contraindicated in children, in those of very nervous temperament, and in complicated laparotomies. Spinal cocainization is the method of choice for all the operations on the lower limbs, the anus and the rectum, and the genitourinary organs of both sexes. It may be used in superficial laparotomies and in herniæ. It is indicated in operations on the thorax and in difficult laparotomies when general anæsthesia is dangerous. General anæsthesia is indicated in children, the very nervous, and for complicated operations. It is the method of choice for all medium and severe operations in the suprapelvic zone in individuals who are in good condition. It is contraindicated in individuals who are not in good general condition. Ether is the best general anæsthetic, but it is unfortunately contraindicated in the old, the obese, in patients with severe cough, in operations on the face and head; it is often badly borne; the patients who have once taken it never wish it again. Chloroform is the exceptional anæsthetic. It is of use only in those cases in which other methods cannot be used. Chloroform is the antidote of ether, and *vice versa.*—*La Presse Médicale*, June, 11, 1902.

Raynaud's Disease of Hysterical Nature Cured by Indirect Suggestion.—M. A. Souques reports this case. The patient was a man twenty-seven years old, who for fifteen years had had several times every day crises of local asphyxia of the extremities, as a rule localized in the left hand, sometimes in the two hands. These were caused by contact with cold air or water, more frequent in winter than in summer; these crises were accompanied by anæsthesia and by acute pain. During the paroxysims, which sometimes lasted for an hour, local temperature dropped to 5° C. Then the color of the skin and the temperature would gradually return to normal, and the pain would cease. The vasomotor troubles showed themselves for the first time at the age of twelve years. Examination of the patient revealed manifest stigmata of hysteria, and consequently Souques had recourse to indirect suggestion. The patient was given a pill, which he was told was very powerful, in reality, it contained methylene blue. He was told that if the urine became blue he would be cured for it would show that the blue color in the hands had passed into the urine. The urine became blue and the local asphyxia rapidly disappeared. The color and temperature of the extremities remain normal, and the pain has not reappeared for fifteen days in this patient, who for three months had had eight paroxysms a day. This observation shows that there is an hysterical form of Raynaud's disease which is not complicated by gangrene. It is important to be able to detect it.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 12, 1902.

The American Journal of the Medical Sciences, June, 1902.

The Frequency of Heredity in Gastroenteric Disturbances.—Franz A. R. Jung, from his study of these cases, formulates the following statistics: Enteroptosis in families, 67.5 per cent.; superacidity, 62.5 per cent.; subacidity, 47.5 per cent., normal acidity, 47.5 per cent. In twenty-seven families of enteroptosis we find repeated cases, 48.0 per cent.; in twenty-five families of superacidity, 40.0 per cent.; in nineteen families of subacidity, 21.0 per cent.; in nineteen families of normal acidity, 31.5 per cent. Enteroptosis is most frequent, but superacidity presents the largest number of cases in the same family. Of forty families twenty-three (57.5 per cent.) have several cases in one family of their characteristic analyses. In other words, one family out of every two presents more than one case of digestive disturbance of the same nature. The average frequency of duplicate cases of enteroptosis, superacidity, subacidity, and normal acidity lies between 27 per cent. and 48 per cent., and is consequently 34.5 per cent.

Observations upon Recent Methods of Treating Corneal Ulcers, with Especial Reference to the Use of Carbolic Acid as a Not Infrequent Substitute for the Actual Cautery.—Samuel Theobald declares that the application of carbolic acid to a corneal ulcer is a safer and simpler procedure than its cauterization by the galvano- or thermo-cautery. In applying this acid to the cornea it is important to limit its action carefully to the affected part. The eye should be anæsthetized by cocaine, which renders the operation painless. The employment of carbolic acid is not to be regarded as part of the routine treatment of corneal ulcers. The cases in which it is called for are distinctly the exception and not the rule. When the ulcer is the product of infection with one of the less virulent bacteria, other remedies are indicated. But in the case of the dangerous ulcers—the serpiginous ulcer, the ulcer complicated by hypopion—which are commonly due to the pneumococcus and sometimes to the streptococcus, the energetic germicidal action of carbolic acid is called for and its good effects are manifested. The writer applies the acid by a pointed toothpick, on the tip of which is wound a very small quantity of absorbent cotton. The acid is applied to the surface of the ulcer by a gentle rubbing movement, which is really a sort of curettage.

Observations on the Nature of the Bence Jones' Albumin.—Charles E. Simon concludes from the reported cases of Bence Jones' albuminuria, that: (1) The presence of the substance in the urine of man usually indicates the existence of multiple new growths affecting the bones, and generally of myeloma; (2) Myeloma may apparently occur in the absence of the peculiar albuminous substance; (3) The existence of the urinary condition in association with other diseases without involvement of the bones is not as yet proved by the report of any case in which a careful post-mortem examination has been made; (4) Malignant disease of the bones, in general, may exist in the absence of the Bence Jones' albumin from the urine. The writer regards as the most characteristic general reaction, the coagulability of the substance at a temperature of from 50° C. to 58° C. The writer believes that the Bence Jones' substance is closely related to the water-soluble globulin. If further research should bear out the correctness of this view, the previously supposed identity of Noel Paton's crystalline globulin with this substance would appear to be rendered quite probable. Most observers have been of the opinion that the Bence Jones' substance originates in the diseased bone-marrow, and the writer believes that Magnus-Levy's arguments to the contrary are but little convincing. Finally, for the possible assumption that the Bence Jones' substance originates during the process of gastric or intestinal digestion there is at present no basis.

Paratyphoid Infections.—Warren Coleman and B. H. Buxton analyze the symptoms of typhoid fever as follows: In view of the care with which the cases from whose blood the paratyphoid bacilli have been isolated were studied, it must be admitted that these organisms are capable of causing a general infection that has to be reckoned with in the diagnosis of typhoid fever. An analysis of the symptoms of the reported cases demonstrates that this infection closely resembles true typhoid infection, and may even be identical with it in clinical manifestations. Practically all of the cases of paratyphoid infection passed clinically for typhoid fever, without a Widal reaction, until careful bacteriological examination revealed their true nature. Apparently paratyphoid infections may be mild or severe as in genuine typhoid. The symptoms of invasion are practically the same. Moreover, during the course of paratyphoid infection the patient develops the typhoid state, slight or profound, accompanied by the typical symptoms of typhoid fever, even quite a typical temperature curve. The pulse is that of typhoid fever. The urine sometimes gives the diazo-reaction. Typical complications have been reported. Even a relapse has been reported. So that the picture is more or less complete. For the most part the cases have been mild, and the prognosis seems to be favorable. The writer thinks it doubtful if the serum reaction will prove of value in distinguishing the intermediates as an entire group from typhoid on the one hand and coli communis on the other. All observers agree that they do not form gas in lactose or saccharose media. There is gas formation in glucose and maltose. Milk is not coagulated. On potato the growth is slight and there is no discoloration.

The Fluorescence of Quinine and Other Remedies Employed in Malarial Fever.—A. F. A. King says that it has been recently maintained that the malarial parasite will not sporulate in the dark; that the light it has in the blood is red; and since it has been demonstrated that amœba proteus streams in the presence of red light and ceases to stream in violet light, it has been assumed that the same may be true of the malarial amœba. The inference follows that the curative effect of quinine may be due to fluorescence, producing violet rays of light in the blood. Two other vegetable products with blue fluorescence in a high degree have long been known as effective remedies for intermittent fever, viz., esculine and fraxine. The tincture and other preparations of iodine have been successfully used in intermittent fever for a long time. Iodine is not fluorescent, still it must come in contact with starch and form blue or violet iodine of starch in the body. But to prove that quinine actually produces fluorescence in the body, and that coincidently the symptoms and phenomena of malarial fever disappear direct experiments are necessary. These results were obtained more than thirty-nine years ago, in the experiments of Rhoads and Pepper. The fluorescence of the blood of malarial patients was found to be below the normal standard. It increased with the giving of cinchona preparations and also when the symptoms of the disease improved. It is the peculiar relations of the chinchona preparations with light that suggest the explanation of their curative effect. How are the cases explained which quinine fails to cure? In these cases the febrile paroxysm is not produced by the usual tertian or quartan parasite, but by the malignant crescentic form. These parasites are not generally found in the peripheral circulation, but in the brain, spleen, bone-marrow, and liver, which are the darkest parts of the body, and where the fluorescent property of quinine is powerless. The writer believes that only such a part of any generation, the blood corpuscles of which have become large enough to get arrested in the peripheral circulation, sporulate at any one paroxysm. The others must take their turn, waiting until their particular corpuscles have sufficiently increased in size to be arrested in the skin, where sunlight will secure their sporulation also.

A Case of Aortic Insufficiency, with Pericarditis, Pleurisy, and Mediastinitis.—This case is described by Augustus A. Eshner. The patient was a printer, forty years of age. He complained that he had suffered constant pain throughout the entire chest and back for four months. It was worse at night and during inspiration. There was palpitation of the heart and some dyspnœa. The cardiac impulse was visible in the sixth interspace on the left in the nipple line. Systolic retraction of the intercostal spaces took place over a large extent of the inferior portion of the left chest, both front and back, and some degree of retraction appeared on the right side inferiorly. A thrill was palpable over the body of the heart, and apparently a separate and more marked thrill in the aortic area, and a thrill also to the right of the sternum in the third and fourth intercostal spaces. The thrill was in each instance diastolic. Auscultation revealed a rough, musical murmur, audible throughout the præcordium, but loudest in the aortic area. It could be heard at a short distance from the chest, and was to be heard in the axilla and back. This sound was followed or preceded by a dull, booming sound, synchronous with the impulse of the heart and the radial pulse. At the base of the heart creaking sounds were heard with the cardiac sounds, and fine crackling was heard when the patient's body was inclined backward. The radial pulse had a water-hammer character. The area of percussion dulness was large. It was doubtful at first whether the musical murmur was systolic or diastolic, but it was finally proved to be the latter. As to the thrill palpable in three situations with varying intensity, there was some difficulty in giving a satisfactory explanation. The creaking sounds at the base of the heart were suggestive of adhesions from previous pericarditis and pleurisy, with involvement of the mediastinal structures, and the thrill in the same situation may have been due to circulatory disturbances in an atheromatous aortic arch, possibly dilated at its origin. The thrill over the body of the heart may have had the same origin, or it may have been due to vibrations in the anterior mitral leaflet caused by the blood current sent by the aorta into the ventricle. The systolic retraction on both sides of the lower chest seemed to prove the presence of pleuro-pericardial adhesions. In this case there is a history of scarlet fever, smallpox, and influenza, which would account for the inflammation of the serous membranes, and even of synovial membranes.

The Relation of Irregular Pulse to Cardiopathic States.—Joseph M, Patton holds that in adults persistent irregularity of the pulse (not including the very pronounced forms) is not necessarily due to myocarditis, and that even intermittence developing in senile life does not perforce indicate cardiovascular degeneration, as proper diet and care in the use of tobacco, coffee, and stimulants will enable such subjects to live to a ripe old age. As to whether irregularity is a usual or an invariably accompaniment of myocarditis, the author, from his experience, answers this in the negative, as he does the question whether degrees of irregularity, if present, are indicative of extent of myocardial involvement or of the imminence of asystolism. Irregularity of the pulse has no definite indication *per se* in relation to insurance examinations, other than as a symptom demanding investigation as to its cause, particularly in respect to the presence of cardiac, cardiovascular, or nephritic lesions whose presence may be indicated by such pulse irregularity, but just as frequently is not.—*The Medical Examiner and Practitioner.*

Therapeutic Hints.

Flatulent Dyspepsia.—

℞	Aquæ chloroformi	
	Aquæ destil.	
	Aquæ menth. pip. . . . . .aa	℥ii.
M.	S.: Teaspoonful before meals.	

Inflamed Throat in Children.—

℞	Tinct. myrrhæ	ʒiij.
	Potass. chlor	ʒss.
	Mellis	℥ss.
	Acid carbol	gtt. iv.
	Aq. destil. . . . . .q.s. ad	℥iv.
M.	S.: gtt. xv. every half hour.	—Hoadley.

Treatment of Pneumonia.—E. D. Chesebro (*Providence Medical Journal*, March, 1902) says: "In a disease so varied in its manifestations and symptomatology, occurring as it does at all ages and among all sorts and conditions of men, it is impossible to formulate a routine method of treatment which will apply to all cases. To summarize the outline of the treatment, however, I would lay special stress upon the importance of the following procedures: (1) Place the patient under the most favorable hygienic conditions with special reference to ventilation. (2) Carefully regulate the diet, guarding against constipation, and insisting upon the liberal use of pure, cool water. (3) Early in the course of the disease employ counter irritants, particularly in the bronchopneumonia of children. (4) Relieve distressing cough by inhalations and, if necessary, by the use of opium or its derivatives. (5) Relieve pleuritic pain by the intermittent use of hot or ice poultices or by the subcutaneous use of morphia. (6) Reduce temperature, if necessary, by bathing. (7) Stimulate heart with strychnine, and in selected cases with alcohol, digitalis, and normal salt solution. It is possible that venesection, which may be followed immediately by the injection of normal salt solution, is indicated in certain cases of engorged right heart, and if boldly done may be instrumental in saving life. (8) Employ large and frequently repeated doses of antipneumococcic serum in desperate cases, particularly in those with a tendency to extension of the inflammatory process."

Dyspepsia.—

R	Resorcin resublim.	5
	Bismuth. salicylat.	10
	Natrii bicarb.	15
	Sacchari alb.	15
M.	S.: One small teaspoonful every two hours.	
		—Ewald.

Drunkenness.—

R	Chirata	℥ss.
	Boiling water	Oi.

Give one or two ounces of this infusion three times a day, and repeat when craving for drink returns.

—Hammond.

Angina Pectoris.—There are two designs in managing a case of angina pectoris, one being to overcome the immediate attack, and the other to prevent subsequent attacks, which almost surely will follow without adequate prophylactic measures. To meet the first indication, of quickly overcoming the excruciating agony that seems to threaten the very life of the patient, we know of nothing better (nor has anything superior been brought out during the past quarter of a century) than nitrite of amyl. Two or three drops inhaled from a handkerchief will, in almost every instance, very quickly relieve the distress. The one great drawback in the use of this remedy lies in the fact that its effect is of short duration, and hence in a protracted case an agent with more stability of effect will be required. Here nitroglycerine becomes of marked value. It can be given hypodermically—indeed, is best so given—and while it requires a longer time before the effect is obtained, that effect does not soon pass away, and can be maintained for a lengthened period by a reintroduction, from time to time, until the force of the paroxysm has been broken. Some aid is afforded by the application of external stimulants, as turpentine, mustard, and hot cloths, or a hot-water bottle. At times nothing short of the hypodermic use of morphia and atropia will suffice, with chloroform inhalations preceding the effect of the injected anodynes.

—*The Clinical Review*, March, 1902.

Therapeutic Suggestions.—Freckles are said to be readily removed by a lotion of equal parts lactic acid and glycerin. Lanolin will prevent bedsores if rubbed into the skin as soon as it becomes red and tender. Malt extracts, cod-liver oil, the phosphates, etc., should be given with or directly after food. Sulphuric acid lemonade should be used by painters as a prevention and cure of colica pictonum. It is said that warts may be removed by painting them once a day with a concentrated solution of bichromate of potash. Torpid ulcers, even when painful and due to varicose veins, may be made to cicatrize comfortably if dusted daily with antipyrin. For removing ink stains use a solution of chlorinated soda. Wet the stain with the solution, and wash thoroughly after a few moments. Acids, as a rule, should be given between meals; acids given before meals check the excessive secretion of the acids of the gastric juice. A carbuncle may be arrested in its development by the injection into different parts of the tumor of five drops of pure liquid carbolic acid at each point. A simple and, it is said, effective treatment for itching piles is the application once daily after defecation of a few drops of collodion on absorbent cotton. Dr. Wilson says that equal parts of glycerin and water, with sufficient lemon juice to make the mixture agreeable to taste, is an excellent mouth wash in fever cases.

—*Medical Summary*, January, 1902.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Fifteenth Annual Report of the State Board of Health of the State of Ohio. 1900. 8vo., 603 pages. Fred J. Heer, Columbus, Ohio.

Handbuch der Physikalischen Therapie. By Dr. A. Goldscheider und Dr. Paul Jacob. Part II, Band II. Illustrated. Georg Thieme, Leipzig, Germany.

The Physician and His Patient. By A. E. Lawrence. 8vo., 48 pages. Jennings & Pye, Cincinnati, Ohio.

Text-Book of Physiological and Pathological Chemistry. By G. Bunge. Second Edition, 8vo., 470 pages. P. Blakiston's Son & Co. Philadelphia, Pa. Price, $3.00 net.

Der Hitzschlag auf Märschen. By Dr. A. Hiller. 8vo., 284 pages. Illustrated. August Hirschwald, Berlin, Germany.

First Annual Report of the Metropolitan Water and Sewerage Board. 8vo., 315 pages. Wright & Potter Printing Co., Boston, Mass.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in Medical and Surgical Sciences. By Hobart Amory Hare, M.D. Vol. II. 8vo., 442 pages. Illustrated. Lea Brothers & Co., New York. Price, $2.50.

Clinical Lectures on Neurasthenia. By Thomas D. Savill, M.D. Second Edition. 171 pages, 8vo. William Wood & Company, New York.

Zum Studium der Merkfähigkeit. By Dr. Aug. Diehl. 8vo., 39 pages. S. Karger, Berlin, Germany. Price, M1.

Alkoholismus im Kindesalter. By Prof. Dr. Max Kassowitz. 8vo., 32 pages. S. Karger, Berlin, Germany. Price, .80 Phenig.

Neurasthenie und Hysterie bei Kindern. By Dr. Alfred Saenger. 8vo., 32 pages. Illustrated. S. Karger, Berlin, Germany. Price, Mk.80.

Der Sauerstoffmangel. By Prof. Dr. C. Pawlinoff. 8vo., 84 pages. Berlin, Germany. Price .

Sammlung klinischer Abhandlungen Über Pathologie und Therapie der Stoffwechsel und Ernahrungsstorungen. By Prof. Dr. Carl von Noorden. 2 Heft.

Acute Pharyngeal Gout.—Lermoyex and Gasne enumerate as characteristics of this condition the following: (1) Sudden onset, acute course and instantaneous disappearance of symptoms; (2) High fever with speedy lowering of the general vitality; (3) Local pain, very intense and out of proportion to the apparent involvement of the throat; (4) A tendency of the inflammation to descend to the larynx instead of being confined to the general region of the faucial pillars; (5) The red œdematous appearance of the throat, inflammation of the pillars, thickening of the palate, elongation of the uvula and tumefaction of the posterior pharyngeal wall; (6) The absence of any exudate and (7) The constant escape of the glands at the angle of the jaw.—*Annales des Maladies de l'Oreille, etc.*

Society Reports.

AMERICAN SURGICAL ASSOCIATION.

Twenty-third Meeting, Held at Albany, N. Y., June 3, 4, *and* 5, 1902.

THE meeting, which was largely attended, convened in the Senate Chamber of the Capitol.

President's Address.—Immediately after the executive session, the President, Dr. DEFOREST WILLARD of Philadelphia, read his address. He thanked the association for the high honor which it had conferred upon him—the greatest, without doubt, in the control of the surgical profession of the country.

He felt sure that there would be more than enough of technical detail to satisfy the members, and therefore confined his remarks to a sort of retrospect partly of surgery in general, but more particularly of the early life and development of the association. From the first volume of the transactions, published twenty years ago, he read quotations which wrought smiles on every face. The charter members of the society, taken as a whole, "thanked God that they were too sensible to indulge in the freakish practise of Listerism," and deemed it the height of absurdity that micrococci caused pus. In its two decades of life the association had witnessed the absolute revolutionization of surgery, and no one needed to be prophetic to assert that twenty years hence excerpts from to-day's proceedings would sound as foreign to reason as those of the early eighties seem to us. In closing, he urged the great need of making the association exclusive, but only in the highest sense. Admission must be only after the candidate shall have shown unusual aptitude or brilliancy, but fully as important as these Dr. Willard placed individual character. The surgical section of the American Medical Association is large enough for all, and its open doors admit young and old; known and unknown. From it, to a large extent, should be drawn the young blood which is necessary to maintain the present high standard of the association. During the year the following men passed from the membership rolls: Sir William MacCormac, and Drs. E. M. Moore, Christian Fenger, Levi C. Lane and Clayton Parkhill.

Report of a Successful Case of Gunshot Wound of Stomach and Liver with Posterior Drainage.—Dr. ROSWELL PARK of Buffalo read this paper. He presented the case of a young woman, twenty-six years of age, who was shot with a small caliber pistol in the midline, just an inch above the tip of the xyphoid. He saw and operated upon her one and one-half hours after the receipt of the injury. The wound area through the parieties was excised by a double elliptical incision and the abdomen explored. The left lobe of the liver was deeply cut and the stomach perforated. There had been very free hemorrhage, and with the hand he scooped away upward of two quarts of clots and detritus. The gastric wall was closed by three sets of sutures; no bullet was found. Free drainage was established through a posterior incision, a tube projecting into the lesser omentum.

The recovery was uneventful. He called the Fellow's attention to the mode of drainage and to the fact that no effort was made to find the bullet.

The Importance of Drainage in Bullet Wounds of Intraperitoneal Viscera.—Dr. L. M. TIFFANY of Baltimore cited two intricate cases of visceral lesions by pistol bullet, both of which recovered. Inasmuch as the great majority of these wounds are infected in a part, at least, of their course, it is common sense and good surgery to drain each and every one. He aptly likened the abdominal cavity to a honey-comb, the cells being the thin and friable-walled viscera; the honey, their infectious contents. LaGarde's experiments showed most conclusively how rapidly a bullet became infected, granted that it started germ free, after the first perforation it was a lethal agent, nevertheless. A most important factor in establishing drainage was to determine from what direction it should flow. The ideal course natually, was from within *out*—this could easily be accomplished by over-filling the capillaries and arterioles with normal salt solution. To accomplish this inside-out flushing he gave intravenously during the operation 2,000 c.c. and a hot enema. For several days thereafter he injected 1,000 c.c. q. 6. h.—and gave no food or drink for a week. As soon as a good flow was established at the drain he made a favorable prognosis. The peritoneum is thus made to wash itself.

Results of Wounds of the Large Joints by Modern Military Projectiles.—Dr. C. B. NANCREDE of Ann Arbor, through an unfortunate misunderstanding of the time limit, was not able to read this paper. A portion of it was embodied in the discussion.

A Report of a Case of Gunshot Wound of the Spinal Cord.—Dr. R. H. HARTE of Philadelphia said that the literature of the subject cited many cases in which regeneration of the cord had been shown in frogs, lizards, and other lower forms, but not in the higher vertebrates. A case which had been under his care, but upon which he had not operated, had been shot almost a year and a half ago with a 32-caliber revolver, just below the seventh dorsal vertebra. The paralysis was total below the tenth dorsal spine, and three and one-half inches below the umbilicus. There was every classic symptom of total severance of the cord at the point of injury. Laminectomy was done, the bullet was found within the canal, and the cord in which was a space of *three-quarters* of an inch, juxtaposed. This technique was found to be most difficult, inasmuch as the membranes had been destroyed. The reader then told in detail the gradual but gratifying progress of the case. To-day practically all functions were restored, but the muscles were, as yet, feeble. The only really distressing fact in this remarkable case was that of a very persistent and exhausting clonus of ankle and knee. The conclusions were self-evident: We should operate in vertebral cases on precisely the same indications, and as freely as in cranial, and the earlier the better. No one could clinically differentiate concussion, contusion, or section.

In opening the discussion Dr. RODMAN of Philadelphia said that the chairman evidently remembered that he formerly lived in the land of humming bullets—Kentucky. He agreed thoroughly with Drs. Park and Tiffany as to drainage. Hæmatemesis had always been considered very characteristic of perforation of the stomach, but recent reports from South Africa showed that it could be caused by the mere impact of the bullet in the neighborhood of the stomach. Bullets, with practically few exceptions, were septic. For drainage of these cases he prefered a glass tube with gauze in it. In gastric wounds the lesser peritoneal cavity should be drained; if there was much extravasation, the irrigation should be *free*, otherwise he agreed with Dr. Tiffany in the value of the dry toilet of the cavity. As time was a very important factor in these operations, searching for the bullet was not alone useless, but fallacious; the most it could do was to form an abscess.

Dr. CARSON of St. Louis was opposed to flushing the abdomen under all conditions. He had never had a case terminate successfully. He commended the posterior in addition to the anterior drainage.

Dr. NANCREDE of Ann Arbor took exception to the teachings of most textbooks, which hold that bullet injuries to the great joints are very grave. This fictitious idea originated from the days of '61, when over 98 per cent. of such cases died. Records of over 10,000 wounds from modern warfare gave to them a mortality of between 2 per cent. and 3 per cent. A great revolution in this teaching was demanded. Due to the absence of wax and grease, the modern bullet was aseptic; the track usually a smooth, round one. Teachers should differentiate between the so-called civil bullets and those of the modern military arm. Admirable results were obtained in all the latter cases by rest, cleanliness, and passive motion.

Dr. Bell of Montreal said that he had made many experiments in higher vertebrates to determine how to approximate the cord and hold it after a segment had been removed. He had been unsuccessful, but glad to be encouraged to new effort by this remarkable case.

Dr. Montague of Troy had seen many cases of abdominal injury during the Civil War. In those days the bullets weighed an ounce, and the holes were large. Drainage was used then, and was surely indicated now.

Dr. Estes of South Bethlehem said that conical slugs deviated from their trajectory, so that the entrance wound might be much larger than the track through the viscera. For the wounds of civil life, where clothing was generally carried in, and which were, in most cases, septic, free drainage was necessary. Nine years ago he had a case similar to Dr. Harte's. Here the membranes helped him in suturing the cord. The man made good trophic improvement, but, unhappily, had to be removed from the hospital to a less favorable environment, as a result of which he died. He suggested that, in partial section, the membranes might form a very valuable aid in effecting juxtaposition.

Dr. McGraw of Detroit said that he was a young surgeon of sublime ignorance in 1862. He was put in charge of three hundred men, too badly wounded to be moved North. He followed Sherman in his march to the sea. The men had fought for two long hard years. They had not the power of resistance possessed by our soldiers of 1898. As the army forged through Georgia, the men grew progressively weaker, and the mortality rate was higher. The records of those days were absolutely worthless; there was no time to keep them. These matters must be weighed in comparing the recent with the Interstate war.

Dr. Weeks of Portland said that in cases of marked extravasation drainage was necessary; not so in the dry type. To drain, gauze should be soaked; it sufficed for serum, but not for pus.

Dr. Van der Veer of Albany saw many wounds in '61. Save in cases where the viscera protruded, none were operated on, and all were fatal in either event. Naturally, there were strange exceptions to this, which no one could explain. Injuries to the hip killed in 98 per cent. of the cases. To his great pleasure, he saw, soon after the battle of San Juan, an officer whose hip had been pierced by a Mauser. In ten days it healed. This would have been fatal in '61.

Dr. Abbe of New York said that functional restoration after union of nerves was at best rare. He would scarce expect it to take place in the cord without a resection of the vertebræ in the event of their not having been crushed by the injury. Dr. Eliot of Boston had suggested that drainage should be made from the suspected area to the nearest surface point. He formerly used tubes, but now preferred gauze, which he replaced deep in the wound by the aid of retractors.

Dr. McArthur of Chicago had admitted that in the treatment of infected knees he could not go as far as Mayo, who divided the patella to win free drainage, but he did make very free lateral incisions and passed gauze from one to the other.

Dr. Binnie of Kansas City said that the *dressings*, not drains, should be put within the joints if infection was to be avoided.

Dr. Park in closing said that Dr. Harte's case violated all laboratory and clinical ideas. He cited a very unusual case of spinal respiration in an instance in which the wound communicated with the lung.

Dr. Tiffany objected to the too free use of the posterior drain, since it might frequently perforate the diaphragm because of its obliquity. Gauze drains should, if all be well, not be changed till danger was over, especially if there were well-dilated vessels to feed them. Dr. Harte said that the character, the time and mode of reception were points of import in determining treatment. No one could say whether an abdomen was infected or not. Therefore all should be drained—preferably with gauze, which he was accustomed to leave in six or seven days.

Removal of the Prostate and Bladder through Suprapubic Incision for Carcinoma.—Dr. M. L. Harris of Chicago made this communication His first point lay in the technique. He made a cross section of the urethra at the triangular ligament and peeled the bladder up with the prostate. He was able to save a small portion of the bladder, out of which he fashioned a new but very small viscus. At the end of two months he had been astonished to find how extensively it had regenerated to form a very considerable cavity.

Anatomical and Technical Reasons Why the Perineal Is Preferable to the Suprapubic Route in Prostatic Surgery. Illustrated by Specimens.—Dr. J. E. Moore of Minneapolis said that the days of the catheter were past. Perineal prostatectomy was the operation of the future. The bladder was not the offending organ and should be let alone. The function of the prostate was generative, not urinary; those who had difficulty in urinating after suprapubic operation suffered because of bladder injury. He maintained that the distance from the prostate to the skin was twice as great above the pubes as below it. He endorsed the median operation, but said that complete excision of the prostate was not often indicated; generally the isthmus should be left. Lateral incisions if used might branch out in the form of a Y and reach down to but not through the perineal muscles.

Permanent Suprapubic Drainage in Tuberculosis of the Bladder.—Dr. Chas. A. Powers of Denver presented the history of a man who had suffered with progressive vesical tuberculosis. It resisted all local treatment, but yielded to permanent suprapubic drainage, which has now been established about five years. There had been progressive improvement in general health and freedom from vesical disturbance. Save for the annoyance of carrying the receptacle, the patient was absolutely comfortable.

Dr. Ransohoff of Cincinnati, in opening the discussion of these papers, devoted his attention to a consideration of prostatic abscess. Within the parenchyma such affections were rare—consequently they were often overlooked, and assumed a latent form of great danger. He chose the curved pre-rectal incision, which had few dangers and great advantages. It was astounding with what ease the prostate literally popped into sight if properly manipulated. He absolutely condemned the mode of incising abscesses through the rectum. There was no need of it when the gland could be so easily reached. The median incision did not compare with the curvilinear.

Dr. Eliot of Boston had found it useless to remove the middle lobe alone. The operation, to be successful, should be complete. On the whole, the perineal route was most satisfactory. Dr. Weir of New York remembered removing a large part of several bladders, and had noted the strange tendency to regeneration which had characterized Dr. Harris' case. He had also had a case like Dr. Powers'. He commended the curvilinear incision for perineal prostatic work.

Dr. Ochsner of Chicago said that only after adopting the perineal route had he become truly at home with prostatectomy. He urged the use of the curved incision.

Dr. Meyer of New York said that primary tuberculosis of the bladder was very rare. He had a case in '94 which he kept very comfortable for six years by using permanent bladder drainage.

Dr. Finney of Baltimore found it strange that no mention had been made of the Bottini operation. On the basis of Young's results, soon to be published, he felt that it would be the operation of the future. He referred to an incision over Poupart's ligament, which he has found useful in difficult cases to combine with the perineal route.

Dr. Abbe of New York noted that the important point in preventing bladder leakage after suprapubic drainage was established was to invert the mucous membrane. Eversion of this caused dribbling.

Dr. Moore, in closing, said that the growth of prostatectomy had been wonderful, and the discussion had made it clear that the question of incision in the perineum was not at all important. Some operators preferred the straight, some the curved, incision. As the men on whom the operation was to be done grow younger, as they would it would become necessary to save the seminal ducts. He thought he had effected this in a recent case.

Abdominal Hysterectomy.—Dr. J. B. Deaver of Philadelphia read this paper. Myomectomy was indicated only in the rarest cases. Supravaginal amputation was the best technique, since it preserved the anatomy of the vagina. All functions, save that of childbirth, should be retained. The vaginal route had, save in very rare instances, naught to commend it, but the advantages of the abdominal path was so obvious as to make it unnecessary to cite them.

A Case of Fatal Acetonæmia Following an Operation for Appendicitis.—Dr. G. E. Brewer of New York reported this case. Briefly, it was that of a boy, aged twelve, who was operated on forty-eight hours after the development of acute appendicitis. It was a perfectly straight and ordinary case. The cavity was drained; the temperature and all other evidence of sepsis subsided in two days. Suddenly, like a bolt from a clear sky, the child awoke from normal slumber, shrieking with evidence of the most horrible mental anguish. He then became somnolent. For three days these attacks continued, the sleeping period gradually changing into one of coma. There were no physical signs to explain this strange phenomenon, and not until the sweet odor of acetone was noted was there any suspicion as to what ailed the child. This product was found in great quantity in the urine, and, although every effort was made to eliminate it, death was seen to be certain. In the literature no mention was made of acetonæmia following operation in a case not diabetic. It seemed, however, that this was surely the cause of death, as, by exclusion, nothing else could be found. In the light of recent experiments by Herter, acetone probably killed by rendering the blood acid, and thus preventing it from taking up the carbon dioxide of the tissues.

Dr. Deaver of Philadelphia regarded this as a case of simple sepsis.

Dr. Brewer, in closing, presented the case in fuller detail, leaving absolutely no doubt as to the correctness of his interpretation, and the impossibility of sepsis having played any part in its fatal issue.

Second Day—Wednesday, June 4.

Supravaginal Hysterectomy from a Technical Standpoint.—Dr. W. G. Macdonald of Albany read this paper. He first stated that, save in a few instances, the supravaginal operation as first executed by Kimball of Lowell, Mass., was preferable to any other. We had, he said, departed from it to our great loss—the multiplication of fantastic instruments showed an era of degeneration, from which we were but just beginning to emerge. Many tumors exist without causing symptoms—these, save in cases of possible malignant degeneration, should be left alone. Particularly was the abdominal path indicated in the treatment of all cases where there had been previous abscess formation and rupture into or incision through the bladder, vagina, or rectum. There were but four matters of interest in connection with the operation of hysterectomy—the uterine and ovarian arteries; the round ligaments and the ureters. Kelley's method of splitting the uterus, while admirable in many ways, had certain limitations. He showed numerous sketches which detailed his slight modification of this operation, which, in his opinion, so far improved it as to make it feasible in almost every case. There were types of fibroids—those which were incarcerated in the pelvis—which no corkscrew will pull out, to which it was peculiarly applicable.

Myomectomy vs. Hysterectomy.—Dr. A. J. McCosh of New York presented this communication. Gynecology, he said, had been the last of all departments of surgery to become conservative. The time was surely ripe that some definite action be taken in this department, directed toward a preservation of one of the most precious systems of organs in the human body. Six years ago, in his private and hospital practice, his proportion of myomectomies to hysterectomies stood about one to five. This gradually decreased, till last year they were about even, and now the proportion of the preservative operation was fully double that of the destructive. There were no fibroids, save those which endanger life, which will not yield to myomectomy—neither position, nor size, nor number of the tumors have any very great bearing on prognosis. He had removed fibroids weighing ten pounds and more, and had enucleated from a single uterus more than twenty small tumors. The technique depended entirely upon free incision both of the wall of the uterus, which was split from fundus to neck, and of the tumor capsules and upon rapid and fearless divulsion of the growths. This was all that was necessary to avoid hemorrhage, which in his last forty-seven cases had caused no trouble. Naturally, after so severe an ordeal, the organ was left in a ragged and, apparently, hopeless state, but if trimmed, juxtaposed and sutured, nature would do much to remould it to normal shape. The horns and canal if possible should be preserved. These cases ran a temperature for a few days, about a degree higher than hysterectomy, it might be from slight sepsis due to the splitting of the uterus—may be from shock. He had followed thirty-two of these cases and twenty-seven have had practically normal menstruation. Of the thirty-two three had become pregnant—a condition absolutely impossible prior to operation.

The Choice between the Suprapubic and Infrapubic Method, of Reaching Tumors and Other Surgical Lesions of the Pelvic Organs.—Dr. Maurice H. Richardson of Boston read this paper. He said that what he had to communicate was based on about 260 supravaginal operations as opposed to six which he had performed through that strait. It might therefore, and with a considerable degree of justice, be criticised on the ground that his experience had been one-sided. There were four guiding rules to consult when trying to choose between the two paths—pathology, anatomy, feasibility and experience. The third must, indeed, be great to cause one to assume the risks incident to a vaginal operation.

Abdominal Route for Approaching Rectal Tumors.—Robert Abbe of New York read this paper. He called attention to the fact that clustering around the main problem are many minor questions which are in themselves of profound importance. Some of them, as, for example, colostomy, touched on the preparation of patient and area before the operation, others, as the character of the incision and the ligation of the internal iliacs bore on its immediate execution. He gave, in detail, the anatomy of the rectum, and stated that two-thirds of all malignant tumors were below the attachment of the peritoneum. He had striven a long time to devise some more laudable path of reaching the peritoneum than the simple but inadequate perineal or the cumbersome and difficult Kraske. While this latter operation was most admirable for certain conditions, there was the ever-present danger that we might not cut the upper segment far enough away from the growth, through fear that we should not be able to carry it down and unite it to the anal remnant. Furthermore, there was the danger in each of these lower operations that we might tear too many of the hemorrhoidal veins in our efforts to free the upper fragment, and this might result in the death of the part. He consequently urged very strongly the adoption of the abdominal plus the sacral or perineal route. At the time of operation permanent vaginal colostomy should be established. Choosing a point well above the growth and working through a free adbominal wound, a purse string suture was cast about the gut—a similar one was placed below—each was tied off and the gut divided. This technique gave an absolutely free and clean operative area. Each end was invaginated and permanently closed. This suprapubic opening gave just the same chance for manual and visual examination of glands and other structures in operating on the male rectum as it did in the like technique for hysterectomy.

Dr. **Eliot** of Boston opened the discussion. The fact that he had had but two deaths in a recent series of seventy-four consecutive hysterectomies seemed to justify the incursion of the general surgeon into a specialty. Splitting the uterus prior to its removal had the danger that germs might be spread from its foul interior. This would naturally be equally true in the radical form of myomectomy advocated by Dr. McCosh. This, however, was a coming operation, for altogether too many precious organs had already been sacrificed. Though not untrained as a gynecologist, he found the vaginal route unsafe. Some years ago he operated vaginally on five cases, and immediately afterward did a laparotomy. In every single case he discovered a more or less grave point of faulty technique.

Dr. **Allen** of Cleveland said that the condemnation of the vaginal route had been too sweeping. There was room for much good and swift surgery through that path, and so far as vision was concerned, no technique afforded so clear and perfect a view of the roof of the vagina and of the cervix as the vaginal. Particularly was this route indicated in operations not complicated by uterine adhesions, and in the radical treatment of sudden and severe and uncontrollable uterine hemorrhage. We should not ignore the lower route.

Dr. **Vander Veer** of Albany had done all forms of operations on the uterus. He had a great collection of varied instruments which had come and gone, and the world was better for their going. He feared that if the uterus were bisected in a great number of cases, we should, sooner or later, have serious septic results. Pathology was the keynote to success in surgery.

Dr. **Mayo** of Rochester, Minn., spoke in favor of conservative surgery for non-malignant cases. His experience with this type of disease, save where it had attacked the uterine body, had been most gloomy. When Reese and Clark explained the reasons for the removal of the lumbar glands, he practised it hopefully and freely, but with no success. Great care should be taken to guard against infecting with cancer the raw regions of the operation ground. The old rule that incisions to free the patient from a malignant growth should be 4 cm. from it, could stand in cases of carcinoma of the cervix. Hence, probably, the bad results. He agreed with Dr. Abbe in that Kraske's operation was bloody and incomplete, and that its value was much enhanced by adding the suprapubic incision.

Dr. **Carson** of St. Louis recommended an anterior colpotomy; through it, after separation of the bladder from the uterus, a most excellent view can be had of the uterus and appendages.

Dr. **Eliott** of New York said that the reason for the gloomy outlook which was so universal and so true in cases of uterine carcinoma, arose largely from the fact that they were seen so late. Although the growth might appear on primary examination to be localized, there was almost no doubt, reasoning both from analogy with other cases of malignancy, and from the subsequent history of uterine carcinomata, that the glands draining this area were always involved. The supravaginal route was, therefore, always to be preferred.

Dr. **Harris** of Chicago stated that he had been in the habit of operating in certain cases in two stages—first, by the abdomen, then by the vagina. This was specially indicated when there existed a septic discharge in a case not suitable to vaginal hysterectomy. He favored preliminary colostomy in all cases of rectal carcinoma, and pointed out that the vagina was a useful route for operating on such cases in the female. He had recently removed eight inches of great gut in this way.

Dr. **McArthur** of Chicago had had a most remarkable case. Necessity had compelled him to provide her with two anal openings, one in the vagina and one near the normal site, each of which she successfully used at different times. Inasmuch as these operations were, at best, palliative, the opening should be made where it was least annoying to the patient.

Dr. McDonald, in closing, said that it was very evident, from the trend of the morning's discussion, that the general surgeon was, very properly, coming into his heritage. He strenuously defended the technique of splitting the uterus, which might extend transversely or longitudinally. There would be a somewhat higher mortality following myomectomy than hysterectomy, but because of its vast advantages it was the coming operation.

Dr. McCosh said that if cancerous involvement of the broad ligament glands had taken place, the case was hopeless. Therefore, it followed that very many hysterectomies for malignancy should be done vaginally. He emphasized that he had not been forgetful of the danger of sepsis attendant on splitting the uterus, and had consequently had smear cultures made in twenty-nine recent cases. One only had been found to contain pyogenic organisms.

Dr. Richardson expressed surprise that there was anyone present who would even countenance vaginal hysterectomy. He had supposed that even his weak praise would have been too strong for most of the Fellows.

Demonstration of a Method of Intestinal Anastomosis.—Dr. O. H. **Allis** of Philadelphia gave this demonstration. He first showed some very dainty tenaculum forceps, four of which were used in his technique. It consisted in a through-and-through stitch, which strongly effected the union in the cloth gut, used for demonstration.

The Teaching of Surgery, with Special Reference to the Didactic Method.—Dr. J. D. **Bryant** of New York presented this paper. Disease and health each had a language. They were analagous, but not homologous. That of disease was called the signs and symptoms. Medical interpretation of a case as fully was important as good surgical technique. The language of each was distinct, but similar. He gave the synopsis, which he had used for many years in teaching surgery: (1) Definition; (2) Anatomy; (3) Pathology; (4) Causation; (5) Symptoms and Signs; (6) Diagnosis; (7) Complications; (8) Treatment; (9) Prognosis; (10) Sequelæ.

Clinical teaching alone unfitted the student to practice; this was equally true of didactic teaching alone. There must be an even distribution of each.

The Teaching of Surgery.—Dr. H. L. **Burrell** of Boston presented this monographic dissertation. To compile it he had written to every medical school in the world, and had allotted the subdivisions of it to various Fellows for discussion. He said there was a great and inspiring progress being made in the teaching of surgery in this country. It was a topic too broad to permit of dogmatic laws; the individual must largely choose his own method of teaching. Success depended on the individual teacher; students differed very widely, some learning by sight, some by ear, some by touch. There was no universally best method. Unquestionably, there should be extra-mural teaching. A new era of surgical teaching was before us. If we fostered our opportunities and material, and added a truly scientific strain to the work, American surgery would defy the world.

Dr. **Matas** of New Orleans had been asked to speak on didactic lectures. They were bound to remain, they could not be done away with. Presenting, as they did, a sort of panoramic view of the subject to the student whose mind was filled with detail by his clinical courses, they were of inestimable worth. In Tulane University there is in force a very carefully graded system of teaching. In the first year there were classes in minor surgery; in the second, in physiologic surgery; in the third, in surgical pathology; in the fourth, regional surgery was given. All courses was compulsory; the didactic course occurred only in the third year.

Dr. Eliott of New York spoke on recitations. Surgery was naturally divided into the practical and the theoretical. The recitation system was absolutely necessary, both when the head of the department gave a topic in all detail, and when he merely touched on leading points. Honest, straightforward conferences were to be encouraged; the student should be made free to confess his lack of knowledge, and not to hide it. Personal contact with the men was absolutely essential to success.

Dr. Richardson of Boston discussed anatomy. Surgical anatomy, he said, should be taught by surgeons. They alone could be in a position to sift the useful details from the great mass which no one could retain. Such a man very properly valued the relations about the foramen of Winslow far more than the ancient but classic description of the triangles of the neck. This course should be compulsory.

Dr. Da Costa of Philadelphia spoke on surgical technique. The classic modes of applying bandages and other surgical devices had, in a measure, been put aside. The introduction of the gauze bandage was largely responsible for this. It had a very important function, but it was not useful in many of the sites where it was used. Living models must be used.

Dr. Moore of Minneapolis spoke on physical diagnosis. We examined the bodies of babies and of children nude; why deny this privilege to the adult? The student should be taught the normal variations in the extremities, and a comparison of the two sides should be insisted on. The anatomical marks and their importance should be known by everyone..

Dr. Geo. E. Brewer of New York spoke of the form of section teaching employed by him at the College of Physicians and Surgeons. It amounted to a seminar and was based on the consultation method. The essential was that the student did all the work, and its greatest advantage was that it taught him the method of exact diagnosis.

Dr. R. F. Weir of New York spoke on Clinical Instruction. It had too free a sway in New York. Next year instead of one didactic lecture per week there would be at least two. One reason for making the change was that among the better student body there was a feeling in favor of more lectures. In future Columbia would not adhere to her old and perhaps justly criticised method of teaching physiology and descriptive anatomy. Parts of these less valuable courses would be excluded to make room for the new.

Dr. Bell of Montreal said that the faculty of McGill felt most strongly the wisdom of tutorial teaching. In the hospital of the college the house surgeon exerted such control over the senior students. When he happened to be a good teacher the plan was admirable; occasionally it failed, but on the whole, it seemed to work well.

Dr. Finney of Baltimore said that at the Johns Hopkins the students did not see a case till after two years of training. All operations in the third year were done by the students on dogs. Living wounds differed absolutely from dead.

Dr. Nancrede of Ann Arbor said *all* the work which was under discussion was compulsory in his department. Much work was done in a specially appointed laboratory on the higher vertebrates. Should his dog die the student was held responsible. Post-mortems were done and effort was made in every way to run the animal operative course very closely along the lines of a hospital. The discussion had shown him that all good schools are teaching the same matter and the outlook was bright for great progress.

Dr. Ochsner of Chicago said that before proper instruction could be given the medical school must have control of its hospital. Contact of student and patient long continued he deemed necessary to success. Hence such hospitals should have many small wards—not more than six beds in each.

The Essentials of Modern Hospital Construction.—The association adjourned to the new Albany hospital where, after inspection of the beautiful broad pavilions and other accessories to a magnificently equipped institution, Dr. Van der Veer of Albany read a paper with this title. Taking the new institution as a model he described it in detail. It had cost $292,000, exclusive of the seven acres, magnificently situated on the summit of a hill at some distance from the center, which was given to the hospital by the city. Every effort had been made to make the patients comfortable—there was a guest room, even, for those whose friends were passing away. Members of the staff gave interesting demonstrations of various forms of hospital technique and, in closing, Dr. Macdonald showed a case of spleenectomy and cholecystotomy and Dr. Van der Veer one of gastrectomy of four months' duration which had so far given a most brilliant result.

Third Day, Thursday, June 5, 1902.

Complications Following Gastroenterostomy.—Dr. W. J. Mayo of Rochester, Minn., presented this paper. He had done one hundred and seven gastroenterostomies in the past ten years with ten deaths. The causes of these deaths were as follows: three from exhaustion; exhaustion with pernicious vomiting was fatal in one case; progressive pneumonia killed three, and in two cases the cause of death was a separation of the anastomosed intestine from the stomach. The great secret of how to control the pernicious vomiting was at last answered. It did not consist in twisting the gut or in doing enteroanastomosis, but in placing the opening at the most dependent portion of the stomach. Whether it be done anteriorly or posteriorly made but little difference. Enteroanastomosis was more apt to be necessary after suture than after the use of the button, but this had the very marked disadvantage that whether inserted in front or behind it might drop into the stomach. Much had been said about the contraction of the anastomotic orifice. Whether this took place or not depended absolutely upon the state of the pylorus. If it were permanently closed, it would not contract; if not, it would. One factor which very frequently led the operator into subsequent trouble was the fact that if he should have operated for the relief of an ulcer situated near the pylorus, and the rest which his efforts had given the lesion had healed it, the inflammatory exudate which at the time of operation completely blocked the pylorus would gradually disappear, and ere the opening was great enough to care for all the stomach contents the anastomotic orifice might contract and vomiting ensue. He prefered the posterior operation—not because it was easier—for it was not; not because it was posterior, but because in doing it one unconsciously but very certainly *must* open the stomach at the most dependent point. In a vast majority of cases this would prevent vomiting. If, however, it should occur secondary enteroanastomosis was indicated. For this purpose fourteen to sixteen inches of jejunum must be left in the anterior technique and ten inches in the posterior.

Dr. M. H. Richardson of Boston opened the discussion. He very freely confessed that his success with gastroenterostomy had not been great. Most of them had been moribund or nearly so at the time of operation. In any event he preferred to restore the canal at the pylorus if it were possible. That vomiting might not be due to anatomical distortion or failure was very clearly demonstrated to him recently in a case upon which he had performed gastroenterostomy and had been obliged to do pyloroplasty some months later. The healing had been perfect; there was no spur; the anastomotic opening had not contracted. For every form of obstruction he did a partial pylorectomy which was not difficult of execution and which reestablished the natural opening.

Pyloroplasty with Report of a New Method.—Dr. J. M. T. Finney of Baltimore read this paper. He first gave the history of plastic work on the stomach since its inception in 1886 and then illustrated his operation by diagrams. It might be called pyloduodenostomy and surely seemed simple enough. He first freed the pylorus and neighboring portion of the alimentary canal from all adhesions, then placed a single row of sutures of the Halstead type posteriorly, between the two organs. The anterior row was then put in and a free inverted U-shaped incision was made within a distance of about two and one-half inches between the uprights. The posterior row was tied before this incision was made, then the anterior and a few Lembert stitches were taken at the very base to make sure of juxtaposition. This procedure gave a pyloric opening of 2½ inches in diameter. This operation did away with numerous objections to pyloroplastic work.

Dr. Bevan of Chicago had done twenty cases. Death had been caused in a small percentage: one by drowning—the patient's stomach was not properly washed out and he vomited during anæsthesia; in others by pneumonia, perforation, exhaustion. He preferred the suture to the button, inasmuch as it could be done in fifteen minutes, and was so very much freer from danger. In 25 to 50 per cent. of cases of gastroenterostomy the button fell into the stomach. He found Finney's operation very cumbersome, Kocher's pylorectomy was not more complex and met more indications. He warmly criticised the use of the interrupted suture in gut work—the continuous was endorsed by the leading European workers—it gave a more even tension and was more quickly inserted.

Dr. Meyer of New York in his last thirty cases had made use of all technics, and had never had the misfortune to have a case suffer from the dreaded vomiting. The posterior was to him the natural anatomical one; even a short transverse mesocolon did not contraindicate its execution. The anterior was easier to the surgeon but the button was in this case much more apt to drop in. But not having had the vomiting was mere luck, and he always guarded against it by leaving twelve to fourteen inches of jejunum above the anastomosis, so as to have sufficient gut to make an enteroanastomosis if necessary. McGraw's elastic ligature, he was sure, was a most admirable device.

Dr. Harris of Chicago said that there was a developmental reason for the posterior being the operation of choice. When the gastric tube began to become sac-like, the posterior wall grew much faster than the anterior. It might thus happen that the posterior wall would be twice perforated by a bullet or stab wound from in front.

Dr. Van der Veer of Albany considered Dr. Mayo's paper a most valuable contribution to gastric surgery. He had used the button, and usually had operated posteriorly. Nevertheless, he agreed with Dr. Richardson that, if possible to accomplish it, there was a great advantage in freeing the normal path of obstruction by some form of pylorectomy.

Dr. Kammerer of New York had used the posterior operation, with the button, in his last thirty cases; the results of this technique were so very much more favorable that he had now abandoned the anterior route. He disagreed with Dr. Bevan in his sweeping condemnation of the interrupted suture in intestinal work.

Dr. Weir of New York, in his recent thirty cases, found that there was no use of throwing a twist in the gut, nor of making a primary enteroanastomosis. Also, the technique of suturing the gut to the stomach quite apart from the anastomotic opening, and for the purpose of preventing contraction, was of no avail. Since draining the stomach from the most dependent part, he has had no "vicious circle." He used a continuous suture. He had always been fearful that, in being over-careful in the application of rows of sutures, one might defeat the purpose for which he strove, and kill the juxtaposing surfaces by obliterating the blood supply.

Dr. McGraw of Detroit said that gravity was probably the smallest factor to consider in seeking the cause of the vomiting "circle." The difference between the peristaltic power of gut and stomach had always seemed to him to be a very potent factor. Naturally, the stomach of cases demanding gastroenterostomy was in a much weaker state than the gut below it. He urged the trial of his elastic ligature. There was no danger of its failing to cut through, provided a stout elastic be used and under good tension.

Dr. Ochsner of Chicago said that so bad were his results that, until Mayo taught him to do a gastroenterostomy six months ago, he had been hopeless of success. He now understood that it was purely a matter of drainage; with it well established, there would be no possibility of vomiting.

Dr. Rodman of Philadelphia was glad that the anterior operation could be used with good success, because there occasionally arose cases in which the posterior technique was not applicable. He said that gastroenterostomy had come to stay; this was not true of pyloroplasty. He agreed with Richardson that often a partial gastrectomy was the operation of choice.

Dr. McGraw of Detroit said that he had found the twisting of the jejunum prior to making the anastomosis was a faulty technique. It often returned to its original position, thus turning the stomach.

Dr. Mayo, in closing, said that one of the contraindications to the posterior technique was a short, fat mesentery; another was an anomalous distribution of the arterial supply. Enteroenterostomy was indicated only if the vomiting be established.

Dr. Finney said that he could not understand the apparent difficulty the members had had in comprehending his technique. It was extremely simple. He cited, in response to Dr. Bevan's criticism on the use of interrupted sutures in gut work, a large number of surgeons who prefer this type of stitch.

Surgical Treatment of Tubercular Peritonitis.—Dr. A. J. Ochsner of Philadelphia read this paper. He said that although statistics showed an apparent advantage for the medical treatment of tubercular peritonitis, they were deceiving. Surgery cured 50 per cent. of the otherwise hopeless cases, medicine 50 per cent. of all types. His conclusions were as follows: "(1) Medical treatment should be given for a long time, and should be persisted in if any improvement develops; (2) Early operations often recurred; (3) In the absence of progress, operate; (4) If disease be confined to an organ which can be removed without extensive denudations, do so. (5) In the presence of fluid, remove no tissue; (6) Intestinal fistulæ generally are the result of too much surgical interference; (7) During recovery from operation, medical treatment should be most carefully carried out; (8) Chronic encapsulated cases are particularly suitable to surgery; (9) Reoperate, if necessary.

Dr. Bevan of Chicago said that Dr. Feuger, whose absence must be deplored by each and all, had worked the matter out very thoroughly. He had shown the absolute futility of operating on *any* case of tubercular peritonitis. It created but a seeming recovery; the exploratory operation was useless. The two recent cases at the Presbyterian Hospital had been turned over to the internists, who had used the *x*-ray with success.

Dr. Burrill of Boston disagreed with each of the speakers. It was not easy to diagnose tuberculous peritonitis. Grossly, there is the matted type—the acute and chronic exudation.

Dr. Mayo of Rochester said that no case free from fluid was surgical. One might, however, just as well expect an ovarian cyst to disappear under medical treatment as to look to the ray or anything else, save the knife, to free the patient from the encapsulated tuberculous fluid.

Dr. Richardson of Boston said that the removal of tuberculous tissue from the abdomen had given some very brilliant results. Mere opening has undoubtedly cured very many cases.

Dr. Weir of New York said that the matted type was not surgical. He had seen the actual value of mere opening the abdomen in suitable cases too clearly demonstrated to allow him to pass an unfavorable judgment on it.

Dr. W. B. Coley of New York had studied the wonderful effects of simple abdominal section in tuberculous subjects on whom he had operated for hernia. He would continue to believe in its value.

Dr. Ochsner, in closing, said that he was happy that the section, with the exception of Dr. Bevan, supported his views. Inasmuch as the cases in which there were free adhesions were those in which the healing process was very active, they naturally were not surgical, but should be left to themselves.

Extirpation of a Leucocythemic Spleen.—Dr. T. H. McGraw of Detroit read this report. The case was that of a child, aged eight, which presented all evidence of leucocythemia, and who had had an enlarged spleen for eighteen months. There was no trouble at removal from hemorrhages, but the child died from oozing in about six hours. For this reason, and also because no important details could be gained from late removal as to the bearing of the spleen on the etiology of the disease, he urged very early operation. Transplantation of bits of this spleen into guinea-pigs had no effect.

Dr. Meyer of New York said that, in view of the utter hopelessness of medical treatment, the position of surgery to leucocythemia should be thoroughly understood, and the only way to reach any conclusions was to practice, as McGraw had well said, a number of early extirpations of the spleen.

Dr. Richardson of Boston said that his case of removal of a five-pound spleen continued well. He feared, however, that the success of this operation had been a bad example.

Cancer of the Appendix.—Dr. R. H. Harte of Philadelphia, in reporting two cases of this type, said that they were very uncommon; but seventeen had been recorded. He urged that more careful examination be made of every removed appendix.

Radical Cure of Aneurysms of the Extremities.—Dr. Rudolph Matas of New Orleans read a paper on the Radical Operation for the Cure of Aneurysms of the Extremeties, Modifications of the Old Technique, with the View of Simplifying the Classical Procedure and Reducing its dangers to a Minimum, with Illustrative Cases showing the Author's Method in Popliteal, Femoral and Brachial Aneurysms as Operated in his Clinics, and exhibited this new technique. He gave in detail the history of the many classical operations and then described his own. It consisted of a simple splitting of the sac, eversion of the clot and intrasaccular ligation of all vessels supplying it. The steps were as follows: "(1) Constriction by Esmarck or by digital pressure; (2) free incision of the sac; (3) Obliteration of all openings by purse string sutures; (4) Inversion of sac walls and tacking over them of skin, the technique gives a depression where formerly there existed a tumor. The advantages are particularly that the intervention is all from the inside so that no injury can be done to surrounding structures and that healing should be complete in a week."

Dr. Gerster of New York welcomed this interesting operation because it made the dissection of the sac necessary.

Dr. Elliott of New York said that the technique of Matas would be most valuable in the lower extremity where the anastomosis are not so free as in the upper. He feared, however, that, save in traumatic aneurysms, there might be danger of the stitches tearing out.

Dr. Matas, in closing, said that while his operation might not cover all types of aneurism, it was he thought, safer as a whole for the majority.

The Influence of the Röntgen Ray upon the Different Varieties of Sarcoma.—Dr. W. B. Coley of New York read this paper. The ray has been used but little on this form of malignant growth. He had had ten cases recently, in all of which there had been very marked improvement. Some do well if the toxines was added to the ray treatment. Although it might be true that we could not as yet cure sarcomata, when one recollected that a majority of them occur in inoperable sites it was at least gratifying that we had in the ray an agent of great inhibitive power.

Dr. Richardson of Boston had sent many cases to Dr Coley which had seemed absolutely hopeless. Some had been cured; all helped.

Dr. Gerster of New York said that it should not be forgotten that the old German surgeons got as good results with their ancient forms of treatment as we obtain to-day. He had, as yet, seen no cures—the reported cures were very possibly cases of syphilitic deposits.

Dr. Coley, in closing, said that there would seem to the fair minded to be something more than coincidence in the relation between cause and effect in his series of ten cases. These cases had been pronounced sarcomatous by the best pathologists of the land.

Cysts in Connection with the Teeth.—Dr. J. C. Oliver of Cincinnati showed a series of microphotographs illustrating the condition. The cases were usually under thirty years of age and the third lower molars usually are involved. The cause was unknown; it might be due to misplaced dental germ; to dermoidal remains, to failure in evolution. Since the cysts contain cells which greatly resembled sarcoma cells, they had often been excised and a large deforming operation done. Hence great care should be exercised in establishing the true diagnosis.

Implantation of Silver Filigree for the Closure of Large Hernial Apertures.—Willy Meyer of New York read this paper. He showed the plates which he had used with admirable success. They had square meshes about an eighth of an inch on a side and served as little nests for fatty particles to grow into. The use of these plates do not need to be limited to hernial openings, but served a useful purpose after removal of parietal malignant growths.

Report of Two Cases of Exophthalmic Goiter Treated by Operation.—Dr. Emmet Rixford of San Francisco said that only those cases in which the cardiac lesions not far advanced should be operated upon, and in all it should be done during quiescent periods. As the anesthetic was the great source of danger, many in doing the partial thyroidectomy, which was becoming the operation of choice, use cocaine. Jonnescos operation was not looked on with favor here. The immediate results of thyroid hemisection were to aggravate the symptoms for the first few days, but it cured about three-quarters of all cases.

An Improved Instrument.—Dr. S. H. Weeks of Portland showed a male sound, with filiform bougie attached, which he thought should be put into the hands of the general practitioner.

The Present Status of the X-Ray as a Means of Diagnosis and as a Therapeutic Agent.—Dr. A. D. Bevan of Chicago showed a very beautiful series of photographs, and quoted some remarkable figures obtained from the use of the ray. He said that every hospital should have a ray expert. Burns were almost certain to occur and a good operator is not responsible for them. No good results were to be had in deep-seated carcinomata, but the superficial type in which the skin had been broken often responded to the ray as if by magic. There was very great danger however, that the lay public would get the idea that in the ray they had an agent which would deliver them from the knife. This would do infinitely more harm than the ray could possible do good.

Dr. Meyer of New York said that he fully agreed. The ray was of use only in the most superficial type of carcinoma.

The following officers were elected for 1903: *President*, Dr. M. H. Richardson; *Vice-Presidents*, Drs. M. B. Carson and W. J. Mayo; *Secretary*, Dr. D. P. Allen; *Treasurer*, Dr. G. R. Fowler; *Recorder*, Dr. R. H. Harte.

The next meeting place will be Washington, D. C.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held June 5, 1902.

John E. Weeks, M.D., in the Chair.

Contagious Ophthalmia in Industrial, Residential and Public Schools, and in Asylums and Hospitals.—Dr. Richard H. Derby read this paper. (See page 10).

Modern Methods Employed in the Prevention and Treatment of Trachoma and Other Forms of Contagious Ophthalmia.—Dr. Carl Koller read this paper. The most important representatives of contagious ophthalmia are gonorrhœal ophthalmia of the adult, of the new-born, diphtheritic conjunctivitis and trachoma.

Gonorrhœal Ophthalmia of the Adult.—The stage of incubation may last from a few hours to three days. In cases of supposed infection with ophthalmia the early instillation of a 2 per cent. nitrate of silver solution into the conjunctival sac will surely prevent an outbreak of the inflammation; but such a procedure is useless, and may be harmful, if symptoms have already shown themselves prior to such instillation. After gonorrhœal ophthalmia has been diagnosed the patient should be isolated in a well-ventilated room and put to bed. The room should be darkened. The doctors and nurses should be provided with protecting spectacles. In case but one eye has been infected the other eye must be protected by a bandage; rubber adhesive plaster, not being permeable for moisture, makes the best outer covering. A watch-glass, or mica-plate, may be fastened over the eye to enable the patient to see. The unaffected eye should be so protected until all discharge from the infected eye has ceased. Such protective bandage should be changed every three or four days. On the first or second day, if the symptoms are of moderate severity, cold should be applied to the affected eye in the form of pads of cotton which have been previously saturated with a solution of boric acid or liquor Burrowi diluted 1 to 10, which are cooled on a cake of ice. Frequent changes should be made, in order to lower the temperature of the lids. These applications should be applied intermittently in order to prevent paralysis of the blood-vessels and stasis. The eye should be kept cleansed of its discharges. Kalt of Paris introduced his grands, lavages, *i.e.* the irrigations of the conjunctival sac with large quantities of a 1 to 5,000 solution of permanganate of potassium; instead of this a solution of 1 to 2,000 formalin, or of bichloride of mercury 1: 5 to 10,000 can be used. The solution used should first be warmed, and the pressure should not be greater than that obtained from a height between one and one and a half feet, just sufficient to dislodge and wash away all particles of discharge lodged in the folds of the conjunctiva. These irrigations should be employed every two hours day and night. Infected dressings should be thrown into a slop-jar filled with 5 per cent. carbolic acid solution, or 1 to 1,000 sublimate solution, or plain water. The contagious discharge loses its power of infecting if diluted with water in the proportion of 1 to 100. If cold applications are not well sustained they should be discontinued and hot applications made; these are especially useful where there is hard infiltration of the lids with tension. These hot applications should be employed for one-half to one hour at a time, with intervals of one and a half to two hours. If the swelling and chemosis become excessive, the outer canthus may be incised, which affords great relief by lessening the tension and by bleeding. While the lids are hard, especially when there are grey patches of exudation on the inside of the lids, cauterization with nitrate of silver is not advisable and may even be harmful, as it gives rise to a recurrence of the infiltration. It should not be used before the stage of pyorrhœa, in which the lids are soft, the conjunctiva velvety and the discharge creamy and very abundant. Then the lids should be everted and carefully brushed with a 2 per cent. nitrate of silver solution, once or twice a day, but not before the eschara of the previous application has been thrown off. Nitrate of silver is the sovereign remedy in gonorrhœaic ophthalmia. Protargol, and allied organic silver compounds, do not coagulate, and the coagulating power is the chief factor of its efficiency. Nitrate of silver not only has a strong bactericidal power, but it necrotizes the superficial layers of the epithelium in which the germs are lodged. The copious irrigations should be continued day and night. The stage of pyorrhœa lasts from one to two weeks. Within four to six weeks the eye returns slowly to its normal condition, although for a long time there remains some chronic inflammation and thickening of the conjunctiva over the lids and folds. A dreaded complication of gonorrhœal conjunctivitis is ulceration and necrosis of the cornea with its consequences. When it occurs in the first stage it is of sinister import. During the stage of pyorrhœa it is not quite so dangerous. Ulcers of the cornea, with their sequels, as prolapse of the iris, should be treated according to general principles, with the sole exception that bandaging the eye should never be done, on account of blocking up discharges. Prolapse of the iris should not be cut off as long as there is danger of infection, for it has been known to be followed by panophthalmitis.

Gonorrhœic Ophthalmia of the New-Born.—Irrigations of the vagina with antiseptic solutions before confinement has not much effect in preventing infection of the new born. Credé's method, introduced in 1879 in his obstetric clinic, reduced his cases from 10 per cent. to 0.1 or 2 per cent., and was a great triumph in preventive medicine. If generally used, ophthalmia of the new-born would be entirely abolished. Ophthalmia of the new-born shows itself, with similar symptoms as in the adult, usually on the third day, sometimes up to the fifth day; graver cases may appear on the first day. It is generally conceded that if the child comes under treatment with the cornea intact the eyes can be saved with certainty. An exception are cases with malnutrition and failing health. Nitrate of silver in 2 per cent. solution should be applied at once. The lids should be well everted, so that the fold of the fornix becomes movable, when they should be brushed with the solution until they become white. This should be done daily. Every half hour the lids should be separated and the discharge washed away with a cotton swab saturated with boric acid. If it is deemed necessary to apply cold, ice should not be used locally, but simply cold cotton pads should be applied. Kalt irrigates the eyes two or three times a day with a 1 to 5,000 permanganate solution, using about one quart each time, with very good results. Treatment with nitrate of silver and simple rinsing away of the discharge insures good results, and this is better in the hands of the lay people than the irrigator.

Diphtheritic Conjunctivitis, rare in this country but more common in Northern Germany, is divided into two forms, the lighter croupous and the severe diphtheritic, the difference being clinical rather than etiological. Both may be caused by the Klebs-Loeffler bacillus, but also by the streptococcus, gonococcus and other germs. Children between the ages of two and eight years are usually affected, and frequently they will be found to be suffering from diphtheritic throat and nose affections. This is one of the severest forms of ophthalmia, and the swelling and hardness of the lids reaches the highest degree and, in severe cases, the cornea is mostly lost without hope. As a rule, but one eye is first affected. If the case is severe, the antitoxin should be used without waiting for cultures. Strict isolation of the patient should be enforced. Hot applications should be made to promote circulation and resolution of the exudate. Remove the discharge as often as it accumulates. After five days the infiltration lessens, the lids become soft, and then the nitrate of silver should be employed very cautiously, using a 1 per cent. solution; this should be stopped if infiltration or membranes appear. Vaselin may be introduced into the conjunctival sac to prevent synblepharon in cases where the exudate has been thrown off, leaving raw surfaces. Corneal ulcers should be treated on general principles. Prolapse of the iris should not be cut off as long as the danger of infecting the wound exists, as these wounds become infiltrated.

Trachoma.—Prophylaxis could do a great deal toward preventing the spread of this trouble, and every physician should enlighten his patients as to its contagious nature, and should explain to them its gravity and instruct them how to prevent infection. No other person should share the bed, towel or washing utensils with an individual suffering from trachoma. Surgical measures are to be preferred but nitrate of silver and sulphate of copper should be trusted, the former for cases with moderate inflammation and with discharge, the latter for the cases of chronic infiltration. Cases of acute trachoma should be treated with cold applications and irrigations; cauterization with nitrate of silver, as a rule, is not advisable, but scarification brings relief. In the treatment of trachoma surgical methods prevail at present. Expression with roller or other forceps is now in almost universal use, and is well fitted for fresh cases with plenty of follicles and a conjunctiva which is not atrophic. Expression should be done under a general anæsthesia, after which a ½ per cent. solution of nitrate of silver is applied to every part of the conjunctiva. The œdematous swelling may be prevented by applying a bandage and keeping it on over night. Since the expression does not remove the small follicles imbedded in the conjunctiva, treatment should be continued for some time after the operation until the conjunctiva is entirely smooth. A 2 per cent. solution of sulphate of copper, in glycerin pure or diluted with water, and used for four or six weeks, will perfect the entire removal of follicles and papules. In cases where atrophy and cicatrization of the conjunctiva exist with simultaneous presence of follicles one may express the follicles between the nails of the two thumbs, which is less injurious than the forceps and a much more efficient procedure than waiting for the follicles to be absorbed. The presence of pannus is no contraindication to expression, nor does the pannus require special treatment. Where pannus exists and no follicles in the conjunctiva are present, which never happens in a fresh case, but frequently in old cases of many relapses, cutting of the blood vessels at the edge of the cornea with a sharp knife will cause the pannus to quickly disappear. In old cases of acute inflammation, whether the conjunctiva is hypertrophic or atrophic, liberal scarification of the conjunctiva will be found useful. If for all cases of trachoma a universal remedy ought to be selected which is certainly impossible, the nearest approach to it would be a solution of copper sulphate in glycerin used as eye-drops two or three times a day.

The Laws of the State of New York Relating to Contagious Ophthalmia: The Results of Their Enactment and the Desirability of Further Legislation.—Dr. Frank Van Fleet read this paper. He said that only two laws relating to contagious eye disease had been enacted in this State; one provided for the appointment of a physician to institutions caring for children; all children should be examined especially with reference to diseases of the eyes and skin, and a monthly report made. The second law related to ophthalmia neonatorum when occurring in the hands of midwives or nurses, requiring that, when noted, they should be reported within six hours. The chief source of contagious eye disease was in the public schools and public baths. Dr. Lucien Howe of Buffalo had asked for a law making the application of the Credé method compulsory; this had not met with the universal approval of all physicians. He believed that all laws relating to public health should be entrusted with the Board of Health, and that the Board of Health should work in harmony with the medical professions.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

Stated Meeting, Held May 26, 1902.

Frank Van Fleet, M.D., President.

Medical Etiquette at the Dispensary.—Dr. Thomas J Hillis read this paper, which was discussed by Dr. Thomas H. Manley.

Gas Leakage and the Public Health.—James C. Bayles, M.E., Ph.D., read this paper, in which he stated that gas companies discussed the question of gas leakage behind closed doors, for the reason that they feared a public panic would result if more was known on this subject. The facts that he would present would surprise many who heard them for the first time. What he had to present was learned from personal experience or else was based upon technical authorities.

Composition.—He considered two varieties of illuminating gas: (1) Coal-gas, and (2) Water-gas. Coal-gas was obtained by destruction in retorts of coal which was rich in volatile hydrocarbons. The following composition of a coal-gas was typical: Hydrogen, 47.49; marsh-gas, 38; carbon monoxid, 6.74; the remainder consisted of olifient gas, carbon dioxid and nitrogen. Water-gas consisted of decomposing superheated steam to which naphtha-gas is added to give it more illuminating power; its composition is about as follows: Hydrogen, 30; carbon monoxid, 30; marsh-gas, 19.1; olifient gas, 10.65; the remainder, a small percentage of carbon dioxid, nitrogen and oxygen. Uncarburetted water-gas was a deadly gas, explosive, odorless, an energetic blood-poison. Carburetted water-gas was only less dangerous than the blue-gas because of its offensive and characteristic odor, which allows its presence to become known. It is equally as dangerous as the uncarburetted water-gas. He considered coal-gas less dangerous than water-gas, because it carried less than 7 per cent. carbon monoxid. It has a lower candlepower. Coal-gas was made from one relatively small plant in New York. Practically, there was no other water-gas plants outside of New York in this State.

Gas-Leakage.—In New York it amounted to 225,000 cubic feet per mile per annum for six inch mains. This he considered to be very conservative, and could be seen by an examination of the records of which he had a great accumulation, the figures coming principally from the reports of well-managed gas companies. The National Board of Fire-Underwriters presented a large number of figures, in which it was shown that Glasgow had the greatest amount of leakage, 1,643,000 cubic feet per mile per annum. The figures offered showed that large gas leakage was not confined to New York. It was his opinion that the leakage of gas amounted to about 11 per cent. of the output. What becomes of the gas? Any street surface which keeps the water out keeps the gas in. This gas in sewers and excavations may become active and dangerous and cause many explosions. The Park Avenue explosion made him believe that the dynamite explosion was preceded by an explosion of gas which had escaped from the main by leakage. The greater part of the gas by leakage goes into houses by several ways, but primarily from the leakage from the distributing pipes around the fixtures. In small quantities this escapes notice. Recently in Boston in 89 per cent. of all houses inspected there was found from two to ten leaks in the distributing pipes. The result of this leakage was a slow poisoning. The gas may also come from outside the foundation walls, and is more dangerous than leaks elsewhere, because generally unsuspected. Under impervious pavements the gas may be found at great distances from the leaks and in large quantities. This gas about New York was omnipresent and found principally in the cellars, in sewers, in excavations, and even in the soil. A friend of his, while in London, wrote him asking that he inspect the plumbing in his house in Central Park West. He went during the noon hour and, in the cellar, he found the plumber amusing himself by igniting the gas as it escaped through the foundation. This plumber informed him that he could have the same amusement in the cellar of any one of a long row of houses adjoining. In this instance it was found that the street was asphalted close up to the pavement; that the pavement was tight; and that the only outlet for the escaped gas was through the foundation walls of these houses, in the way of least resistance. Gas, too, may get into houses through waste-pipes and house drains.

Effects of Gas-Leakage.—Often this escape of gas was the obscure cause of sickness. Dr. Jackson, in his investigations, found that vertigo and dizziness was caused by a one-tenth of a one per cent. of water-gas, and that, in animals, a little smaller percentage was quite fatal. The habitual exposure to the escaped gas makes good health impossible and sickness inevitable. The risks from gas leakage he classified under three heads: (1) Fire and Explosions; (2) Asphyxia; (3) Blood-poisoning and Anæmia. The occurrence in New York during the past year of a large number of fires and explosions, from a study of all the facts, it was assumed that they were due to leakage from gas mains under impervious pavements. Asphyxia was due to suicidal attempts and "blowing out the gas." In blood poisoning and anæmia gas figures largely, and is assumed to be the root of all the evil produced. Sewer gas consists of atmospheric air carrying simple and compound gases, some existing in the sewer and some coming from without. As a rule, sewer gas was unable to destroy life, because it did not contain or carry disease germs. Of course, sewer-gas may and does carry organisms; but the air outside of sewers contain organisms in greater abundance. Therefore, ordinary sewer gas was better for breathing purposes than that of the street, church, or theatre. Regarding the question of preventing gas leakage it was obviously the first object was to locate it; gas costs less than the measures taken to stop the leakage and, therefore, we can expect no help from the gas companies and no help will ever be gotten from them until the public compels them to seek for and repair the leaks.

Clinical Observations of the Effects of Gas-Leakage.—Dr. SAMUEL LLOYD read this paper. The following cases were reported: Case 1.—A patient, living in a private house, had catarrhal throat trouble; headache, light before the eyes, symptoms of toxic poisoning. Treatment, no effect. Gas poisoning thought of and patient advised to leave the house. Rapid improvement in the general health followed. Case 2.—Patient with temperature ranging from 103° to 105° at night, and 100° to 101° at day. Lungs and heart normal. Bowels regular. No rheumatism or inflammatory conditions present. Liver and spleen somewhat larger than normal. Albumin and occasionally hyaline and granular casts found in urine. A tentative diagnosis of typhoid fever was made. Blood examination showed no Widal reaction, malaria or leucocytosis. A change of air effected a cure in the course of a few days. Case 3.—A sister of Case 2 for two months had a daily rise in temperature. She became anæmic, was constipated, had headaches, general malaise, etc. None of the many drugs taken relieved her. Her organs were all normal, except the spleen, which was one-third larger than normal. Blood examination was negative. A long trip was advised, taken, and a complete cure was effected. The plumber found many breaks in the house and much gas leakage. Case 4.—A girl was told she had miliary tuberculosis. After leaving her place she improved. Case 5.—A girl in the same house as Case 4 gave the same symptoms of anæmia, headache, constipation, coated tongue, pain in the back, etc Leaving the house also effected a cure. Case 6.—The employer of Case 4 and Case 5 presented about the same symptoms, except that the pain in the head was intense and prostration was great. Temperature rose to 104°. With the test of Prof Bayles escaped gas was found in large amounts.

Perez M. Stewart, Superintendent of Buildings, thought it would be a wise plan to equip inspectors with the form of instrument presented by Prof. Bayles. Since January he had done all he could in the various buildings, especially theatres, hotels, etc., in the way of inspections, and he should not be much surprised to learn that the cause of so many fires and explosions was from the acmulation of gas in the cellars and elevator shafts, passing in through the foundation walls; the spark of a match would cause an explosion and quite a panic in a few moments.

Mr. Harry David Gue, the editor of *Insurance Engineering*, and a fire insurance expert, said that there were two hazards to be considered: (1) the property hazard and (2) the hazard to persons. He said that the report of the National Board of Fire Underwriters was the outcome of what could not be kept quiet. This question of gas leakage, so detrimental and dangerous to health, was such a large one to deal with that unless they had co-operation of all, especially of the medical profession, nothing could be done; some concerted action should be taken to attack the danger confronting the public.

Smallpox and Vaccination.—Dr. SAMUEL LLOYD, Chairman of the Committee on Hygiene, made the following report: "The attention of your Committee has been called by the President of the Department of Health of the City of New York to the continued prevalence of smallpox throughout the whole city. It will be seen by a glance at the accompanying table that, contrary to the general idea, that the number of cases is decreasing, the disease is actually on the increase. The census from January 1901, to April, 1902, inclusive, is as follows:

1901	CASES	DEATHS
January	70	10
February	128	32
March	220	37
April	200	40
May	456	66
June	364	71
July	244	80
August	118	35
September	27	10
October	23	11
November	47	7
December	62	11
1902		
January	152	35
February	233	48
March	300	57
April	245	57

It would appear from the records that whereas public vaccinations since January 1, 1902, have proceeded at the rate of 25,000 to 35,000 per week, and have now reached about 550,000 (January 1 to May 17) the public vaccination performed last year was inadequate. Although smallpox last year continued prevalent during the early months of 1901, and reached the maximum for the year 1901 in the week ending May 24, in which week 134 cases were reported; the Health Department last year apparently did not see fit to increase its vaccinations—the weekly total falling off steadily until 8,000 or 9,000 per week was the prevailing figure.

The year's total vaccinations amounted to 383,629, but this year in four and one-half months, nearly 50 per cent. more vaccinations have been performed than in the entire year 1901. The failure to secure adequate vaccination last year, and the fact that smallpox is spread in interior towns through lack of proper vaccination and then transmitted to this city—all these circumstances, together with the bringing of infection by emigrants, tend to a further spread of the disease; and it is a matter for congratulation that the great increase in the number of cases shown last May has not occurred thus far this year. At present the disease persists chiefly among the vagrant class, the members of which are hard to reach, because they leave the lodging-houses and take up their residence each night in a different Raines' Law hotel. The entire vaccinating staff of the Board of Health has several times been called out on emergency duties to cover every lodging house in the city from 4 to 9 A. M., and a large number of vaccinations among lodgers have thus been performed.

It is also reported by your committee that instances of connivance on the part of medical men practising in this city, in hiding cases of smallpox to prevent removal of the patient to the hospitals provided by the Department of Health for the treatment of this disease and the protection of the community, are known. It seems to us, therefore, that this society should take definite action in these premises, and we beg to recommend first, that the attention of the members of the County Medical Society be called to the fact that smallpox is still prevalent in this city and that the number of cases since the 1st of January averages greater than during the corresponding period of last year. Second, that the members of the Society be urged to impress upon all their patients the necessity of vaccination at the present time unless protected by a recent successful vaccination, and that the members of this society co-operate with the Department of Health in every way possible to aid in stamping out the disease. Third, that this Society deprecates any attempt on the part of medical men to hide cases of smallpox, and that they urge at this time, particularly, every member of the profession, to report all cases of contagious diseases to the sanitary authorities at once, in order to make sure of the proper isolation of the patient and his family. Fourth, that the President of the Board of Health be requested to report to this Society any member of the Society who fails to carry out the law in regard to contagion. Fifth, that upon receipt of such a report the case shall be referred to the Committee on Discipline. Sixth, in the opinion of the Committee, it would be wise and would aid materially in the thorough vaccination of all persons not already protected if the Board of Health would serve notice upon the people living in different districts of the city that within a limited time that district will be visited by the vaccinating corps of the Board of Health with the purpose of vaccinating all persons who have not already been vaccinated by their family physician."

Dr. Robert T. Morris asked that some action be taken regarding the escape of fumes of sulphurous acis gas on the Thirty-fourth street electric line of the Metropolitan Traction Company. It was moved and carried that the Committee on Hygiene take action to suppress that nuisance.

Two Unusual Forms of Clonus; Toe Clonus and Lateral Ankle Clonus.—John K. Mitchell reports a case of disseminated sclerosis in which pushing the foot a little to one side instead of upward produced a rapid lateral clonic movement entirely in one plane. Its extreme excursion was not more than three-quarters of an inch, the speed being 6.5 per second. It was difficult to be certain of the special muscles involved. Another point of interest was that any effort to straighten the rigidly half-flexed toes started a toe clonus. It was slow, and was exhausted by eight or ten contractions. If it was excited by carefully pushing up the ungual phalanges with a force too slight to alter the position of the foot, the clonic movement was limited to the toes; if the push were stronger, so that the foot moved on the ankle, ankle clonus appeared. The toe motion was performed by the interossei, the flexor brevis and longus not coming into play.—*Journal of Nervous and Mental Diseases.*

New Instruments.

THE SLOANE MATERNITY MILK SET.

Realizing the fact that a large proportion of the mothers leaving the Sloane Hospital at the end of their puerperium are unable for varied reasons to continue the breast feeding of their babies, and impressed with the difficulty of giving them adequate instruction in the preparation of a proper substitute for breast milk, the writer has adopted the following method, the working of which is shown the mother before she leaves the hospital. The method is based upon three facts:

1. The alkalinity desired in the food is approximately always the same, one ounce of lime water in twenty ounces of food.
2. The sweetness of the diluent desired is usually about the same, one ounce of milk sugar, or one-half ounce of granulated (cane) sugar, in twenty ounces of food.
3. Ten ounces of milk taken from the top of a quart bottle of milk, bottled the night before, or which has stood for six hours on the ice, contains when mixed, approximately, 10 per cent. of fat, *i. e.*, = 10 per cent. milk, containing Fat 10.; Sugar 4.50; Proteid 3.50. Furthermore sixteen ounces of milk taken from the top of the bottle under similar conditions contains, when mixed, approximately 7 per cent. of fat, *i. e.*, = 7 per cent. milk, containing Fat 7.; Sugar 4.50; Proteid 3.50.

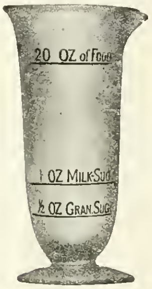

Fig. 1.

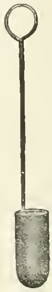

Fig. 2.

According to Holt.

	FAT	SUGAR	PROTEID
1 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	.50	5.20	.17
2 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	1.	5.40	.33
3 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	1.50	5.60	.50
4 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	2.00	5.85	.66
5 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	2.50	6.05	.83
6 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	3.	6.25	1.
7 oz. of 10 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	3.50	6.50	1.20
10 oz. of 7 per cent. milk diluted to 20 oz. with a diluent containing 1 oz. milk sugar gives.....	3.50	7.10	1.75

With a graduate holding twenty ounces of food and marked for one oz. of milk sugar (or where expense is an important item, one-half oz. of granulated sugar) and a Chapin dipper (modified in shape by Dr. Addison W. Baird) for removing the top milk from the bottle, one can gradually increase the strength of food as needed for the growing baby.

The method is so simple that it is easily understood by almost any mother and the small cost of the apparatus places it within the reach of all. It is manufactured by James T. Dougherty of this city.

The following directions accompany the apparatus:

The set consists of a measuring glass holding twenty ounces (see Fig. I), and a metal dipper (called the Chapin dipper) holding one fluid ounce (see Fig. II).

Directions for use.—Get a quart bottle of good milk and let it stand on ice or in a cool place for half an hour so that the cream will show at the top of the bottle. From the upper part of the bottle are obtained two kinds of top milk:

Top milk No. I, obtained by taking ten dipperfuls from the top of the bottle, the first dipper being filled with a spoon to prevent spilling, the remaining nine dipperfuls being taken by dipping carefully from the bottle. These ten dipperfuls are to be mixed in a clean pitcher, and from the milk thus mixed the baby's food may be prepared until it is from four to six months old.

Top milk No. II, obtained by taking sixteen dipperfuls from the top of the bottle, the first dipper being filled as before with a spoon, the remaining fifteen dipperfuls being taken by dipping carefully from the bottle.

These sixteen dipperfuls are to be mixed in a clean pitcher, and from the milk thus mixed the baby's food may be prepared from the age of about four months until it is a year old.

In using this milk set, whatever strength of food is desired, the sugar and the lime water are always the same: one ounce of milk sugar (or one-half ounce of granulated sugar) and one ounce (one dipperful) of lime water. The quantity of food made by filling the glass once is always the same—twenty ounces. The strength of the food varies with the number of dipperfuls of top milk used.

Preparation of the food.—First. Into the measuring glass pour milk sugar up to the line marked one ounce milk sugar, or granulated sugar up to the line marked one-half ounce granulated sugar.

Second. Add one dipperful of lime water and mix by shaking the glass.

Third. Add the required number of dipperfuls of top milk according to the age of the baby as explained below.

Fourth. Fill the measuring glass up to the line marked twenty ounces of food, with water, either plain or barley water, or oatmeal water.

During the first month it is usually better to use plain water, after that barley water, or if the baby is very constipated, oatmeal water.

Strength of food for different months.—First day—Give no milk; put in milk sugar to mark, then fill with boiled water. Second day—Add one dipperful of top milk No. I. Third day—Add two dipperfuls of top milk No. I.—Fourth day—Add three dipperfuls of top milk No. I. Fifth to tenth day—Add four dipperfuls of top milk No. I. Tenth to thirtieth day—Add five dipperfuls of top milk No. I. One month to two months—Add six dipperfuls of top milk No. I. Two months to four months—Add seven dipperfuls of top milk No. I. Four months to nine months—Add ten dipperfuls of top milk No. II.

When the baby needs more than twenty ounces in the twenty-four hours, fill the measuring glass twice instead of once, before putting the food into the baby's bottle.

After nine months the food is prepared by shaking the quart bottle of milk when first obtained and using the plain mixed milk.

After preparing the food put it (especially in hot weather) on the stove and heat it till it simmers. It is then ready to be placed in the baby's bottles which have been thoroughly washed in hot soapsuds and rinsed.

The above directions are given for an average healthy baby. A frail baby, or one whose weight is below the average, will need to have the strength of food increased more slowly. A very strong healthy baby may have the strength of the food increased more rapidly. If the stronger food does not seem to agree with the baby, decrease the number of dipperfuls of milk used.

By increasing or decreasing the number of dipperfuls of milk, the food can usually be adjusted to the child's digestion.

Amount of food at each feeding for different ages.—First week, ½ to 1½ ounces. Second and third weeks, 1½ to 3 ounces. Fourth and fifth weeks, 2½ to 3½ ounces. Sixth to ninth week, 3 to 4½ ounces. Third to fifth month, 4 to 5½ ounces. Fifth to ninth month, 5½ to 7 ounces. Ninth to twelfth month, 7 to 9 ounces.

Medical Items.

Case of Impacted Urethral Calculus in a Boy of Four Years.—The patient of J. S. Triplett suffered much pain in the hypogastric region, and was unable to pass his urine. Catheterization with a soft instrument was unsuccessfully tried. Finally, examination with a metallic instrument enabled a diagnosis to be made, under anæsthesia, of impacted calculus. During the examination, considerable urine was voided. Next day a median lithotomy was done, and a stone was found imbedded in the bulbous portion of the urethra. It weighed, in the dried state, seven and a half grains, and was one and one-eighth inches in greatest circumference. Recovery was somewhat tedious, but finally resulted.—*St. Louis Medical Review.*

Civilization and Birth Rate.—M. Neymarck has lately examined various economic, financial and social causes that influence the birth rate. Some of his results are summarized in what follows: He believes, in the first place, that the birth rate will always diminish with the increase of "civilization," with "progress," in a country. In Germany the birth rate was 42 per 1,000 in 1875; in 1895 it was 36. In England the rate diminished from 36 to 29 in the same period. In France it fell from 26 to 25.2. The rate of diminution is, therefore, least in France. Some of the economical causes influencing the birth rate are:

First—The increased cost of living, or, more accurately, the increased scale of comfort. As a matter of fact, it is not certain that the cost of life has increased, but our requirements have become greater.

Second—The desire to insure increased comfort for one's self and one's family. "The father of a family limits his offspring in proportion to his egoism."

Third—The desire to establish one's children well in life is proved by curious statistics. In France there were 281,353 heritages in the direct line to divide 3,469 millions of francs; of these 170,819 heritages, amounting to 2,131 millions, were allotted to one or two children; 75,961, amounting to 926 millions, were divided between three or four children, and 34,573, amounting to 412 millions, were divided between five or more children.

Fourth—The reduction of the rate of interest runs parallel to the decrease in birth rate. In France the birth rate was, in 1872, 27.8 per 1,000; in 1880, 25.6; in 1890, 22.9; in 1900, 22.4. The 3 per cents. produced, in 1871, about 5½ per cent. on the investment; in 1880, about 3½ per cent.; in 1890, about 3¼ per cent.; in 1900, less than 3 per cent.

Fifth—The increase of taxes and the indirect effect of the obligations of military service must also be considered.

Sixth—The entrance of women into competition with men as wage-earners. In France there are now 3,353,831 women who are thinking less of maternity, as they are more or less interested in their professions or trades. There are 3,861,599 single women, 1,808,838 families without children, 3,000,000 divorced or widowed persons without children—nearly 6,000,000 persons in all these categories.—*New York Sun.*

Expectation of Life.—From the experience of life insurance companies, and from census returns, tables of the average expectation of life can be constructed. A sample of such a table is given below. Column I is the age; Column II is the expectation of after life from the experience of England and Wales in 1838-54; Column III is the expectation from the experience of Massachusetts in 1893-97. · The statistics apply to males:

I. *Age.*	II. *England.* 1838-54.	III. *Mass.* 1893-7.
0 years.	39.91 years.	44.09 years.
10 years.	47.05 years.	49.33 years.
20 years.	39.48 years.	41.20 years.
30 years.	32.76 years.	34.28 years.
40 years.	26.06 years.	27.41 years.
50 years.	19.54 years.	20.53 years.
60 years.	13.53 years.	14.38 years.
70 years.	8.45 years.	9.34 years.

Corresponding tables for the two epochs in other countries agree substantially with the foregoing. The expectation of life under modern conditions has increased. A male exposed through life to the conditions of mortality obtaining in Massachusetts in 1893-97 would, on the average, live 4.08 years longer than he would have lived had he been subjected to the rates prevalent in England and Wales in 1838-54. The increased expectation of life is greatest in the earlier years, as the table shows. It does not prove that our stock is more vigorous, but it points to the undoubted fact that our weaklings are better cared for by improved sanitation. A decrease in the birth rate tends to make the expectation larger, for it is among infants that the greatest mortality obtains. Consumption is the dreaded disease that carries off great numbers of all ages. Modern medicine is on the way to conquer that plague, and within a comparatively short period we may look for great increases in the tables of expectation.—*New York Sun.*

New Building for Scientific Purposes at Yale University.—The amount of the gift by a donor, not named, for a new scientific building for the Sheffield Scientific School is about $75,000. The new building, with three floors and a basement given up respectively to mineralogy, geology, physical geography, and mining, will have 95 feet front and 65 feet depth, and will be placed next to the old Sheffield residence on the campus of the school. This leaves vacant a large plot at the corner of Grove street and Hillhouse avenue, where a greater building can be placed. The plan, in a general way, outlines the future physical development of the school, in the form either of a quadrangle or arcade of about 400 x 600 feet, the purchase of but one building being now required for the complete ownership of the whole area. In future years, probably, the old Sheffield residence, now used as a biological laboratory, and the original school building, earlier used as a medical school, will come down to make way for modern structures.

The Muscular Factors Concerned in Ankle Clonus.—S. Weir Mitchell recently observed in a case of trauma of the spinal cord that the very remarkable ankle clonus present was the work of the soleus muscle alone, the gastrocnemius being entirely passive. Further observation of other cases showed that the first one was not exceptional, as in all of them the soleus alone was active in clonus of the ankle. The explanation of the lack of response on the part of the gastrocnemius appears to consist in the fact that, in spite of their common insertion, the soleus and the gastrocnemius have distinct purposes, as stated in Duchenne's "Electro-Physiologie": "When the leg is flexed on the thigh, the gastrocnemius is so relaxed by reason of its upper hold on the femur as to lose almost all power to extend the foot. The soleus, then, because of its attachment to the tibia, is still left competent to extend the foot." Another and singular fact which is possibly involved in the absence of clonic response by the gastrocnemius is that there is normally a difference in irritability between different muscles. Hence, one additional reason why the gastrocnemius cannot be made to respond in any position may be that it is simply less excitable than the soleus.—*Journal of Nervous and Mental Diseases.*

Cook's Method of Uric-Acid Estimation.—To 10 c.c. of urine add 0.5 to 1.0 gms. of sodium carbonate and ammonium hydrate 1-2 c.c. Centrifuge and pour clear urine into tube. Add and mix ammonium hydrate 2 c.c., sol. ag. NO_3, 5 per cent., 2 c.c. Centrifuge. Again add ammonium, and the solution is centrifuged till the minimæ reading is obtained. One c.c. of ppt. represents 0.001176 gm. of uric acid in 10 c.c. urine, and the percentage is obtained by multiplying the total amount by 10.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended June 28, 1902:

SMALLPOX—UNITED STATES.		CASES.	DEATHS.
California, Los Angeles	June 7-14	1	
Sacramento	June 14-21	3	
Colorado, Denver	June 7-14	3	
Florida, Jacksonville	June 14-21	2	
Illinois, Belleville	June 14-21	7	
Chicago	June 14-21	18	
Indiana, Indianapolis	June 7-21	18	
Terre Haute	June 14-21	2	
Kansas, Wichita	June 14-21	4	
Kentucky, Covington	June 14-21	2	
Louisiana, New Orleans	June 14-21	1	case 9 hrs. in city.
Massachusetts, Boston	June 14-21	6	1
Cambridge	June 14-21	41	1
Chicopee	June 14-21	3	
Lowell	June 14-21	3	
Malden	June 14-21	2	
Worcester	June 13-20	1	
Michigan, Detroit	June 14-21	5	1
Ludington	June 7-14	3	
Missouri, St. Louis	June 15-22	25	1
Nebraska, Omaha	June 14-21	19	
New Hampshire, Nashua	June 14-21	11	
New Jersey, Hudson County, Jersey City included.	June 15-22	33	3
Newark	June 14-21	29	7
New York, Elmira	June 14-21	1	
New York	June 14-21	59	8
Ohio, Cincinnati	June 13-20	12	
Cleveland	June 14-21	52	5
Hamilton	June 14-21	8	
Toledo	June 14-21	2	
Youngstown	June 7-14	1	
Pennsylvania, Johnstown	June 14-21	13	1
Philadelphia	June 14-21	20	3
Scranton	June 14-21	5	
Rhode Island, Providence	June 14-21	7	
South Carolina, Greenville	June 14-21	1	
Wisconsin, Greenbay	June 16-23	2	
Milwaukee	June 14-21	8	
SMALLPOX—INSULAR.			
Porto Rico, Ponce	To May 14	74	
SMALLPOX—FOREIGN.			
Belgium, Antwerp	May 31-June 7	1	2
Brazil, Pernambuco	April 15-May 15		42
Colombia, Cartagena	June 1-8		1
Panama	June 8-16	10	
France, Rheims	June 1-8	2	1
Great Britain, Birmingham	May 31-June 7	9	
London	May 3-June 7	188	29
South Shields	May 24-June 7	8	1
India, Bombay	May 20-27		9
Calcutta	May 17-24		2
Karachi	May 18-25	3	1
Madras	May 10-16		2
Italy, Milan	April 1-30	5	
Palermo	May 31-June 7	12	2
Mexico, City of Mexico	June 8-15	5	2
Russia, Moscow	May 24-31	15	3
Odessa	May 24-June 7	11	1
St. Petersburg	May 24-June 7	24	5
Warsaw	May 17-24		1
Turkey, Smyrna	May 18-24		2
YELLOW FEVER.			
Brazil, Pernambuco	April 15-May 15		1
CHOLERA—INSULAR.			
Philippine Islands, Manila	April 28-May 10	332	267
Provinces	April 28-May 10	1690	781
CHOLERA—FOREIGN.			
India, Bombay	May 20-27		3
Calcutta	May 18-24		55
Japan, Karatsu	June 23	Present.	
PLAGUE.			
Brazil, Pernambuco	April 15-May 15		61
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Original Articles.

NOTES ON A FEW CASES OF HODGKIN'S DISEASE AND LYMPHATIC LEUKÆMIA.*

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ALTHOUGH neither Hodgkin's disease nor lymphatic leukæmia is so very rare, yet I would like to communicate here a few cases of both conditions that have come under my personal observation, and, in connection with them, to add a few remarks.

To Hodgkin[1] belongs the credit of having first called attention to cases characterized by a general swelling of the glands, accompanied by an enlargement of the spleen and frequently also of the liver, and which always ended fatally.

In his well-known work Hodgkin says, "All these cases agree in the remarkable enlargement of the absorbent glands accompanying the larger arteries, viz., the glandulæ concatenatæ in the neck, the axillary and inguinal glands, and those accompanying the aorta in the thorax and abdomen." This glandular swelling, according to Hodgkin, is a primary affection for the following reasons: "Notwithstanding the different characters which this enlargement may present, it appears in nearly all cases to consist of a pretty uniform texture throughout, and this seems rather to be the consequence of a general increase of every part of the gland than of a new structure developed within it, and pushing the original structure aside, as when ordinary tuberculous matter is deposited in these bodies." In all his cases Hodgkin found the spleen also diseased.

After Virchow[2] had published his classic work on leukæmia, it became desirable to examine the condition of the blood in cases similar to those described by Hodgkin. Bonfils[3] was the first to do this, and showed that the blood was normal in these patients.

Later Wilks[4] described cases analogous to the above which occurred in his own practice, designating them as "Hodgkin's disease."

Regarding the pathology of these cases, Wilks expresses himself as follows: "The generally accepted doctrine has been that an affection like the present must be constitutional; but modern research would quite approve of the theory which should make it commence in one part of the lymphatic system, and from this, as a source of contamination, be propagated through the body." Wilks closes his work with the following words: "It will be seen, that of the fifteen cases here given, how remarkably alike were the features in all; consisting of an enlargement of the lymphatic glands, with a peculiar deposit in the organs, and more especially the spleen. Amongst these cases were two in which there was no affection of the spleen, one in which the organ was hypertrophied, and one in which it was lardaceous. In the remaining thirteen cases the disease was of a remarkably uniform character, and quite deserving of a special name; all the cases which I have described having come under my own eye, and resembling in all particulars the first four, which Dr. Hodgkin so many years ago brought under the notice of the profession."

Cohnheim[5] in describing a case of Hodgkin's disease, was the first to use the expression, "pseudoleukæmia," to signify at once its resemblance to, and its distinction from, true leukæmia. He relates the case of a man forty-two years of age, suffering from enlargement of the spleen and glands, with quite a normal condition of the blood. Two years previously he had suffered from intermittent fever, and later complained of pain in the left side. Death occurred from exhaustion preceded by ascites, etc. Cohnheim recognizes the difficulty of differentiating between leukæmia and pseudoleukæmia when he says: "Should we assume that the short duration of the disease, hardly three months, has not allowed typical leukæmic blood changes to develop, and thus has obscured the whole case?"

Wunderlich[6] reports three cases of pseudoleukæmia, and gives an excellent description of the disease: "There is a peculiar form of disease," he remarks, "characterized mainly by tumefactions of the external and internal lymph glands, which gradually increase and partially assume colossal proportions. Besides, we usually find early in the disease peculiar firm deposits in various internal organs, most frequently the spleen, next the liver, more rarely the kidneys, the glands of the stomach, the intestinal follicles, the lungs, the pharynx, etc. The disease develops, as far as our present observations go, without any known cause, is accompanied by a high degree of anæmia, without any increase in the number of leucocytes, by moderate ascites, general exhaustion, and sometimes by the development of diphtheritic processes. If far advanced, death is probably inevitable, and usually occurs sooner than with true leukæmia. At an early stage the disease may be amenable to suitable treatment."

If the enlargement of the spleen is more prominent than that of the glands we call the disease anæmia splenica, according to Strümpel[7]. Cases of primary splenomegaly, first described by Gaucher[8] and more recently by Bovaird,[9] and Brill,[10] probably also belong here.

Banti's disease[11] (characterized first by splenic tumor, later by enlargement of the liver and ascites) is probably also only a variety of Hodgkin's disease.

It would be beyond the purpose of this short paper to review the whole literature of these conditions. I will, however, refer to some of the more recent investigations regarding pseudoleukæmia.

Cases of Hodgkin's disease or pseudoleukæmia resemble lymphatic leukæmia to such a degree that some authors consider them identical.

A transition from pseudoleukæmia into true leukæmia was first observed by Fleischer and Penzoldt,[12] and later by Mosler.[13]

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*Read before the German Medical Society of New York.

Westphal[14] expresses himself on this point as follows: "We are therefore able to record one case of transition from pseudoleukæmia to true leukæmia, and one case of transition from beginning leukæmia to pseudoleukæmia, and to note resemblances only to the symptom complex of essential pernicious anæmia. These circumstances seem to be of interest with reference to the transitional forms described in literature. According to our experience they are quite rare and are unable to throw any light upon the obscure point in the pathology of pseudoleukæmia, the disproportion in the condition of the blood and the blood-producing organs." As a result of his work, Westphal reaches the following conclusions:

1. Pseudoleukæmia is most probably an infectious disease.

2. A direct connection with tuberculosis is improbable; thorough bacteriological investigations and inoculation experiments would have to decide this question.

3. In a number of cases certain local affections, especially of the mouth and its surroundings, seem to be starting points of the pseudoleukæmic process.

4. Cases encroaching upon the realm of leukæmia and pernicious anæmia occur, but are rare according to our experience.

Martin and Mathewson[15] pointed out the difficulty of drawing sharp distinctions between lymphatic leukæmia and Hodgkin's disease. They say: "It by no means infrequently happens that in cases of multiple lymphomata the number of white cells borders so closely upon the ratio found in leukæmia that we are in doubt as to the presence of a true leukæmia or of an ordinary leucocytosis. Of all forms of leukæmia, that which is most akin to Hodgkin's disease is, of course, the lymphatic form." Then follows the description of a case in which the proportion between the white and the red blood-corpuscles varied between 1 to 75 and 1 to 120. These authors also mention a case of general lymphomatosis, in which at one time a leukæmia was temporarily present: "The blood examination on his admission revealed 3,166,000 red cells, 8,000 white, and 42 per cent. of hæmoglobin. For the first two weeks of his sojourn in the hospital the patient improved, the leucocytes were not markedly increased at any time, nor were there any other notable changes. Suddenly, however, on the fifteenth day after entry, there was a marked change, with increased fever, recurrent hemorrhages from the nose, and the blood examination within two days showed over 60,000 white cells to the c.mm. This leucocytosis persisted for a week, the patient's condition otherwise getting progressively and rapidly worse. Life was prolonged for about one week more, and during that period the leucocytes again diminished in number, returning in about two days to normal, and on the day previous to death an estimate showed nearly 14,000 to the c.mm.

"In the illness then, which lasted, in all, about six weeks, there was a period where undoubtedly all the typical signs of acute leukæmia were present, while on other occasions the examination revealed the usual classical symptoms of acute Hodgkin's disease."

According to Pinkus[16] the relative proportion of lymphocytes to the other white blood cells must be increased in true pseudoleukæmia. This brings lymphatic leukæmia and Hodgkin's disease into still closer relations. For, according to Pinkus, lymphatic leukæmia represents a disease whose principal symptom consists in the blood change, characterized by an increase of lymphocytes and in the tumor-like enlargement of lymphatic organs. Regarding the increase of lymphocytes in the blood, it is less the absolute number of these cells than the relative increase with regard to the other forms of leucocytes that is of importance. The decisive point is always, as Ehrlich[17] has taught us, the qualitative change from normal, aside from the increase of leucocytes, the specific pathognomonic variety of leucocytosis. Generally speaking, the boundary line, according to Pinkus, lies somewhere between the proportions of W:R=1:100 and 1:200. Cases presenting smaller quotients would have to be counted as pseudoleukæmia, whereas larger ones would have to be considered as true leukæmia.

Pinkus divides cases of pseudoleukæmia into three forms:

1. True pseudoleukæmia. In this class we find the cases with generalized lymphomatosis and relative lymphocytosis, which have to be considered in one group with true lymphatic leukæmia.

2. Lymphosarcomatosis, generalized lymphomatosis without blood changes or even with decrease in the percentage of lymphocytes, and with the characteristics of malignant tumors.

3. Other not purely lymphatic affections of the lymphatic apparatus, tuberculosis, malignant tumors.

Becker[18] is of the opinion that the same pathological process is the cause of pseudoleukæmia and of lymphatic leukæmia, and that the presence of a larger or smaller number of lymphocytes in the blood is a secondary matter, the reason for which cannot at present be satisfactorily explained. If this is the case, we must discard the expression pseudoleukæmia and adopt for the designation of the anatomical process some such name as lymphomatosis diffusa, which may again be subdivided into aleukæmica and leukæmica, acute and chronic, perhaps also lienalis, adenoidea, and myeloidea.

According to Cabot[19] the pathology of leukæmia and Hodgkin's disease is identical but for the blood count. In Hodgkin's disease the blood is normal, or shows, at most, a moderate anæmia or leucocytosis (adult cells alone increased), and the diagnosis is easily made.

Bramwell[20] discusses this question as follows: "The exact relationship of the lymphatic form of leucocythæmia to Hodgkin's disease has not yet been satisfactorily determined. To the naked eye the glandular lesions in the lymphatic form of leucocythæmia and in Hodgkin's disease are very similar, and some observers state that they are identical in character; but, so far as my observation enables me to judge, the enormous glandular enlargements which are met with in some cases of Hodgkin's disease are never developed in cases of lymphatic leucocythæmia."

Sternberg[21] has pointed out the difficulty of strictly differentiating pseudoleukæmia from tuberculosis of the lymphatic apparatus.

Bramwell also expresses himself in a similar manner by saying: "I have seen several cases of this kind and have been so impressed with the difficulty that there is in some cases, more especially in children and in young subjects, of differentiating during life the glandular enlargements due to Hodgkin's disease from those due to tubercle, that I now have great hesitation in committing myself to a definite diagnosis of Hodgkin's disease and in excluding tubercle, unless the spleen is distinctly enlarged or unless there is evidence of the presence of lymphoid deposits in the other organs and tissues."

Regarding the differential diagnosis, Osler[22] says: "A single bunch in the neck, particularly if submaxillary, persisting for over a year or eighteen months without involvement, however slight, of the glands on the same or the opposite side, or in the axilla, is almost certainly non-malignant lymphoma."

Fischer[23] describes Hodgkin's disease under the name of "malignant lymphoma," which was first introduced by Billroth. Fischer advocates the use of this term as the clinical character of the disease is best designated by it, and nothing is implied regarding the kind of tumors, the etiology of which, as well as of their mestastases, is not yet sufficiently clear.

Fischer examined the blood and freshly excised glands from twelve patients. In all cases the blood was free from microorganisms, the culture media remaining sterile; microscopical as well as bacteriological examination of the lymph glands also gave negative results; animals in which Fischer implanted small pieces of glands, still warm, remained healthy. He thinks that tuberculosis of the lymph glands in cases of malignant lymphoma is to be looked upon as a secondary infection. The organism, that has already been weakened by the development of the malignant lymphoma, is unable to resist the invasion and harmful results of the tubercle bacillus.

As will be seen from the literature referred to, the etiology of the disease is just as obscure now as it was at the time when Hodgkin published his first observations. We, furthermore, have to deal with various differences of opinion regarding the relation of pseudoleukæmia to lymphatic leukæmia. Some of my cases of Hodgkin's disease have been observed for years; accurate blood examinations have also been made. It will, therefore, be of interest, after sketching them shortly to compare them with two cases of lymphatic leukæmia which I treated at about the same time. I will now present the histories of the cases:

CASES OF HODGKIN'S DISEASE.

CASE I.—May, 1895. Simon U., forty-eight years old, has complained for a year of great weakness, at times dizziness and slight dyspeptic symptoms, such as belching, feeling of fulness and constipation.

Status præsens: Patient is of small stature and slim appearance; face somewhat pale; color of lips pale red. The cervical glands are slightly swollen, of the size of a hazelnut. The same applies to the inguinal glands, whereas, in the axillæ no tumefaction can be felt.

Thoracic organs are normal. The palpation of the abdomen shows that the stomach lies somewhat to the right, its lower boundary reaching to one finger's width below the navel. Extending from the left hypochondrium nearly throughout the whole left half of the abdominal cavity, a tumor can be made out, having an elongated oval shape and merging directly into the area of splenic dulness. The surface of this immensely enlarged spleen feels quite smooth, but harder than normally. The liver reaches in the right mammillary line two fingers' width below the margin of the ribs.

A blood examination shows nothing pointing to leukæmia. The urine is free from albumin and sugar. Knee reflexes are present; temperature and pulse show nothing abnormal.

The patient was treated alternately with methylene blue and with arsenic and iron, without any appreciable change in his condition. This state lasted about two years, when the patient suddenly took ill with symptoms of peritonitis (perforation?) and died four days later.

The abdominal organs shortly before death showed no change from the condition mentioned above, with the exception of the presence of a small degree of ascites.

CASE II.—May 17, 1901. Ignatz F., forty-five years old, merchant, was always well up to three and a half years ago. He has never had syphilis, but was always a heavy smoker, and a moderate drinker. Three and one-quarter years ago he began to complain of stomach pains, irregular bowels and poor appetite. In spite of repeated washing of the stomach, his condition did not improve. Three years ago he came to me complaining principally of a dry cough and digestive disturbances. I was then able to make out a somewhat enlarged liver and a slight swelling of the spleen. I had the opportunity of seeing the patient about twice weekly for some time. The spleen grew visibly; while at first hardly palpable, it increased with such rapidity that in five or six weeks it filled the larger part of the left half of the abdominal cavity. Two and a half years ago he had fever with much cough and dyspnœa. At the same time large furuncles began to appear in various places of his body. A year ago he had another similar attack, lasting nearly a week. One-half year ago, suddenly, while eating supper, he experienced a severe pain in the stomach, vomited and felt very badly. Twelve days later a similar attack developed in the afternoon, but of greater intensity. He was bathed in a cold perspiration, felt cold and thought that he was going to die. A little later, however, he felt better again. Since then he has been free from these attacks up to two weeks ago when he had another. Since his first attack he complains of dizziness, frequently of an annoying cough and sometimes of pains in the legs.

Status præsens: the patient looks well nourished and shows a good healthy color in his cheeks. Color of lips a trifle less red than normal. Tongue only slightly coated. On inspection the submaxillary region reveals a slight protrusion below the inferior maxilla. This, on palpation, is found to be caused by a swelling of the glands. The cervical glands are enlarged, but especially the inguinal glands, which are visible to the eye as prominent masses.

The thoracic organs are found to be normal on physical examination. The area of heart dulness is not enlarged and the heart sounds are clear.

Palpation of the abdomen does not reveal tender spots anywhere. The stomach extends in the linea alba down to the navel, as shown by the splashing sound produced over this region. The organ has been crowded away from its place in the left hypochondrium by the spleen. The latter can be plainly felt in the left half of the abdomen as a somewhat hard elongated tumor with a grooved surface. Its boundaries, as determined above by percussion, below by palpation, are as follows: In the left axillary line splenic dulness begins above the seventh rib and can be followed downward up to a hand's width below the navel. In the whole region, *i. e.* from the left costal margin downward, the spleen may be plainly palpated up to the point indicated. The width of the spleen from below the ribs up to the umbilical line is about 14 to 15 cm., from the umbilicus downward it gradually becomes less and is only 10 cm. at its lower extremity. Its length measured in the mammillary line is 33 cm. The liver is also enlarged and may be traced down to two fingers' breadth below the right costal margin. (Figure 1.) On standing, the abdomen protrudes somewhat in its lower portions; fluid, however, cannot be demonstrated by percussion.

The urine is normal. The principal complaints of the patient at present refer to the intense pains in all bones (legs, arms, back, sacrum, head), especially in the morning on awakening, less during the day on slight exertion. The appetite is not especially good, bowels not very regular. Knee reflexes are present.

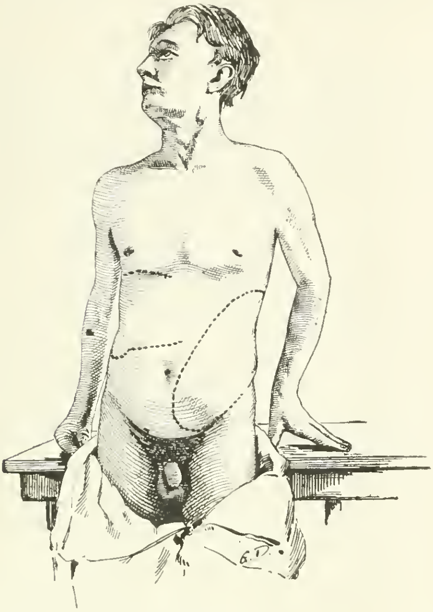

FIGURE 1.—IGNATZ F.
(Photograph, face changed.)

November 21, 1900.—Blood examination shows a diminution of hæmoglobin. Red blood-corpuscles somewhat pale, leucocytes not increased; one normoblast, a few polychromatophile red blood cells.

November 20, 1901.—The patient complains a great deal of a dry cough, headache and pain in the bones on awakening. Appetite is not bad, bowels constipated.

Status præsens: spleen extends down to within three fingers' width of the os pubis, filling the left half of the abdominal cavity to within two fingers' breadth of the linea alba. In the thorax splenic dulness begins at the seventh rib. The surface of the spleen feels somewhat hard and uneven. In some places slight protuberances can be felt. The liver reaches about two fingers' width below the right costal margin. The inguinal and cervical glands have not changed much since their condition was observed the last time. Knee reflexes are present. All the bones are sensitive to pressure. Pulse, 80; temperature, 98°F. (Patient says he had fever last night).

Blood examination: Hæmoglobin, 72 per cent.; red blood cells, 4,110,000; white blood cells, 6,300

A differential count of the leucocytes gives the following result:

Polymorphonuclear	37	per cent.
Small lymphocytes	37	"
Large lymphocytes	20	"
Mononuclears	2	"
Eosinophiles	2	"
Myelocytes	2	"

November 10, 1901.—The submaxillary glands are a trifle larger and several of the cervical glands' especially on the left side, stand out more prominently. The axillary glands, also seem to be somewhat larger, otherwise there is no material change in the condition of the patient. He now principally complains of pain in the limbs, dry cough and rapid fatigue either at his occupation or when walking. He can walk only four to five blocks. He complains of a feeling of heat in the head. Pulse, 84, regular, somewhat small; temperature, 97.2° (mouth). Urine negative, specific gravity 1011. Stomach contents (one and one-half hours after test breakfast) show only a trace of HCl (Toepfer) after diluting it twice.

CASE III.—July 9, 1901. Morris F., thirty-two years old, merchant, had malaria about eleven years ago while in the South; three years later he had another attack. Six to seven years ago he began to suffer from constipation. His appetite remained good. Gradually the constipation grew worse; he began to complain of headache, suffered from sleeplessness caused by shortness of breath and palpitation of the heart. In the last six weeks he has lost eight pounds. If he eats much he has a bloated feeling and must put his finger in his throat in order to relieve himself by vomiting.

Status præsens: between the ensiform process and the navel a protuberance is visible, beginning about one inch below the ensiform process and terminating about two to three fingers' width above the navel. Palpation shows that the mass is continuous with the liver. The dulness of this organ begins in the right thoracic cavity at the upper border of the eighth rib. The liver extends toward the left nearly to the mammillary line. The spleen can be felt plainly as an elongated flat mass in the mammillary line and somewhat to the left of it, extending to four fingers' width beyond the free costal margin (Figure 2.) In the axillary line the

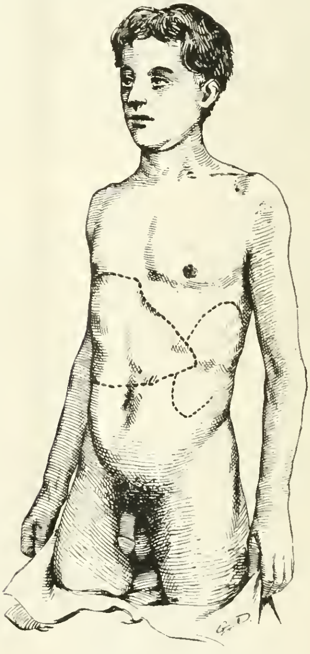

FIGURE 2.—MORRIS F.
(Photograph, face changed.)

splenic dulness can be demonstrated by percussion from the eighth rib downward. In the right inguinal region there is a tumefaction caused by enlargement of the glands. The cervical glands are also considerably swollen. Urine is negative.

Blood examination: Hæmoglobin, 83 per cent.; red blood cells. 5,045,000; white blood cells, 6,600.

Polymorphonuclear	69	per cent.
Small lymphocytes	19	"
Large lymphocytes	7	"
Mononuclear	1	"
Eosinophiles	4	"

Examination of the stomach contents, one hour after test breakfast showed presence of HCl., and total acidity=40.

December 12, 1901.—Spleen 25 cm. long, 13 cm. broad. Submaxillary, cervical and inguinal glands swollen. He has never had a chancre.

Examination one hour after test breakfast shows: HCl=O, reaction hardly acid. Particles of roll coarse, no fluid.

CASE IV.—November 3, 1901. Meyer N., fifty-two years old, merchant, has always been well until eleven weeks ago, when he noticed that the glands in his right inguinal region were swollen. He had severe diarrhœa at the same time, lasting several weeks and complained of tension in the abdomen. He was feeling very weak, and complained of vertigo. A tendency to diarrhœa remained. He has not lost in weight. He sleeps well, but his appetite is not especially good. He complains of some cough. Lately his wife found that his face was somewhat swollen in the morning.

Status præsens: submaxillary glands on both sides swollen, also cervical and supraclavicular glands. On the right as well as on the left side of the neck a gland of about the size of a hazelnut can be felt. The axillary glands are much swollen, about the size of a goose's egg. The inguinal glands on both sides are also enlarged, each bunch being somewhat larger than a hen's egg. Area of cardiac dulness is not enlarged. The patient had a severe cough several weeks ago, which has disappeared, and his thoracic organs are normal. Color of lips and cheeks is pale. The spleen is much enlarged; it can be palpated two fingers' width below the left margin of the ribs, and feels a little harder than normal, without, however, showing any nodosities. Splenic dulness above commences somewhat higher than normally. The liver in the right mammillary line extends three to four fingers' width below the costal margin, and feels harder than normal, without any nodules. Hepatic dulness begins in the thorax at the sixth rib. In the abdomen above the left inguinal region there is a bunch of glands larger than a hen's egg; on the right side only small glands of the size of a hazelnut can be felt. Knee reflexes normal, tongue slightly coated; urine negative, specific gravity, 1,009.

Blood examination: September 30, 1901, Hæmoglobin. 76 per cent., red blood cells, 4,750,000; white blood cells, 7,300.

	IX. 30 = 01.		XI. 3 = 01.	
Polymorphonuclear	46	per cent.	58.6	per cent.
Small lymphocytes	22	"	18.4	"
Large lymphocytes	8	"	5	"
Mononuclear	8	"	5	"
Eosinophiles	10	"	12.4	"
Mastcellen	6	"	6	"

Examination of the stomach after breakfast shows the presence of free HCl.

Although I have observed four other cases of probable Hodgkin's disease, I will not enter into details, but will only say that in two the spleen, liver and glands were swollen, without, however, attaining any specially large size; that in the other two there were lymphomata (in one patient only on the right side of the neck; in another in the axillæ and elbows) without splenic or hepatic enlargement. In this paper it has been my object to discuss more particularly those cases of Hodgkin's disease characterized by splenic and hepatic enlargement, and which particularly resemble leukæmia.

CASES OF LYMPHATIC LEUKÆMIA.

CASE I.*—November 20, 1899. Jennie B., nine years old, was born at eight months. The patient was always quite healthy up to several months ago when she became weak. She has lately been suffering from diarrhœa, for which she was brought to me.

Status præsens: Patient does not look particularly pale. Thoracic organs intact. Inspection shows a considerable enlargement of the abdomen, and palpation reveals the presence of a rather large splenic tumor, filling the upper part of the left half of the abdominal cavity. It is of rather firm consistency. The liver is enlarged and extends nearly two fingers' width below the margin of the ribs in the right mammillary line. The cervical and inguinal glands are swollen. The blood, taken from the finger, looks pale. Microscopically, it shows the features of lymphatic leukæmia. The estimation of the number of red and white blood cells was made from the stained specimen after a method soon to be published by Dr. Laporte and myself, and gave the following results: red blood cells, 3,360,000; white blood cells, 389,000. The relation of the white to the red is about as 1 : 8. A differential count of the white cells shows:

Polymorphonuclear	1	per cent.
Small lymphocytes	48.7	"
Large lymphocytes	49	"
Mononuclear	1.3	"

CASE II.—October 23, 1901. Mrs. Paula K., fifty-two years old, has complained for the last four months of a great deal of pain in the stomach and of diarrhœa. The patient has lost in weight and feels quite weak. Cough has been present for three months; it is dry and not accompanied by expectoration. She sleeps well. Patient now chiefly complains of pains in the abdomen and weakness.

Status præsens: Patient looks pale. The lips are of a light red color. On both sides of the throat, directly under the jaw, small protuberances of about the size of a pigeon's egg are visible. The supraclavicular region shows on the left side several glandular swellings. In the axilla on both sides there are also tumors, but of larger dimensions (size of hen's egg). In the inguinal region on both sides several round bunches of glands are visible. On palpation the spleen is found to be much enlarged. It begins in the thorax on the left side in its normal place, as can be demonstrated by percussion; it extends downward to about three fingers' width below the navel, filling the left part of the abdominal cavity to within three fingers' breadth of the linea alba (Fig. 3). On palpation the spleen feels rather hard, giving the impression of an uneven surface without any distinct nodules. The stomach extends down to the navel, as can be demonstrated by the splashing sound. The liver is enlarged and reaches, in the right mammillary line, three fingers' width below the costal margin. Knee reflexes are present.

Thoracic examination: slight dulness on the left side, no râles; somewhat diminished breathing;

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*This case was presented by me at a meeting of the German Medical Society of New York, December 4, 1899.

heart sounds normal. Pulse, 80; temperature, 98.5°F.

Blood examination: hæmoglobin, 68 per cent.; red blood cells, 4,850,000; white blood cells, 152,000.

Polymorphonuclear	5.6	per cent.
Small lymphocytes	90	"
Large lymphocytes	2.8	"
Mononculear	0.6	"
Eosinophiles	0.6	"
Myelocites	0.2	"
Mastcellen	0.2	"

W: R = I: 32

EPICRISIS.

All four cases described as Hodgkin's disease were characterized by a large spleen, a moderate swelling of the liver, and enlargement of the glands. The last symptom was most pronounced in patient M. N. (Case IV.); in two of the patients (Cases II., III.) it was moderate, whereas in one case (Case I.) it was very slight.

Regarding diagnosis, there was no doubt that we had to deal with pseudoleukæmia or Hodgkin's disease. The tumor of the spleen alone (its long persistence, without involving other organs, its more or less hard consistency) and the result of the examination of the blood would be sufficient to establish the diagnosis. Besides we had swelling of the liver and glands and a protracted course of the disease.

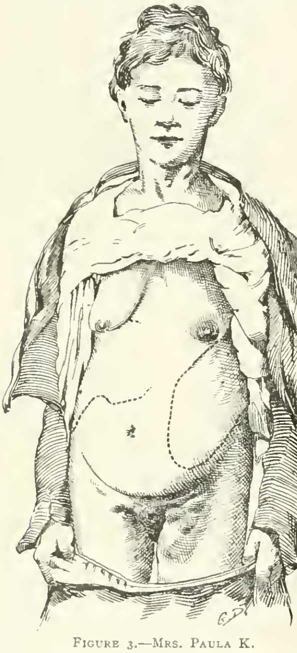

FIGURE 3.—MRS. PAULA K.
(Photograph, face changed.)

In three of these cases the stomach secretion has been examined; in two I always found a fairly normal secretion; HCl. present and the acidity varying between 40 and 50; in one case (Case III.) HCl. was present once; another time it was absent.

The intestinal functions were sluggish in two patients, and normal in one; in the fourth, however, diarrhœa was frequent. In two patients (I. F. and M. N.) an irritating dry cough was present, which is to be explained as being due in all probability to pressure of the mediastinal glands upon the bronchi. Fever was also noticed from time to time in two of the cases (I. F. and M. N.).

The two observations sketched under lymphatic leukæmia also hardly admit of any doubt in the diagnosis. Here, of course, the result of the blood examination was essential; added to this were the other characteristic symptoms. In one case (Paula K.) there was also cough present.

If we compare the cases of Hodgkin's disease described above with those of lymphatic leukæmia, we will find great points of resemblance between them. Especially marked is this in the case of M. N. (Hodgkin's disease) and the case of P. K. (lymphatic leukæmia). In both the symptoms of the disease were the same; the glandular swellings equally marked. Patient, M. N., really looks much paler than P. K., and yet we have to deal with leukæmia in the latter. The only difference lies in the blood. In the one the proportion of white to red is as 1 : 650, in the other as 1 : 32. The majority of white blood cells in case P. K. consists of lymphocytes, in Case M. N., however, the proportion of lymphocites to the other white blood cells is not above normal. In all the other cases of Hodgkin's disease the number of lymphocytes was not much increased. Only one case (I. F.) was an exception: here there was a slight increase of lymphocytes.

The difference in the condition of the blood seems to be great enough to enable us to separate the cases of Hodgkin's disease or pseudoleukæmia from those of true leukæmia, especially lymphatic leukæmia.

The opinion, formulated by Pinkus and others, that in pseudoleukæmia the relative number of lymphocytes to the other white blood cells must be increased, does not seem to me to be wholly in unison with my cases.

How is it that in spite of enlargement of the lymph glands the lymphocytes are not increased? As is well known, the lymph glands are looked upon as places of origin of the lymphocytes, and we would, naturally, expect an increase in them if we find the glands hypertrophied.

It is difficult to answer this question definitely. Just as in other glandular organs, when normal or even hypertrophied, there is sometimes diminished or totally arrested glandular activity (as, for instance, in the stomach), most, probably, due to nervous disturbances; so in the lymph glands there may be hypertrophy and yet no increased production of lymphocytes. We may, perhaps, assume that in consequence of the disease the energy of the lymph glands is expended upon their own development, and thus there is no increased formation of lymphocytes, to enter the blood.

Permit me to refer here, briefly, to the prognosis and treatment of the two conditions under discussion.

Prognosis.—The prognosis of lymphatic leukæmia, as well as of Hodgkin's disease, is decidedly bad. Both diseases end fatally; whereas, however, cases of Hodgkin's disease may extend over many years (four, five or more), chronic lymphatic leukæmia nearly always takes a more rapid course.

Treatment.—The therapy of both diseases is the same. We must pay attention to a suitable diet and a hygienic mode of life. The medicinal treatment is also of importance.

Regarding diet, large quantities of food must not be given at one time, and the food selected should be of a nature to leave little residue after digestion. This is done in order to prevent over-distention of the stomach or intestines. It will be best, therefore, to give about five meals a day, consisting principally of eggs, milk, gruels, some meat, little bread, much butter, and jellies. It is self-understood that in cases where the disease is not far advanced light vegetables and fruits, in small quantities, may be permitted.

Regarding hygiene, the patient ought to live in the the country, and much in the open air. Cold ablutions of the body, with subsequent brisk rubbing of the skin, will be of benefit.

Medicinally, arsenic occupies the first place; it acts almost as a specific, although complete cures are not obtained even under its use.

I usually prescribe simply Fowler's solution, starting with two to three drops three times daily and gradually increasing to ten or more, or we may give

℞	Acid arsenios	0.3
	Sodii. carbon	1.0
	Pulv. rad. liq	
	Succ liq	āā 5.0
	Glycerin	gtt. 11

F. Pil. N. 100. 2 to 6 pills daily.

Sodium cacodylate alone or in connection with iron has been of good service to me. I usually give:

℞	Sodii cacodyl	0.05
	Ferratin	0.5
	D. in caps. gelat. opert. t. d.	N. XX.

S: One capsule three times a day after meals.

Arsenic may also be used subcutaneously. Köbner[24] recommends the following mixture:

℞	Sodii. arsenios	0.1
	Cocain. mur.	0.03
	Aq. bis. dest	ad 10.0

M. D. Sterilisa,
0.5—2.0 to be injected daily.

Methylen blue, in doses of three or four grains, in gelatinous capsules, daily, may also be tried for a period of a few weeks. In some cases it seems to exert a temporary beneficial influence.

Recently, Pusey[25] found the action of the *x*-rays useful in diminishing the glandular swellings. I have myself had no experience with regard to the value of this agent in either Hodgkin's disease or lymphatic leukæmia. It certainly appears worthy of a trial.

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THE TREATMENT OF PULMONARY INVALIDS IN FAVORABLE CLIMATES.

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THERE has been a great deal said and written recently about the treatment of the tuberculous in so-called unfavorable climates; so much, in fact, that it is to be feared that the legitimate claims of a favorable climatic environment may be neglected. A point which I have sought in previous articles to impress is that, other things being equal, a pulmonary invalid has a much better prospect of recovery in a favorable climate. What is meant by the phrase "other things being equal" requires brief explanation. If, in the so-called arid region of the United States, a patient cannot receive as good care as at home, he should remain at home. Much unmerited reproach has been put upon the climate of this region because patients have been sent there insufficiently supplied with money, and, in consequence, subjected to hardships incompatible with recovery. As a result, I believe, of an imperfect understanding of conditions in the southwest, as well as of the requirements of the tuberculous invalid, patients are too frequently advised to go to the arid region who should never have been sent away from home. This is an expensive country in which to live. Supplies of all kinds come great distances and are correspondingly high in price. Opportunities for light employment, such as might be suitable for a consumptive, are practically absent. As the result of my experience with the invalid having an insufficient supply of money, I am convinced that great care should be exercised to prevent such people from going to a strange country, far from home. The result is almost always a dissappointment to the individual, and, occasionally, sad indeed. One hundred dollars per month, at least for the first year, is none too much.

Patients are commonly directed to go to El Paso, Silver City, or somewhere else, and "rough it," and keep away from physicians. In the minds of many physicians there seems to be an inbred prejudice in favor of "roughing it," yet nothing has been more clearly demonstrated than the need of rest and creature comforts for the tuberculous invalid. In avoiding physicians, as many patients do, they forfeit the privilege of learning what to do and what not to do. The majority of physicians throughout the arid region are themselves recovered "lungers," and, if they know nothing else understand the management of the tuberculous. Thus the patient, upon reaching the objective point, should seek a good physician and put himself absolutely into the hands of the doctor. Apart from professional services, *per se*, he will come into contact with an educated man, doubtless thoroughly familiar with the local conditions, who can aid in the problem presented by adaptation of means to ends. Under such conditions the patient is prepared to reap the benefit of a really ideal climate. And, let me repeat, the influence of a favorable climate in the treatment of the tuberculous has never been overestimated. It may be truly said that, of recent years, it has been rather the other way. In such a climate, when there is trust and obedience on the part of the patient, the treatment of the tuberculous becomes an actual pleasure, for, in incipient and afebrile cases, a clinical cure is practically certain; and, in those complicated by mixed infection, arrest and amelioration, if not cure, are frequently observed results.

The frame of mind exhibited by a patient is not, by any means, the least important element presented. In our institution here an effort is made to keep the tone one of cheerful hopefulness. In fact, the patients themselves resent any tendency upon the part of a newcomer to look upon the dark side of things. So important do I consider the psychic status in any given case that, if a patient persists in a pessimistic viewpoint, occasion is taken to have a talk, the purport of which is that "it might be better to go somewhere else." For without the cooperation of our patients, "in spirit and in truth," there is so little to be gained that the "game is hardly worth the candle." The psychic element in the treatment of the tuberculous is well illustrated by conditions at the Government Sanatorium at Fort Bayard. Patients are ordered there for treatment—the opportunity to get well is not sought, it is thrust upon them. The régime at Fort Bayard, from a scientific viewpoint, is above criticism, nevertheless, because the patients belong to a class who do not appreciate anything forced upon them, no matter how good the psychic state opposing rather than favoring recovery—the results will never be comparable to those obtained in an institution where the opposite state of mind prevails. In spite of this great disadvantage, the patients who have really appreciated the opportunity have been sufficiently numerous to demonstrate beyond cavil the superlative advantage of a favorable climatic environment in the application of the principles of modern phthisio-therapeutics.

What, in a practical sense, constitutes an ideal climate is always an interesting question, and one which may here be briefly discussed with profit. To my mind, the one absolute essential in a climate for the tuberculous invalid is such an average condition of weather and temperature as will enable him to remain *comfortably* out of doors the whole year round. Every other climatic feature is of secondary importance. Dryness, and its corollary, cloudless skies, deserve the next place. True, the *modus operandi* of a dry atmosphere is not fully understood, and the function of dryness rests partly, at least, upon empiric grounds; nevertheless, it is of established value. The explanation may be found in the fact that in a dry atmosphere patients are less susceptible to changes in temperature. It is well understood that the capacity of the air for retaining heat depends upon the amount of moisture it contains. This is exemplified by the suddenness with which it becomes cold in a dry region, as soon as the influence of the sun is removed, and with which it becomes warm as soon as the sun reappears. Thus, our nights are always really cold, and our days warm, even in winter. As all know, maximum dryness and sunshine are exceedingly inimical to bacterial life of all kinds and doubtless on this account play an important rôle in the treatment of both tuberculosis and phthisis, and, further, account for the fact that pure tuberculosis rarely becomes complicated by mixed infections in a climate presenting these features. It is a fact that regions characterized by dryness and unclouded skies are, in general, very healthful, which is illustrated by the hardiness of the native population of the southwest. The Mexicans are proverbially filthy, and, under less favorable climatic conditions, the death rate among them would doubtless be very high. It is an incontrovertible fact that the natives of the "arid zone" of the United States are practically free from tuberculosis. I have never observed a case. At Denver, Col., subtracting the alien tuberculosis, the death-rate is lower for this disease than in any other city of equal size in the world.

The characteristics of climate, which militate so strongly against bacterial life in general, doubtless explain why patients are so free from intercurrent affections—from colds to pneumonia. The records of the United States Sanatorium at Fort Bayard show that the patients there are practically free from such diseases. Of course, carefully regulated sanatorium life has much to do with the absence of intercurrent illnesses, but that alone, hardly serves to explain their almost complete absence. A region relatively free from the bacterial cause of disease should receive a goodly portion of the credit. For this, if for no other reason, it seems to me physicians are justified in sending their patients to such a climate; for it is manifestly to the advantage of the patient to be free from exposure to such affections as colds and influenza, if from nothing else. Tuberculous reinfection is hardly ever observed among our patients. The sunlight and the dryness of the atmosphere which kill other organisms are none the less fatal to the bacillus tuberculosis, and thus lessen the opportunity for reinfection.

Continued residence in a high climate usually causes emphysema, of varying degrees, even in persons who are apparently well, and in this lies the *raison d'être* for sending the tuberculous to regions affording this feature. In almost every favorable case emphysema becomes a factor within a very short time. An exaggerated percussion note is common even among healthy natives. Emphysema, in my opinion, directly blocks the progress of the tuberculous lesion. By resting the lungs, which it undoubtedly does, it is a truly conservative process and fulfills a most important therapeutic indication, common, not alone to this disease, but to the whole practice of modern medicine. I am aware that this doctrine is somewhat opposed to current opinion, but I am unable to interpret the action of empysema in any other way. Knopf of New York has demonstrated anew the usefulness of the pneumatic cabinet in hæmoptysis. A high climate, by lowering circulatory tension, and thus lessening pressure at the bleeding point, acts in practically the same way. Altitude both ameliorates and prevents pulmonary hemorrhages. At Fort Bayard (altitude, 6,040 feet) the records of the institution show the infrequency of hemorrhage and the mildness of its character when it does occur.

The effect of altitude upon the blood has been curiously misinterpreted, and, only recently, has become better understood. Much stress has been laid upon the sudden rise in erythrocytes which follows a change from a low to a high altitude. I have often recorded an erythrocyte count of 7.500 000 in a patient presenting the unmistakable clinical evidences of anæmia. This is now understood to be entirely a capillary phenomenon, and by no means indicates an actual increase in red cells.

Many writers furnish a long list of diseases in which the patient is said to be injuriously affected by high altitudes. As a result of a rather extensive experience, I believe that the contraindications of altitude have been much exaggerated. I would not send a patient to a high climate who had all he could do to keep alive from day to day in a low one; for altitude entails increasing passive exercise as one goes higher. Recent experiments have shown that oxygen absorption and carbonic acid gas elimination are increased directly in proportion to the altitude. Practically, advanced and febrile cases should not be sent to mountainous regions. As a rule, such patients do well nowhere, and I have known instances in which patients in advanced stages have died immediately on going to a high altitude. The statistics of the institution at Fort Bayard have exploded the teaching that hemorrhagic types should not be sent to high altitudes; in fact, have proved the contrary to be true; that high climates are especially adapted to this class.

As regards laryngeal cases, they are among the least favorable anywhere, and my opinion is that they do equally as well in high, dry localities as in low, moist ones. I have in mind several instances in which the patients are still alive after several years in high altitudes, and one in which complete recovery occurred after total destruction of the vocal cords. With the exception of advanced febrile cases, in which the extra work entailed by a residence in a high altitude is unquestionably inimical, all rules for sending patients to high climates fall to pieces. I have under observation, at present, a case complicated by severe mitral insufficiency, with imperfect compensation, as well as by a perirectal abscess, in which the improvement is little short of remarkable. One case, of course, is not sufficient to break an idol, but it is by no means the only one I have in mind. This patient does well, in spite of the classic teaching which would place his case in the list in which high altitude is contraindicated.

To sum up the features of an ideal climate, we may say that it should be warm enough to permit comfortable outdoor life all the year round, yet never so warm as to enervate. The atmosphere should be dry and the weather characterized by a maximum number of bright, sunshiny days. The altitude should be from 5,000 to 7,000 feet.

Where such a climate may be found is a question easy to answer in the United States. Portions of western Texas, eastern Colorado, New Mexico, and Arizona afford any modification of dry mountain climate that may be desired. Each place in the States and territories named has its particular climatic feature worthy of note: for instance, there is El Paso, with its glorious winters and enervating summer heat, and Colorado Springs, with truly perfect summers and somewhat too cold winters. Or the Silver city region, which, with an unsurpassed combination of climatic features, has the disadvantage of limited transportation facilities, and, in comparison with the other places mentioned, is unattractive indeed. In choosing a site for a sanatorium, I endeavored to find a region which embraced all the best features of a dry mountain climate, one which, taken the year round, would permit patients to remain out of doors with comfort and safety.

In selecting the Silver City region I was obliged to sacrifice many things which make other places attractive, but I am sure of the climate, which after all, is what people are sent west for. There are many places just as good, but most of them, in the present state of transportation facilities, are not so accessible to the pulmonary invalid. Speaking broadly, one can hardly make a mistake, as regards climate, in sending patients to any of the states or territories named. The patients themselves will usually drift to the particular spot that best suits them.

The mean annual temperature for the Silver City region is 54°F.; dew point, 29; relative humidity, 46, absolute humidity, 1.71 grains; rainfall, 12.3 inches; cloudy days, thirty-seven. These figures convey very little to the uninitiated in climatic lore, but, interpreted, mean that the region is characterized by warm winters—the result of the latitude, that of Savannah, Ga., and cool summers—caused by the altitude of 6,000 feet. The almost complete aridity of the region furnishes the best testimony as to the dryness of the atmosphere.

In a climate such as that just described the course of both pulmonary tuberculosis and phthisis is unquestionably modified for the better, even in the severe types of cases. Hemorrhages are infrequent and mild in character, even when they occur. Fifty per cent. of all cases are febrile upon arrival, but, as a rule, only a short rest is required to bring the temperature down to either normal or approximately so. But 14 per cent. are permanently febrile, and these are true cases of phithsis, in advanced stages. In them the daily maximum temperature is lower than in the same class in unfavorable climates, viz., 101°F. Night sweats are entirely confined to the febrile or mixed infection type, and, even among them, are infrequent and amenable to treatment. The diarrhœa of phthisis is practically unknown.

With an ideal climatic environment as a powerful therapeutic adjunct, the treatment of pulmonary tuberculosis becomes a matter of great simplicity. The principles which are now almost universally classic among phthisio-therapeutics—of constant rest in the open air, with forced nitrogenous feeding—should be applied as perfectly as possible, and the main usefulness of the physician lies in conveying to his patient a sympathetic cooperation in the application of these principles.

In the absence of specific medication of proved value, all attempts along this line are, in my opinion, both useless and unjustifiable. Medication consists of the intelligent application of drugs, for the purpose of alleviating symptoms and regulating functions. It is the business of the physician to take advantage of every point in the fight for health and life.

Cough, which does not accomplish expectoration, should be stopped by the use of codeine, which has proved itself, in my hands, to be the least harmful and most efficient of the series. To liquify viscid sputum, the use of carbonate of guaiacol, thiocoll and syrup of hypophosphites is often attended with happy results. A few days' rest in bed and small repeated doses of aromatic sulphuric acid are usually all that is required to control night sweats. For fever absolute rest is the only remedy that has proved efficient in my experience. Constipation, which is quite common among our patients, due, I believe, to the character of the drinking water, is best relieved by a saline before breakfast. Diarrhœa, which I have mentioned as extremely infrequent, yields perfectly within a few days if the diet is carefully regulated. Mild counter irrigation is usually sufficient to control pleurodynia. True pleurisy, in the majority of cases, is met by rest in bed and strapping of the chest. I have often been surprised by the quickness of the relief afforded in obstinate cases by an application of sterilized clay with antiseptics and glycerin. Anæmia, which is almost always present in newcomers, will correct itself in time, but the use of the various combinations of peptone, with manganese and iron, is usually attended by the acceleration of the return to a normal hæmoglobin index. The tendency to vomit after eating is often relieved by spraying the pharnyx with a 5 per cent. solution of antipyrine before meals, thus removing an excessive irritability, or, if vomiting still continues, it will be necessary to resort to measures directed to keeping the walls of the stomach clean, such as lavage or teaspoonful doses of phosphate of soda, dissolved in a glass of hot water, and taken half an hour before breakfast.

Anorexia usually disappears under forced feeding. The more work the stomach is called on to do, the more it will do, of course, within limits, and the amount of good food which can be handled is often surprising. I direct my patients to eat all they can, whether they want it or not, often bringing to bear the whole intellectual strength to the solution of the problem presented by an ordinary meal, and when it is impossible to eat more solid food, to swallow as much milk as possible. If they simply cannot eat, I direct that they receive the food as medicine, in small doses, at frequent intervals, and to accomplish this, it is sometimes necessary to fall back upon a liquid diet—principally milk

Faulty digestion is not often an element in a case. If patients can only be persuaded or made to take the necessary amount of food, they will usually digest it properly. In cases in which the digestion requires aid, lavage and dilute hydrochloric acid commonly meet the requirements, or, if the digestive fault is intestinal, taka-diastase is a powerful remedy. There is no drug that directly controls hæmoptysis, the new preparation, adrenalin having failed in my hands. Absolute rest, liquid diet and morphine, hypodermically, usually meet all requirements. In very severe hemorrhages, of which out of several hundred cases I have observed but two or three of this type; hypodermocylsis and tying off of the extremities are direct life-saving measures.

The principle of forced nitrogenous feeding, which underlies all dietetic measures, is a sheet-anchor in phthisio-therapeutics. Not only is it rational, but the results attending its application have been brilliant. Animals which feed extensively upon a meat diet are the least susceptible to tuberculosis—in fact, practically immune, the opposite being true of the herbivora. Among men, those whose daily diet is characterized by a preponderance of meat are relatively immune to tuberculosis. This is especially illustrated by the gouty, who, as we know, rarely contract tuberculosis. Therefore, we have every right to deduce the law that nitrogenous feeding is directly opposed to tuberculosis, and, in consequence, meat, milk and eggs form the rational basis of the consumptive's diet.

Alcohol, about the use of which in tuberculosis so much has been said and written, I believe to be fraught with greater danger to the patient than is justified by its questionable usefulness.

Gentle exercise, short of the point of fatigue, is always indicated in afebrile cases. On the other hand, exercise is absolutely contraindicated in any case in which the temperature is the least elevated.

What constitutes cure in pulmonary tuberculosis is an interesting question, and one which, I believe, cannot be answered, except in a relative sense. I have a firm conviction, however, that if a patient could be kept under proper conditions long enough the cure would be, to all practical intents and purposes, perfect. That one contracts tuberculosis at all is a fair evidence of an underlying constitutional defect—a weakness which implies susceptibility. If such defect be eradicated, it is accomplished only by years of carefully regulated living. This, to my mind, accounts, to a large extent, for the frequent relapses which occur in cases of patients returning east and being again subjected to the environment which originally caused the breakdown. Relapses are also partly accounted for by the fact that, no matter how perfect the cure may apparently be, there may still persist in the lung a tuberculosis deposit, which, at some future time, is capable of causing trouble. I formerly held that in the tuberculin test we had a perfect or relatively perfect criterion of cure. Even though convinced that the application of this test in men is justifiable, which I am not, I should still be obliged to doubt its efficiency; for I have seen a patient receive maximum doses of tuberculin without reaction, in whose sputum, within two weeks, bacilli tuberculosis were constantly present.

Clinically, when a patient has reached his average health and weight, and the bacilli have disappeared from the sputum, the patient is, for all practical purposes, cured. This by no means implies that a patient may return east with impunity, for my experience is all against leaving the climatic environment in which recovery has occurred. The rational thing to do is to make a new home in a new country.

As a matter of fact, we are often forced to let patients go out for themselves long before the bacillus disappears from the sputum. Actual necessity of earning one's living is the most frequently experienced cause of this, and, of course, one in the face of which both patient and physician are helpless. Under such conditions, even with the utmost possible circumspection as regards daily life, a cure is postponed, sometimes indefinitely. In a region where tuberculosis is not prone to develop into phthisis this is of relative unimportance. I know of several cases in which bacilli have been present ever since they have been known to science, and, during all these years, the patients have been doing hard work with no apparent detriment to general health. One can never tell beforehand how long it will be before bacilli will disappear from the sputum in any given case. I have seen cases in which an extensive lesion cleared within a few months; and, again, cases in which a small lesion remained absolutely unchanged during a number of years. Of one thing I am sure, and that is that the more perfect the application of the principles of rest in the open air and nitrogenous feeding, the shorter this period will be.

As regards the question of sanatorium *versus* home treatment, my experience is all in favor of the former. The success of home treatment depends entirely upon how completely it may be made to resemble that of the sanatorium. The conversion of a home into a sanatorium may be accomplished, under exceptional conditions, but only at greatly increased expense and by making every one about the house more or less uncomfortable. The sanatorium management has a definite purpose—to get patients well in the shortest possible time. Everything is conducted with that result in view. In a home, the proper conditions must first be created and then maintained, all at great expense and trouble to everyone concerned, and it is my experience that, after everything possible has been done, patients are rarely properly managed at home. There is always something going on which tempts a patient to do what he should not, which interferes with sleep, diet, and that perfect regularity so essential to recovery. The sanatorium is dominated by the spirit of getting people well. As all are managed alike, there is no incentive to commit indiscretions. If everyone goes to bed at nine o'clock there is no tempta- to remain up later. A rule of life which becomes irksome in the extreme, outside a sanatorium, is accepted without demur in a properly managed institution. Then, again, the complete breaking away from cares and trials, which, in the first instance have contributed to the loss of health, is not among the least of the advantages of sanatorium life.

What the consumptive should do when he recovers is a question which appeals directly to me, for it is one which I am frequently called upon to aid in solving. I am sure that the late pulmonary invalid should always live less strenuously than the majority of his fellowmen. The principles which contribute to recovery should, to a certain extent, dominate his after life, and should be modified only in so far as is essential in the adaptation to the problem of self-support. In aiding the consumptive to get well, we return him, as it were, to primitive conditions; we convert him into a meat-eating, out-of-door animal, and, in so far as is possible, such conditions should be maintained.

To remain in the country and climate which has helped to give one health is certainly a rational thing to do. It is recovered "lungers," like myself, who have thought and acted as I have indicated, who constitute so very largely the white population of the arid zone.

GYNECOLOGICAL ELECTROTHERAPEUTICS.

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"PREJUDICE dies hard," says an old proverb. Every idea, every method encounters at its beginning convinced partisans and ardent opponents. Every therapeutical innovation that runs counter to prejudices and interests meets with opposition. Electricity has shared the same fate. Electricity, in any form, when applied to the cure of diseases, is set down as pure quackery by many medical men before it has had a fair trial at their hands. In nervous diseases, in which surgery is impotent, some place was acceded to electrical treatment, but in the rapid strides which gynecological surgery has recently made, electricity has taken but a small part. Here it is lauded as a curative agent by some, derided and denounced by others, and looked upon with indifference by the mass of the profession. Yet the gynecologist has continually to deal with the intimate relation of the nervous system with the genital sphere, and electricity celebrates its triumphs mainly in its relation to muscle and nerves. It ought, therefore, to have an honorable place in gynecological treatment. Yet surgery overshadows this slower method, and many a gynecologist acknowledges nothing but the knife as the savior of womankind. The operative craze has gone on growing and growing up to the present day, until it has become a very serious matter for a woman to consult a gynecologist, for fear that the verdict may be "out with your ovaries and uterus." Women are daily put under the perils of castration and hysterectomy, and the abdomen of every woman having an undue sensitiveness of the adnexa is opened either for exploration or castration. The exploits of laparatomists have given a new character of boldness to abdominal surgery, yet surgery does not always cure, and should frequently be set aside for a safer measure. We are bound by professional morality to make trials of every system of treatment in every case before we recommend mutilation. The patient should first have the benefit of an electrical treatment, which statistics have shown to be of great value in many genital diseases. We should give to this method of treatment a proper and thorough trial before rushing the afflicted patient to the operating room, there to undergo the dangers of the knife. We must protest against indiscriminate and needless operations, and should not continue to hold electrical treatment in abeyance.

To be sure, the physician who wishes to apply electricity in the treatment of his patients not only should be well-versed in the general science of electricity, but should also know the effect the electric current has upon organic matter.

The varying qualities of the electric current as applied to inorganic matter are best known. The physical effects are, in the first place, the transfer of substances from one pole to the other—oxygen is generated at the positive pole and hydrogen at the negative pole—then the regulation of endosmose and exosmose, and finally the production of heat, which is proportional to the resistance[1] and the square of intensity[2] $Q = E \times I$. Similar are the effects of the current traversing animal tissue. The positive pole attracts the acids, and is therefore coagulating, styptic, caustic and hemostatic; the negative pole attracts the alkalies and is liquefying, electrolytic, and, in a certain degree, caustic.

The anatomical examination of the interpolar tissues traversed by an intense current of electricity shows evidence of molecular disintegration. The current interferes with the nutrition, the vessels shrink, the form changes, and the substance contracts. An excess of temperature of about 50°C is generated at the positive pole by a current of 200-250 milliampères. The heart of a dog was exposed to a current of 40 M., and it was found that in the part from the direct line of the current the striæ had become granular, in the other part the muscle cells remained unchanged.

The physiological effects of the electric current take place only by virtue of the vital properties of the body through its action on the nerve supply, influence upon the circulation, secretory and excretory processes, and the acceleration of the absorption of morbid products. Hence, when the current passes through living tissues the interpolar action of the positive pole is, by contracting the capillaries, anodyne, sedative, anticonsestive, denutritive, and antihemorrhagic, the interpolar action of the negative pole is, by increasing the blood supply, stimulating, consestive, derivative, and alterative, favoring absorption. No animal tissue whatever, says Althus, can resist the disintegrating effect of the negative pole, and the form and rapidity wherewith this disintegration is brought about are directly proportional to the electro-motive force which is employed, and to the softness and vascularity of the structures acted upon. The action of the negative pole is a double one. The negative electrolytic decomposition of animal substance or liquids gives rise to an evolution of bubbles of hydrogen that mechanically affect the tissue near the pole by insinuating themselves between the structural elements and driving their fibers asunder. This is a point established by microscopical observation. The second effect is a chemical one caused by the alkalis. Soda, potash, lime with hydrogen, are liberated by decomposition of the animal matter and go to the negative pole. The polarization that takes place in the organic tissue when the continued current passes through the animal body not only acts primarily but also has an after effect. The acids having gathered at the point of the entry of the current and the bases at the point of exit, the negative eschars are, therefore, softer and moister. Thus the physical and physiological polar and intrapolar properties of the galvanic current are as follows:

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[1] Ohm is the resistance offered to an electric current by a column of mercury 1.06 meter long to 1 millimeter square. Volt is the electromotor force equal to about one Daniel element. Ampère is the intensity of a current of one volt passing through one ohm.

[2] $Q =$ quality of heat. $E =$ electromotor force. $I =$ intensity. $Q = E \times I$.

The positive pole generates oxygen, attracts acids, is coagulating, styptic, caustic, hemostatic, anodyne, sedative, anticongestive, and denutritive.

The negative pole generates hydrogen, attracts alkalis, is liquefying, electrolytic, caustic, stimulating, derivative, alterative, favoring absorption, and increasing the blood supply.

The physiological effects of the faradic current are mainly mechanical. We obtain a veritable interstitial massage. It calms, therefore, the nerve system, diminishes excitability and relieves pain, especially with the fine coil. The coarse is only used for muscular contractions. By its power over muscular contractions faradization sensibly increases temperature.

The physiological and anatomical properties of electricity have long since shown its value as a curative agent in gynecology. Various attempts have from time to time been made to introduce electricity into the treatment of uterine diseases, and its aid in a great diversity of methods of applications was invoked long ago. But while the old method only utilized the radiating effect of the interpolar properties and the currents were used empirically at random, we have in Apostoli's method strict indications, differentiation between galvanic and faradic currents, differentiation between the positive and the negative pole, localization and concentration, precision in dose, strong currents and short sittings, and appropriate apparatus. The only treatment, says Keith, worth speaking about that is helpful and which at the same time is free from danger to life—if the treatment be undertaken by one who has respect for a strong electrical current—is that brought before us by Apostoli. It is not a method to be applied indiscriminately, but it has opened a delightful study, which increases in interest every day the closer we study it. This method should, therefore, take precedence over all others. We have in it a combination of intrapolar electrolysis and of galvano-cauterization of the mucous membrane.

The main principles enunciated by Apostoli are the introduction of the active electrode into the uterine cavity and the employment of high dosage. Before Apostoli about 20 milliampères was the highest dose. Apostoli used from 50–250. Now, the galvanic applications, says Gautier, have a therapeutical effect, which is proportional to the square of their energy. Another difference brought by Apostoli's methods is that while formerly the uterine cavity was a *noli me tangere* and the active electrode went no farther than the vagina, Apostoli has taught us to go as near as possible to the seat of the disease.

These two changes required some modifications in the apparatus. Any battery with an electromotive force of fifty volts will serve the purpose, if provided with a rheostat to avoid the shock, when employing high intensity, and a galvanometer to regulate the dosage. The innovations of Apostoli are the introduction of electrodes of platinum and carbon for the active positive pole, to avoid erosions by the acids. For the inactive pole at the abdomen he introduced the clay-pad, to avoid cauterization. The resistance offered by those parts with the clay-electrode is less than 200 ohms[1] for electricity takes the most direct route to complete the circuit.

The diseases amenable to electrical treatment are, according to the physiological properties, manifold. The interpolar action of the current has been made use of for the progressive stoppage of the hemorrhage and relief of the uterine congestion and the mitigation of ovarian neuralgia. The faradic current is used by reason of its contraction of the musculer fibers, in subinvolution, infantile uterus, post-partum hemorrhages, amenorrhœa, sterility, and chronic metritis. The anticongestive action of the positive pole is of value in metritis, endometritis and hemorrhages. Apostoli used it also for its microcidal properties. The denutritive action of the negative pole is made use of mainly in fibroids, where it causes the anatomical diminution cessation of hemorrhage, disappearance of all symptoms of compression, and the symptomatic restoration of the patient. It is also used in dysmenorrhœa caused by stricture of the internal orifice. The galvanic current is a sovereign remedy for the painful and circulatory troubles, as amenorrhœa, it aids the resorption of primitive exudations, and its calorific action causes a circulatory drainage of the internal genitals, and is of great benefit in salpingitis and ovaritis.

Thus the fascinating and attracting electrical fluid has been tried in almost every pelvic trouble, making it a proper medium for the charlatan. Yet it cannot always be used with impunity. There are strict contraindications. Every suppuration in the pelvis contraindicates electrical treatment. When febrile excitement arises all treatment is to be suspended. Suppuration in the neighborhood of a fibroid or cystic degeneration of the tumor is a contraindication to the local employment of electricity, and every liquid collection, uterine or perimetric, contraindicates absolutely the high intensities.

The exact diagnosis is, therefore, one of the prime necessities before any electrical treatment may be tried. But the diagnosis once established, electricity can and has been used with safety and the best results by the greatest authorities.

Keith, than whom there has seldom been a closer and more accurate observer, found out of seven cases of fibroids treated by electricity that five had entirely disappeared. He attributes the diminution to electrical osmosis. The patients thus treated, says Keith, are satisfied with the efforts made to save them from the operation that jeopardizes their lives and leaves them with a mutilation abhor-

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[1] Ohm's law: $C = \frac{E}{R}$

E = electromotive force. C = current in ampères. R = resistance.

Thus the current of 50 volts divided by 200 ohms is 250 milliampères, or ¼ of an ampère rent to a woman, and, furthermore, often fails to cure her. In another paper Keith says his confidence in curing many chronic inflammatory conditions in the pelvis continues to increase. Lawson Tait says the electrical treatment must be tried no matter what difficulties may be encountered with the task. Apostoli had the best results with his electric medication of fibroid, endometritis, ovariosalpingitis catarrhs and perimetric phegmosis. For metritis he found the bipolar intrauterine faradization the best application, because it is much easier, less painful, more active, and more efficacious than the former subpelvic-abdomino-uterine or recto-uterine applications. Goelet found that with 200 milliampères exudates and adhesions melt away like ice under the sun. Bröse says electrical application is indicated in myomata, exudates, metritis, endometritis, but only after every acute or subacute inflammation has entirely disappeared. MacGinnis considers electricity the best agent in the treatment of rebellious cases of old parametritis, in cases of sterility due to the inactivity of uterus, when the ovaries are otherwise perfectly well, and in the appeasement of inflammation in cases of simple ovaritis. Smith used bipolar faradization in subinvolution, post-partum hemorrhage, deformity and defacements of the uterus, ovarian pain, vaginismus, and abdominal pain due to hysteria. He further treated 200 cases of fibroid tumors with the galvanic current with satisfactory results. He used the vaginal ball electrode covered with moistened cotton of the negative pole in all chronic inflammatory exudations in the pelvis. Massey says, in simple endometritis galvanic currents locally are practically infallible; he has never seen a case resist them. In another paper he mentions thirty cases of fibroid tumors treated at the Howard Hospital in Philadelphia. In all but one there was a symptomatic cure with or without reduction in size. Of sixteen cases of chronic metritis thirteen were cured and two improved; of fourteen cases of perimetric inflammation six were cured and six improved; of four cases of chronic ovaritis two were cured and two improved; of seven cases of subinvolution all were cured; of five cases of menorrhagia four were cured and one improved; and of four cases of endometritis three were cured and one improved. Baker has employed electrolysis in the treatment of fibroid tumors in fourteen cases with highly satisfactory results. Engelman found, in prolapsus uteri, due to relaxation of tissue, the judicious use of the electric current to be of the greatest value, at the same time affording perfect immunity from pain. Webb found faradization of the uterus the best palliative remedy. He used the negative pole to control the growth of fibroid tumors, and saw pain assuaged, bleeding stayed, countenance brightened, and appetite returning. Ford says: "I have been surprised to find a number of cases of ten years' standing in which there has been no increase in the size of the fibroid." Rockwell relates a case of severe ovarian pain that required the removal of both ovaries, but the pain continued even after the menses disappeared. Under internal application of the galvanic current, varying from 25 to 50 M., the paroxysms began to yield rapidly, resulting in a few months in a complete recovery. He asks whether it was necessary to perform the formidable operation. Sanders found that medical measures alone against chronic oophoritis are almost valueless, and the results of thirty-one cases of oophorectomy afterward examined were not flattering to the operator. Pain continued in twenty-four of these cases, while electricity succeeds fully in 90 per cent. Pain and the other distressing symptoms of the disease vanish. Even Labardie Lagrave, not a great enthusiast as regards Apostoli's method says the observations of Massey, Smith, Snenireff, Delétang, La Tore, Spencer Wells, and Playfair are all of the same accord to prove the good and often rapid results of intrauterine electrization. Grandin, who recently answered the question: "Has electricity ceased to be a useful therapeutic agent in gynecology?" in the affirmative, has himself treated four to six patients with ectropic gestation by electricity, and all of them recovered. But, he says, who can tell whether there really was ectropic gestation since the abdomen was not opened. This question is somewhat queer. Who can assure the correctness of the diagnosis in a cured case of pneumonia? Surely an exploratory laparatomy will clear up any doubtful diagnosis of the diseases of the pelvic organs. But the value of exploratory operations, says Russell, is merely as a cloak for want of diagnostic skill.

Yet deprecatory remarks have been made against electrical treatment. First among the doings pointed out was the danger of the utilized high intensities, then the danger lying in the intrauterine applications and the danger in the intrauterine caustic action. To these objections Apostoli answers with the following advice: No higher intensity than tolerable to the uterus should be applied. The patients should never be surprised and pained. The maximum dose should be arrived at progressively and decreased in the same way. These precautions do away with all the dangers. Its failure in a great many pelvic disorders has been further urged against electricity. But there are conditions that are also incurable by any other method of treatment. Another objection to electricity was that no explanation for its action is obtained, but the why and wherefore of things matters little for our purpose. There is no explanation for the retrogression of fibroids and uterine tissue after the menopause either,the good results attained are all that is necessary. It was my good fortune to witness the work done in Apostoli's clinic in Paris, and to see the good results realized. Surely I would not claim for electricity that it has displaced every other variety of treatment. We must avoid, says Gautier, the two extreme tendencies, the exaggerated enthusiasm and the too severe scepticism. But before every extirpation of ovaries and uterus we have to think twice of the dangers of life and the after effects that entail much suffering, as artificial menopause, intestinal obstruction, abdominal hernia, fistulæ and adhesions, and last, but not least, the mental suffering caused by the not infrequent destruction of the sexual sense. Castration, therefore, which morally or physically mutilates a woman, should be regarded as a last resort. To be sure, the electrical treatment is not an easy task; conditions may arrive at each step and demand great vigilance; it requires much thought and an exact diagnosis is an indispensable requirement, otherwise fatal consequences are the result. But we must insist upon the importance of an accurate diagnosis before commencing any treatment, even laporatomy. It has been claimed against electricity that it does not effect an anatomical cure. But does surgery effect one? The amputation of a gangrenous leg saves life and relieves suffering. But does it bring an anatomical cure? Has the gangrenous leg been restored to health, or has not the patient rather been crippled? Is not a woman deprived of her ovaries or uterus also crippled? Where does the anatomical cure come in? Major surgery never brings a restitutio ad integrum. But why cavil about the importance of anatomical cure, the symptomatic cure concerns the patient most. What brings women to the consultation room is that they have pains, discharge, or hemorrhage. If these symptoms are removed the patient may be considered cured, at least as far as she is concerned. Then surgery does not always even cure symptomatically. Many cases are reported cured when they are simply relieved from the immediate effect of the disorder, and when, in fact, they are in worse health than before the operation. The women who suffer ill-health after losing ovaries and uterus are legion, and the records of surgical treatment, says Skene, are not very largely in the interest of patients,though they may be in the interest of surgeons. To subject a patient, says Sanders, to the risk of losing her life by operation when life is not endangered by the disease itself, is not right either in logic or in ethics. Lusk says: The more the question is studied, the more clear it becomes that the loss of her ovaries does make a difference to a woman. Castration consigns a woman to a future of sterility, causing her irreparable physical and moral shock. The ovaries have besides that of ovulation, some important function in metabolism to perform. Besides, every time the abdomen is opened, says Apostoli, there is a question of life and death, and it should be resorted to only after electricity has failed, for if ever a remedy had physiological and anatomical reasons for its application it is electricity.

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Cholera in Borneo.—It is reported in the London press that cholera is raging among the native troops of Sarawak in British Borneo. They were sent in boats up a river on an expedition against a band of head hunters and the disease soon appeared among them, decimating them. The outbreak was attributed to the drinking of infected river water. The disease is reported to be spreading among the natives living on the banks of the river below the point where the troops were attacked.

MALARIA AS A COMPLICATING FACTOR IN THE DIAGNOSIS OF APPENDICITIS.

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THE sudden development of grave symptoms, eventually recognized as malarial, in the course of various abdominal affections has at times given rise to the gravest apprehensions as to the ultimate outcome, obscured or rendered impossible the clear understanding of a case, or even suggested the necessity of surgical interference. Thus malaria, complicating a comparatively innocent attack of gallstone colic, has simulated empyema of the gallbladder, or even hepatic abscess, has suggested the possibility of surgical complications of the affected organ in the colic of renal calculus and in cases of floating kidney with twisted pedicle, has appeared post-partum in the guise of puerperal sepsis to be detected only *ex juvantibus*, and, finally, has imposed the question of further surgical interference, or of revision of the abdominal wound, by its sudden development after major operations.

The complicating element which may thus affect prognosis, diagnosis, and theraphy, is especially misleading when positive anamnestic data of previous chills and fever are wanting, when a close study of the blood fails to reveal plasmodia, or reveals them only after repeated examinations, when the spleen is but slightly, if at all, enlarged, or when its size cannot be determined to our satisfaction by the usual physical methods, when the course of the fever is not characteristic or is directly misleading, *e. g.* the double quotidian type, and, finally, when the malaria does not respond to quinine.

After the malarial element has once been recognized, we are, to a certain extent, on the lookout for its reappearance as a complication in subsequent attacks of the primary affection, and the diagnosis becomes comparatively easy.

Important and interesting as the study of this class of cases has been, it would be foreign to the purpose of this paper to go into detailed descriptions of the errors which have obtained even in spite of the united efforts of men of wide experience and recognized ability. Such errors will continue to be made as long as we are unable to make a positive diagnosis of malaria in every case, while, on the other hand, the presence of malaria, however definitely established, by no means excludes the coexistence of a condition which it frequently simulates. Such conditions as those just described are not merely possibilities, nor are the surgical complications alluded to very rare in large districts where malaria abounds.

These general considerations apply with particular force to affections of the vermiform appendix, which also seem capable of awakening long dormant or unsuspected malaria. Nowhere, however, is the earliest recognition of the malarial intercurrence of more vital importance than here, for the diagnosis "appendicitis" may carry with it the indication for immediate surgical interference. The onset of a chill and fever due to unsuspected malaria would subject the patient to an untimely operation, and both physician and surgeon would commit a diagnositic blunder, unless, as may well happen, the grave general symptoms are actually due not only to malaria, but to the diseased appendix as well. Their association, from time to time, will not be surprising in large centers like New York City and its malarial environs, where each of these affections is of such frequent occurrence.

It would be well to consider with especial care the possibility of malaria in cases where the ileocæcal symptoms, pain, tenderness, rigidity of rectus, are mild or on the wane, and do not harmonize with the gravity of the general manifestations, chill, rapid pulse, increasing temperature, and serious appearance of the patient. Still we must ever bear in mind how little we know of what is going on in a crippled appendix, and remember that a lull in the symptoms is at times only an unhappy dividing line between two totally different aspects of the same case. The time consumed in examinations for plasmodia may afford a breathing spell, when an abatement of the more serious symptoms incidental to the sudden malarial invasion may be noted.

To interpret sudden synchronous malarial and ileocæcal symptoms correctly, some caution is necessary, for malaria, like other acute infectious diseases, has frequently, in my own and other physicians' experience, simulated appendicitis.

Type of Malaria Simulating Appendicitis.—Mrs. M. H., forty-three years of age, healthy, not aware of previous malaria, became suddenly seized with a chill, and was doubled up with very severe abdominal pain, which was referred to the appendix. Vomited repeatedly. On examination, tenderness, which, however, was uninfluenced by pressure, was found in the region of the appendix. Pulse over 120; temperature, 106°. In this case, the hyperpyrexia practically excluded the appendix as its cause. It did not, however, exclude the possibility of coexistent appendicitis. What made the latter diagnosis improbable was the fact that local pressure did not increase the ileocæcal distress, and that a suitable antipyretic in time relieved all regionary symptoms. Plasmodia established the malaria. The diagnosis of this and a number of similar cases in which the malaria was not so readily suspected on account of the absence of chill, or because the temperature at the time of observation was very much lower, is apparently very simple at a distance from the bedside; confronted with the situation, however, some worrisome moments are apt to ensue. This has been noted, perhaps, more particularly in younger children, in whom abdominal examinations prove very often anything but satisfactory.

Type of Malaria Coexisting with Appendicitis.—Louis G., fourteen years of age, unusually well and strong. Never, during a nine years' acquaintanceship, suspected of having malaria. November 20, 1901: While at school, seized suddenly with cramps and vomiting. On examination tenderness was found in customary region, but nearer to spina superior ilei; some rectus resistance. Pulse, 76; rectal temperature, 100°; spleen small. Diagnosis: Appendicitis. November 21, A. M.: Pain and tenderness totally disappeared; slight ileocæcal sensitiveness only on very deep inspiration. Pulse, 72; rectal temperature, 99°. Toward evening seized suddenly with chill, lasting ten minutes; pulse, 90; temperature, 102°. No pain or ileocæcal tenderness. In right tonsil a follicular spot was found which occasioned no discomfort; spleen enlarged. These symptoms, with the initial ileocæcal manifestations, suggested the possibility of a typhoid infection. November 22, A.M.: Tonsillar spot disappeared, spleen larger, rectal temperature, 97° (without antipyretics). Typhoid then excluded. Appendix still far from all symptoms. Quinine then administered. Chill did not ensue that evening; temperature, 101°. November 23, A. M.: Rectal temperature, 97°; quinine continued Evening temperature, 99°. Hand in hand with convalescence, a decrease in size of spleen was noted. Quinine continued one week. Patient remained well in all respects until just one month later. Diagnosis: Malaria, and malaria simulating or possibly obscuring appendicitis. December 22, 1901: Suddenly, while in bed, seized with pains in pit of stomach, with nausea. After lapse of a few hours pains descended to the right side of abdomen. December 23, 1901, A. M.: First examination: Tenderness over same spot as during first attack, increased on pressure; rectus muscle slightly rigid; nausea. Rectal temperature, $98\frac{3}{5}$°; pulse, 72. Spleen small. Diagnosis appendicitis. Five P. M., status idem; 10 P. M., occasional dose of morphine had to be given to control colicky pains. December 24, 1901, A. M.: Chill of ten minutes' duration. Pulse, 106; rectal temperature, 102°. Spleen appeared still normal in size Eleven A. M., general appearance of patient grave; pains persist, though not quite so intense as in the beginning.

My experience of the previous month urged me to wait and look for a repetition of similar events. Judging the attack by itself, however, the chill and other graver symptoms would certainly have indicated immediate operation. Four P. M., five hours later, patient appeared very much more comfortable. Appendix tenderness though present, very much decreased; rectus reflex absent; pulse, 120; temperature, 103°. In view of the amelioration of the ileocæcal symptoms, the chill, rapid pulse, etc., were regarded, as in the foregoing attack, as symptoms of the malaria, and not of the diseased appendix. The report of the blood examination was then positive for plasmodia, and the patient, under the usual régime, recovered, with slight tenderness persisting over the appendix until its removal by Dr. Willy Meyer, January 2, 1902.

Macroscopical Examination of Appendix.—Organ, found where clinically located, was very long and adherent at tip; adhesions fresh and easily detached, bleeding freely; constriction visible externally at lower third of organ, from constriction to tip: appendix thicker, dark, coppery red; centrally from constriction, appendix apperared normal in size and color. Corresponding to constriction, an obstacle encountered on attempting to pass probe. Lumen of appendix contained fecal matter either side of stricture, from which centrally the mucosa and muscularis appeared normal in thickness and color, distally the mucosa was dark, coppery red, very much thicker, as was also the muscularis and serosa.

In the cure described the situation was not very clear from the beginning. It was only on the occasion of a second attack, just one month after the first, that the events of the latter became intelligible to me. Without the experience of the first attack, however, I should, in all probabilities, have failed to recognize the significance of the chill, rapid pulse, higher temperature, and graver appearance of the patient, and should have advised the immediate removal of the appendix. Were my doubts as to the correctness of the diagnosis "appendicitis" during the first attack justifiable in view of its subsequent developments, which, in spite of no examination for plasmodia, could reasonably be interpreted as malaria? The comparatively short duration of the ileocæcal symptoms would not of itself militate against the diagnosis "appendicitis," but when associated with pronounced malarial manifestations which can, and not infrequently do, simulate appendicitis, uncertainty becomes inevitable.

The second attack cleared up the situation. Without any suggestion from me, the patient described his pains as having begun suddenly in the pit of the stomach, having been attended with nausea, and having descended after the lapse of a few hours to the right side of the abdomen, a description so pathognomonic of appendicitis. The tender spot near the anterior spine was found identical in location with that of the first attack. This spot remained more or less tender until the removal of the appendix, when there were no more symptoms of malaria apparent. Thus the diagnosis appendicitis was established and the ileocæcal symptoms of the first attack were, by inference, similarly construed. Plasmodia verified the diagnosis of malaria, in the second attack, and, we may safely infer, in the first attack likewise. We can, furthermore, conclude that the chill and graver symptoms of the second attack were, like in the first, malarial manifestations, occurring as they did, when the ileocæcal symptoms were, if only slightly, on the wane.

The diagnostic difficulties in the combined affections would be still greater if the grave symptoms repeatedly mentioned were referable to the appendix. In such an event a rapidly acting antipyretic might shed some light by depressing the temperature, which, however, might not be associated with a corresponding decline in pulse rate, and marked alleviation of other symptoms. In this case immediate surgical intervention would be indicated.

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ACUTE PNEUMATOSIS GASTRO-INTESTINALIS.

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Under this title I intend to differentiate an acute symptom of dyspepsia from the usual symptomatology of acute indigestion. I think the differentiation necessary not only in a scholastic point of view, but principally on account of the treatment. I want to point out that there exists a form of acute indigestion due to the presence of undigested food in the stomach and another form due to the rapid formation of gas in the stomach and intestines not always connected with the indigestion of food. Those two forms present themselves in the same way, and we treat them under the same circumstances; *i. e.* we are called in a hurry to assist a patient in a comatose state, surrounded by anxious relations and friends. But it is in these cases that the diagnosis must be made *cum grano salis* if we want to save the life of the patient. If the attack is due to the presence of undigested food in the stomach, it is important, of course, to remove the abnormal matters by emetics, but if it is only due to gas, or to gas and food, the treatment must be different.

What is the pathogenesis of *acute pneumatosis gastro-intestinalis?* The pneumatosis must be considered as of nervous origin. The nervous system manifests its action not only on the secretion and composition of the gastric juice favoring the decomposition of food in the stomach but also on its hyperactivity, which may give rise to a true secretion of gas analogous to that observed in hysterical persons. Such a secretion occurs sometimes suddenly, producing a rapid distension of the stomach and intestine, and gives rise to the same symptoms as acute indigestion. I think such form of indigestion more serious than the others if not properly diagnosed. We often hear of patients treated for an attack of acute indigestion, in whom the doctor had diagnosed no serious symptoms, dying suddenly—what does that mean? It means that the emetic had relieved for the time being all symptoms of hyperdistension produced by the gas, but that a new and sudden production of gas had caused death.

I have lately had two cases of pneumatosis gastro-intestinalis. One of these is herewith related:

A prominent lawyer came to Washington a few days ago on a very important business matter. His ambition, the responsibility of the case, and all the circumstances connected with its successful termination had made him very nervous. During the last two days he had no sleep at all and he had taken little food. Owing to constipation and lack of appetite, he had taken a few grains of calomel. In the evening of the 21st, before going to dinner, he suddenly felt dizzy and had just time to reach a sofa when he became unconscious. I was called immediately. I found the patient in a comatose condition. His breathing was stertorous, the skin dry, the pupil dilated, and the pulse filiform. I had seen the patient before and I knew of his general good condition. The wife informed me that the patient had had his last meal at lunch time, consisting of a poached egg and a piece of the white meat of a chicken. In the last twenty minutes the patient had had a sensation of fulness in his stomach and eructations of odorless gas. I had the patient undressed at once. His abdominal wall was overdistended and a tympanic skodic sound was detected all over by percussion. On pressure on the abdomen odorless gas was emitted by the mouth. I diagnosed *acute pneumatosis gastro-intestinalis.*

Treatment.—Application of a hot pack on the head and inhalations of a few drops of amylnitrite, dropped on a handkerchief, with the object of increasing the respiratory activity.

My opinion of the cause of death in patients during a gastric attack is that death is due to a toxæmia affecting the *respiratory center* and not to heart failure, as so many believe. For that reason I think it rational in such cases to act rapidly on the respiration and only secondarily on the heart.

In the meantime I proceed to the systematic massage of the abdominal walls, with the object of removing the surplus gas that causes the alarming symptoms.

I should call this my emergency treatment.

With the amylnitrite and the massage the patient usually returns to consciousness and the respiration becomes normal.

The second step in my treatment is to remove completely the gas and the cause of it; *i. e.* the nervous condition that precedes its production. For that purpose I administer every half hour the following solution:

Elixir paraldehidum	16 grammes.
Ether sulph	10 drops.
Aquæ anisi	40 grammes.

and continue the massage. After the administration of the fourth or fifth dose the gas generally disappears, the patient feels easy and drowsy. Should the patient wake up during the night I repeat the same dose. Generally within twenty-four hours the patient returns to his primary conditions.

Further Treatment.—I prescribe a few days rest from business, distraction, nourishing food, and small doses of one or other of the bromides.

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THE INTERCOMMUNICABILITY OF HUMAN AND BOVINE TUBERCULOSIS.

ONE of the most effective arraignments of Professor Koch's injudicious speech, with regard to the connection between tuberculosis as affecting cattle and the human race, was made by Dr. Adami, Professor of Pathology, McGill University, Montreal, and published in a recent issue ot the *Medical Chronicle.*

Professor Adami, at the Congress on Tuberculosis, recently held in New York. brought out the same points as in the article mentioned.

His conclusions were as follows:

1. Bovine tuberculosis is easily conveyed from cattle to cattle and whether by inhalation, by the milk, by contamination of stalls and drinking water, through the agency of the saliva and nasal discharge, through the genitourinary passages, or by intrauterine infection. this transmission from one animal of the bovine species to another is far and away the commonest mode of infection in cattle, so common that for practical purposes all other modes may be neglected.

2. Human tuberculosis is transmissible to cattle. Pure cultures of the bacilli rarely cause infection. Mixtures of tubercle bacilli, with other micro-organisms (as in sputum) appear to be more infectious. The difficulty in inducing artificial tuberculosis favors the idea that natural infection of cattle with human tubercle bacilli must be of singularly rare occurrence.

3. Certain breeds of swine appear to be easily infected with both human and bovine tubercle bacilli. and when infected with the former, these gain an increased virulence for guinea-pigs and rabbits. But while through the use of infected milk, these animals frequently become infected from cattle. conditions favoring the reverse process are rare. Thus, while it may occasionally be that some, or possibly other domestic animals, act as intermediaries in the passage of tuberculosis from human beings to cattle, the conditions favoring such transmission from man to hog, from hog to cattle, so rarely show themselves that, again, for practical purposes, this mode of infection may be neglected.

4. If this be so, it should be possible to eradicate bovine tuberculosis in a region in which human tuberculosis continues to be widespread.

5. Human tuberculosis in the majority of cases is conveyed from human being to human being by inhalation, more rarely it is conveyed through the alimentary canal, still more rarely through the genital tract, through surface wounds, and from the mother to the fœtus during intrauterine life.

6. Everything points to the fact that in the main the bacilli are derived from previous cases of the disease in man.

7. By sojourn in the human body and passage from man to man, the human tubercle bacilli have acquired properties different from those acquired by bacilli which have passed through cattle. Their shape differs, the rate of growth and the appearance of the growths outside the body are different, and their virulence toward the animals of the laboratory is also different.

8. These differences are not, however, sufficiently marked or constant enough to permit us to conclude that we are dealing with distinct species; on the contrary, the evidence at our disposal points clearly to the fact that in the different species of animals we encounter, at most, races of tubercle bacilli, which, by growth in the bodies of animals of another species take on the characteristics of the race of baccilli peculiar to that species.

9. Bovine tuberculosis can be transmitted to man, and this either through wounds or through the digestive tract.

10. By passage through cattle the tubercle bacilli gain increased virulence for cattle, rabbits, and guinea-pigs, but lessened virulence for man and, it would seem, also for carnivorous animals.

11. Save in the very rare cases of wound infection, there is a significant lack of evidence that bovine tubercle bacilli infect adult human beings.

12. It is infants and those of early age who are liable to be infected by the tubercle bacilli of bovine origin, and this through the agency of milk. The statistics bearing upon the continued frequency of tuberculosis in children, and upon the relative frequency of intestinal and abdominal tuberculosis in children, must be accepted as conclusive evidence upon this point.

13. Even with children a consideration of the great frequency of bovine tuberculosis in certain regions, and of the absence of any record of tuberculosis affecting those supplied from a given "milk round" leads to the conclusion that the bovine bacilli have not heightened virulence.

14. The few positive records we possess of direct transmission of tubercle from cattle to man, through the agency of milk, indicate that infection is brought about only by the employment of milk of cattle which are very extensively diseased, more especially of those suffering from udder disease. Such milk contains enormous quantities of bacilli. In other words, large numbers of tubercle bacilli are required in order to infect human beings with bovine tuberculosis. This, again, is an indication that the bacillus cannot be regarded as having gained a heightened virulence for man, and that infection is not very readily communicated.

15. Animals showing physical signs of tuberculosis, and. above all, those exhibiting udder tuberculosis, should be condemned. and under no conditions should their milk be used for food.

16. When there is tuberculosis in a herd, Bang's method should be employed, the animals reacting to tuberculin being separated from the healthy ones. The milk from the reacting animals, for whatever

purpose used, should be so pasteurized as to effectively destroy the tubercle bacilli.

17. The great cause of infantile mortality is in-inflammation of stomach and intestines, and this is proved to be mainly brought about by the use of badly kept and fermenting milk. Wholly apart, therefore, from the question of tuberculosis, it is imperatively necessary that greater care should be exercised by all concerned in the distribution of milk. The general measures taken to lessen this, the greatest scourge of childhood—prohibition of the use of milk from cattle showing any form of sickness, pasteurization of milk, etc.—will equally lessen the danger of the transmission of tuberculosis from cattle to man.

The above conclusions adequately express the opinions of the majority of medical men who are opposed to Koch's dogmatic assertion that human and bovine tuberculosis are not intercommunicable. Dr. Adami is no partisan, but has approached the question with a perfectly open mind, and the deductions drawn by him as the result of investigations, observation, and a study of recent literature on the subject, are in a high degree reasonable.

The Medical Record, soon after the London Tuberculosis Congress had ended, took exception to Professor Koch's pronouncement on more than one ground. Attention was drawn to the fact on several occasions that even if Professor Koch were right as to the nontransmissibility of tuberculosis from cattle to man, he should have gravely warned farmers, milk-dealers, and the general public that precautions to guard against impure milk should be on this account in no wise relaxed, as diseases other than consumption may be disseminated by means of milk, not to mention the menace to child life by the contaminated article.

Dr. Adami takes practically the same view, and speaks of Professor Koch's carelessness in this respect as follows:

"It was his duty to have pointed out that his conclusions did not affect in the slightest the legislative and other measures adopted to reduce the dangers to cattle and to the agricultural community resulting from the spread of tuberculosis among cattle and domestic animals. Not doing this, he left it to be inferred that legislation against bovine tuberculosis is in excess of what is necessary. And this, it is right to protest, was little less than criminal on his part."

In Great Britain the pernicious effects of the German scientist's teaching have already been painfully evident, and it will probably take some years of education on opposite lines to dispel the belief that great care in procuring milk free from disease germs and in preserving it from after-contamination is unnecessary. It is to be hoped that those interested in the question in the United States will stand firm, and will use every endeavor to eradicate tuberculosis from cattle and to ensure a pure milk supply.

VOLTA BUREAU.

The second international report of schools for the deaf, made to and published by the Volta Bureau in Washington, D. C., contains a well-arranged compilation of pedagogic statistics from all the foreign and home institutions for the education of deaf-mutes. The provision and support of these schools by their respective governments exhibit a wide diversity of opinion as to the most approved method of instructing all grades, since it is impossible in public institutions to follow efficiently a system of individual instruction without incurring great expense in maintaining a large corps of thoroughly qualified teachers.

In Europe, as in this country, teachers seeking appointments in institutions for deaf-mutes are required to submit evidence of at least two years' training in actual daily work with these pupils, also to pass an examination in the science of speech and hearing. For advanced grades it is deemed requisite to possess a fair amount of knowledge of the relational anatomy of the larynx and ear. The report cites, in detail, the experience of each country employing the various systems, and while the concensus of opinion is very strongly in favor of the oral or lip-reading method, it would seem that the deaf-mute prefers a sign language.

By the oral method the students acquire actual vocal speech. Their attention is first drawn to the vibrations produced in the throat and chest of a speaker, and the correspondence of these to lip movements, until, very gradually, the pupil learns to produce sounds by the "feel," to recognize them on the lips by the sight, and to connect them with specific ideas and with written words. Thus this system removes many restrictions naturally placed upon the intellectual training and ordinary social intercourse of the deaf and dumb, whereas the sign language, though it affords the readiest means of deaf-mute intercommunication, limits the expression of thought. This naturally proves of great drawback, as the isolation of deaf and dumb brings about the deplorable tendency to intermarriage.

Difficult as the oral system is, demanding much individual attention, and, in consequence, necessitating an exceptionally large and expensive teaching staff, it is justified by those excellent results which transform a number of non-efficients into self-supporting members of a community. A combination of the two methods has proved aught but satisfactory, as the pupil, greatly to his own detriment in lip reading, invariably resorts to the easier sign language for conversation with his fellow mute.

The "simple pantomime" method, employed in teaching the so-called "Heathen Chinee," excites approval for the genius displayed by the instructors in overcoming those apparently unsurmountable philologic barriers in a language, whose only commendable feature is its monosyllabic construction. Again, the vocabulary of Indo-China is of such extreme complexity that lip reading is impossible, and dactylology is the only method suitable for the transference of ideas. In India, though the care of these deficients presumably devolves upon the government authorities, little or no attention has been given to their needs, and parents frequently desert their afflicted offspring as "possessed with a devil."

The report does not touch upon the subject of greatest interest to the medical profession, namely, treatment, although it states that many pupils pronounced incurables are found, after repeated experiments, to possess a very slight appreciation of sound waves, and that sensitiveness can be increased by constant training. Acting upon this belief, Germany tests all likely students by Dr. Bezold's continuous sound scale, and it is interesting to note that this country, recognizing the great progress made in the United States during the last decade, in improving the methods of deaf-mute instruction, has granted leave of absence to two of its head masters to study and report upon our systems.

Much difficulty is encountered in obtaining correct histories of pupils, and it is found that parents have great aversion to admitting the congenital nature of the child's defect, invariably attributing it to some infectious illness of infancy. It is a noteworthy fact that the English boards recognize tuberculosis as a potent factor in the causation of deaf-mutes, and a rigid observance of the laws of hygiene, with especial attention to physical culture, is now considered as part of the curriculum of the various institutions.

The universal cry from every institution has been for more money, and it would seem but just that a generous government education be bestowed upon this class of abnormals, who have, in no way, been party to their misfortune.

Dr. Lawrie on Cholera.

In connection with the wide-spread outbreak of cholera in the Philippines, the report of Lieutenant-Colonel Lawrie, I. M. S., upon the cholera epidemic in the Hyderabad dominions of India should be of interest. There are two points of interest, says Colonel Lawrie, regarding the purely medical aspects of the epidemic. The first is that we gave the plan of treatment by the intravenous inection of normal saline fluid a thorough trial in the first four cases which came under observation. The results, however, were disappointing, and all four patients died. To show the uncertainty and disappointment which attend active treatment in cholera it may be mentioned that the next five cases which occurred recovered without any special treatment beyond morphine injections to ease the cramps, and being allowed to drink unlimited amounts of liquids such as coffee.

The second point of interest regarding the epidemic relates to the nature of cholera. It is the universal rule to regard cholera as a bowel disease, and preventive inoculations have been practised with vaccines prepared from concomitant bacilli found in the intestinal tract. But it has long been known that the only signs of actual disease found on post-mortem examination are in the kidney, and the lesions found in the kidney, which vary from intense congestion to complete disorganization, are considered to be secondary to the bowel complaint. It is much more probable that these lesions are primary and constitute the disease.

In every case examined by himself and his assistants, Dr. Lawrie says, albumin was found in the urine from the earliest stage of the disease, as well as whenever it was possible to obtain any urine throughout its progress; and the recovery of the patient or his death, if he passed through the stage of collapse, coincided with the arrest or increase of the albumin passed from the kidney. The vomiting and purging which are so characteristic of cholera are not necessarily due to a lesion of the intestines, in which no disease is ever found sufficient to account for them, but are, on the other hand, perfectly compatible with rapid nephritis of a specific nature, with suppression of urine. The moment suppression of urine is threatened it is a matter of common knowledge that the system endeavors to get rid of the waste products which can no longer pass out by the kidney by some other channel, and the vomiting and purging which take place in cholera are fully accounted for by, and are illustrative of, this fact. They are, therefore, in all probability, not symptoms of disease of the bowel, but merely signs of an acute specific nephritis, which goes by the name of cholera.

The symptoms during life, therefore, point to disease of the kidneys, and they correspond with the only pathological signs found after death. If this view is correct and it is established that the disease is water-borne, there should be no insurmountable difficulty in tracing the virus to its proper habitat in the human body, and in eventually discovering an antidote for it.

The epidemic of cholera which is now devastating the Philippines should afford the United States military surgeons ample opportunities for studying the disease from all points of view, and especially from the bacteriological aspects.

The medical men of India are considerably handicapped in their efforts to trace the origin of cholera to its source, by the rigid caste rules which forbid post-mortem examinations among the native population. It would be worth the while of United States surgeons in the Philippines to endeavor to obtain accurate knowledge of the virus by searching bacteriological examinations of the kidneys of those who have died of the disease.

Colonel Lawrie may be wrong in his surmises as to the cause of cholera, but at the same time he is a man of acknowledged talent and he has had almost unrivaled experience in the diseases of the far East and of cholera in particular.

Drugs in the Treatment of Insomnia.

As to the value of drugs in the treatment of insomnia, diversity of opinion exists among the prominent specialists in nervous affections. Some there are who hold that the giving of narcotics is greatly abused, while others contend that the employment of such means for producing rest to mind and body, is justified in the majority of cases, or at any rate that the physician should be the best judge with regard to the use of narcotics.

At a recent meeting of the British Medico-Psychological Society, Dr. Henry Rayner read a paper on the subject which gave rise to an extremely interesting discussion. Dr. Rayner, himself (*Hospital* June 14) opposes strongly the custom of giving drugs for the purpose of producing sleep, and recorded his belief that a large amount of the nervous and mental disorders so prevalent amongst the well-to-do is due to the indiscriminate and injudicious use of soporific compounds.

Dr. G. F. Blandford takes an entirely different view and from an experience of forty years, stated that in cases of threatening insanity with insomnia as a marked feature, he felt as certain as he could feel of anything that a great number of these patients had been materially benefited by the use of medicines given to induce sleep. He further held that it was possible to give drugs in such doses as to produce a state which was indistinguishable from natural sleep, but it was necessary to select the drug suitable to the case. He thought that the profession as a rule were inclined to give too large doses of sedatives, and to continue the same for an unnecessarily long period. Paraldehyde he considered to be one of the best and safest narcotics.

Dr. Savage, while allowing that sleeplessness was the predominant symptom of the day in all nervous and mental affections, said that before treating it was necessary to first ascertain the cause. In anæmia of the brain, concerning which so much was heard nowadays, he was certain that a nightcap of grog with a little food were more likely to produce sleep than sedatives of the opium type. Again hydrotherapy in certain cases was of the utmost use with patients whose tissues were already loaded with toxic agents, who had taken too much alcohol, or were gouty. For persons in these conditions a dose of calomel followed by salines and baths was of great value in producing sleep as well as in curing the patient of his malady. Where much pain was present opiates and other narcotics assisted in inducing sleep, and this was especially so in cases of mental pain, and though it was true that opium upset the digestion, the rest which it produced was the means of the digestion being in turn improved. Referring to the more extreme use of narcotics Dr. Savage said that he had seen extremely mischievous patients narcotised into dementia, and on recovery from that condition get perfectly well. A morphomaniac could be given an ounce of bromide per day for several days and be found to have recovered at the end of that time.

Dr. Fletcher Beach said that in many cases of neurasthenia and brain fag little could be done unless sleep could be produced, and for this purpose he recommended the use of sulphonal, but he thought it was wrong to give narcotics continually for weeks. Dr. Percy Smith urged that patients who could not sleep at night should be allowed to sleep whenever they felt inclined to do so, and in regard to the drug treatment of insomnia said that he thought general practitioners had not yet fully realized that other drugs would produce sleep without the very bad effects of morphia.

The trend of the discussion seemed to veer in the direction of the use of narcotics, when employed intelligently and with discretion. Dr. Julius Mickle gave the key to the situation when he said that sleep producing drugs should be administered with brains.

Latterly, there has been somewhat of a hue and cry with respect to the prescribing of narcotizing mediums by the medical profession. The charge has been made more than once, that the physician has been in many instances responsible for the moral, mental and physical ruin of individuals through his zeal in recommending opiates for the relief of insomnia, of acute pain, and of various forms of nervous disorders. While this may be true to some extent, a careful scrutiny would probably show that the situation so far as the acts of the physician are concerned has been greatly exaggerated. Narcotics are sometimes absolutely indicated, indeed there is no other way known of successfully treating certain phases of mental and nervous affections. The first thing to do is to diagnose correctly and then if necessary to prescribe narcotics with due discrimination. Dr. Savage's remarks with respect to the efficacy of hydrotherapy and aperients in the treatment of alcoholics or of those whose systems were loaded with toxic agents were much to the point.

COMMERCIAL VALUE OF HUMAN LIFE.

It is now universally conceded that human life has a definite commercial value, and although different views are held in different parts of the world and in even various sections of the same country as to what is inferred by a definite value, all agree in allowing damages for injury or compensation to the surviving relatives of the person killed.

Mr. Marshall O. Leighton has a lucid article on the matter in *Popular Science Monthly*, June. Regarding the conditions governing judicial procedure in cases of this kind, the writer says, the principle generally adhered to in estimates of life values is well defined by the English Court procedure, and this has been followed in spirit if not in letter by the majority of the States of our union. It is, in effect, as follows: "The jury may give such damages as they shall deem a fair and just compensation with reference to the pecuniary injury resulting from such death."

Arrangement of the different cases of award for wrongful death, in the order corresponding to the age of the decedents, from the youngest to the oldest, shows a somewhat heterogenous mass of figures, often varying considerably in the same age column. This might be expected in such an arrangement, for mankind is widely diverse. The productiveness of an individual depends upon his habits, applicacation, thrift, mental acuteness, physical condition and many of the other personal qualities which accompany mankind. Where one individual may possess many of these, they may be partially or altogether wanting in another, and so the judgment of juries and courts is altered to meet these conditions in the individual.

Dividing the life into age periods of five years, and combining the awards in each period, it is found that the resulting average in each period is thoroughly representative of the whole group and possesses tolerably narrow limits of probable error.

Mr. Leighton then gives a diagram in which it is shown that in varying degree the value of life increases up to the age of thirty which is the culminating point of physical vigor. At that age the physical powers are supposed to wane and therefore the risk becomes greater and the confidence in future values is lowered,

After the age of thirty; there follows a gradual decline of values until the age period, fifty-five to sixty, is reached, when the declivity becomes sharp, remaining so to the end.

Conclusions arrived at are as follows:

1, The pecuniary value of life is subject to the same economic laws as are applied to the more vulgar commodities.

2. In courts of law, the measure of an individual's productiveness, which is the measure of his value, receives the most careful scrutiny; therefore the decisions of such courts, where existing statutes permit, are trustworthy in determining an individual's value to his family.

3. The pecuniary value of a life to its relatives represents its pecuniary value to society.

4. Damages given for wrongful death are such that they can be represented by an average in diferent age groups, with only narrow limits of probable error.

5. The relation of these age-group values, one to the other, is supported by common observation and statistical reasoning.

Two Cases of the Removal of the Gall-Bladder by Finney's Method.—Ingersoll Olmstead reports two successful cases of this operation. It consists in leaving a flap on either side of the liver attachment of the gall-bladder, composed of the seromuscular coats, sufficient when the two are approximated to cover up completely the abraded area. The stump, on the other hand, is treated like an appendix stump, thus preventing any ordinary possibility of a leak from this source. When the gall-bladder is diseased it is best to get rid of the whole organ without opening its cavity, thus precluding the possibility of infection from that source.—*The Canadian Practitioner.*

News of the Week.

The Public Health and Marine Hospital Service.—One of the last acts of the House of Representatives was the passage of the bill making the Marine Hospital Service the Public Health and Marine Hospital Service. The object of the bill, it was explained during the closing debate, was to enable the Federal Government to take charge of the quarantine service of the country, in compliance with a growing public demand. Heretofore it had been rendered impossible of achievement because of the lack of coöperation between the health officers of the States and of the nation. The passage of the bill was opposed by several members, who contended that it would secure no practical advantage to the country, while the gathering of statistics provided for in the bill would be better done by the new permanent census bureau. The antagonism was not very spirited, however, and the House finally voted to suspend the rules and pass the bill.

The "Dixie" to Be a Hospital Ship.—The cruiser *Dixie* is expected to arrive at the Brooklyn Navy Yard in a few days from the League Island Navy Yard at Philadelphia to be transformed into a hospital ship. The work will cost about $75,000, and will be in charge of Naval Constructor Capps.

A Large Bequest to St. Thomas's Hospital, London.—Mr. Charles Gassiot, who died in London in May leaving an estate of over £830,000, left £26,000 to various charitable institutions, and £250,000 to St. Thomas's Hospital.

Dr. Deaver's Appendicitis Statistics.—Dr. John B. Deaver of Philadelphia calls attention to an error in the report of his paper upon appendicitis read at Saratoga. It was stated in the report that 137 chronic cases were operated with 7 per cent. mortality; but the mortality in the chronic cases was in fact only $\frac{7}{10}$ per cent.

The International Sanitary Conference.—The following delegates have been appointed by the Secretary of the Treasury to attend the international sanitary conference to be held in Washington, D. C., in October next: Surgeon-General Wyman, U. S. Marine Hospital Service; Passed Assistant-Surgeon M. J. Rosenau, U. S. Marine Hospital Service; Dr. H. L. E. Johnson, Washington, D. C.; Dr. Arthur K. Reynolds, Commissioner of Health, Chicago, Ills.; Dr. Edmond Souchon, President of the Louisiana State Board of Health, New Orleans, La.; Dr. J. Y. Porter, State Health Officer of Florida, Jacksonville, Fla.; Dr. A. H. Doty, Quarantine Officer, Port of New York; Dr. L. M. Powers, Health Officer, Los Angeles, Cal.; Dr. Charles B. Adams, Iowa State Board of Health, Sac City, Ia.; Dr. F. W. Porterfield, Atlantic, Ia.; Dr. Fred W. Powers, Iowa State Board of Health, Reinbeck, Ia.; Dr. James T. Priestly, Surgeon-General, Iowa National Guard, Des Moines, Ia.

International Conference of the Societies of the Red Cross.—Of the many propositions and resolutions submitted to this conference, held in St. Petersburg, May 29–June 4, the following are the only ones which were adopted:

Submitted by Germany: (*a*) In order to prevent the abuse of the distinctive sign of the Convention of Geneva as concerns international assistance, the personnel sent by the Society of a neutral State and admitted for this purpose, will bear the armlet of the Geneva Convention with the stamp of the National Committee which is authorized to send it. (*b*) The armlet carries beside the stamp of identity, affixed by the competent authorities of the belligerent Power to the sanitary assistance of which the personnel has been sent. Furthermore all the baggage destined to this assistance are to be made recognizable exteriorly by the application of the said stamp of the National Committee of the neutral State. (*c*) Each member of the Sanitary Mission sent by a neutral State will receive a card of identity to be delivered by the competent authorities of the belligerent State, in the language of the latter. (*d*) All missions not identified as above stated and which pretend to devote themselves to administering to the wounded and sick, shall not be admitted by the belligerent Powers. (*e*) The societies bind themselves to apply to their respective governments for the permission hereby required.

The following was introduced by the Central International Committee of Geneva: (*a*) It is the right and duty of each State to exercise a strict watch over private expeditions of assistance organized on its territory. National societies of the Red Cross are bound to assist in this investigation. (*b*) No expeditions of any kind are to leave the territory of a State without having in advance obtained the permission of the government. (*c*) No expedition of assistance has the right to make use of the name of the Red Cross, even should it have received the authority of the Government, unless it should have been organized or recognized by a society empowered to use that name.

The following resolutions, introduced by the Central Committee of Russia, also received the approval of the Conference: (*a*) It is desirable that societies of the Red Cross should come to an understanding with maritime companies, in order that the latter should place vessels of great speed at their disposal for the sanitary service in time of naval wars. The cost of hiring and adapting these vessels to be borne by the Red Cross societies. (*b*) That the best system of adaptation and equipment of hospital ships should be studied by all the societies of the Red Cross. (*c*) That in order to insure to the Red Cross societies the proper life-saving material and experienced hands, an understanding should be arrived at between the Red Cross and Life-Saving societies.

To prevent the abuse of the emblem of the Red Cross Societies: (*a*) It is to be desired that each government instructs the proper officials not to grant patents or trade marks bearing the insignia and name of the Red Cross. (*b*) That a period (for example, one year) be accorded for the purpose of enabling such industrial and commercial bodies as had adopted the insignia of the Red Cross to retire the same. (*c*) After the delay named, all infringements of this law may be punished by imprisonment or fine, as the case may be, at the instance of the Government or that of the societies of the Red Cross.

The conference recommended that the signatory Powers of the Geneva Convention regulate the legal basis upon which international assistance, given by the neutral societies of the Red Cross to belligerent States, might be placed in the theatre of war. It also urged that the signatory Powers of the Convention of the Hague, July 10, 1899, take measures to re-embody article 10 excluded by that Convention. In this case the societies of the Red Cross would bind themselves to treat the sick and wounded, without regard to nationality, brought to ports and maritime towns by naval vessels. Article 10, above mentioned, is as follows: "Sick, wounded, or shipwrecked persons who are sent to a neutral port, with the consent of the local authority, shall, unless a contrary arrangement be entered into between the neutral State and the belligerents, be subjected to such restraint by the neutral State that it will be impossible for them to again take part in the operations of the war. The expenses of hospital treatment and interment of the sick, wounded, and shipwrecked shall be borne by the State to which they belong."

Appointments and Resignations.—Dr. H. V. Wurdeman has been elected Professor of Ophthalmology in the Chicago Eye, Ear, Nose and Throat College.

Dr. Wm. M. Angney has been appointed Chief Surgeon to the Department of Public Safety of Philadelphia in succession to Dr. Thos. H. Andrews, resigned.

Dr. P. F. Moylan has been appointed a member of the visiting medical staff of St. Joseph's Hospital, Philadelphia.

Dr. Thos. H. Andrews has resigned as chief surgeon of the Philadelphia Bureau of Police and Fire, a position he had occupied for fourteen years.

Dr. J. Edward Stubbert, who has been physician in charge of the Loomis Sanitarium since its opening in 1896, has tendered his resignation, but will continue as a member of the medical board.

Dr. John H. Girdner of this city has declined a reappointment as trustee of the New York State Hospital for Tuberculosis, and Governor Odell has appointed Mr. John Seeley Ward to fill the vacancy.

Louisiana State Medical Society.—At the annual meeting of this society, held at Shreveport, June 3-5, the following officers were elected: *President*, Dr. Isadore Dyer of New Orleans; *Vice-Presidents*, Drs. H. B. Gessner of New Orleans, E. D. Martin of New Orleans, W. E. Barker of Plaquemine, F. M. Thornhill of Arcadia, J. C. Willis of Homer, and Charles McVea of Baton Rouge; *Recording Secretary*, Dr. W. M. Perkins of New Orleans; *Corresponding Secretary*, Dr. A. G. Friedrichs of New Orleans; *Treasurer*, Dr. H. S. Cocram of New Orleans.

The American Proctologic Society.—The fourth annual meeting of this society was held at Saratoga Springs on Tuesday, June 10, 1902, under the presidency of Dr. Thomas Charles Martin of Cleveland, Ohio. The following officers were elected to serve during the ensuing year: *President*, Dr. Samuel T. Earle, Baltimore, Md.; *Vice-President*, Dr. Floyd W. McRae, Atlanta, Ga.; *Secretary and Treasurer*, Dr. William M. Beach, Pittsburg; *Executive Council*, Drs. George J. Cook, Indianapolis; Lewis H. Adler, Philadelphia, Thomas Charles Martin, Cleveland.

The British Anti-Vivisectionists have got a little bill into the House of Commons seeking to abolish anæsthetics except those given by inhalation, to forbid experiments for the purpose of demonstration, to require license for each single experiment, to insist on the presence of one inspector throughout every experiment, and other impracticable provisions.

The Late Dr. Edwin W. Pyle.—At a meeting of the New York Otological Society, held March 24, 1902, the following was adopted: *Resolved*, That the members of the New York Otological Society receive with profound regret the announcement of the death of our esteemed colleague, Dr. Edwin W. Pyle. *Resolved*, That in the death of Dr. Pyle this society looses an earnest and conscientious member and otology an enthusiastic and scholarly disciple. *It is hereby offered*, That this expression of the society's regard be spread upon the minutes of the meeting in the form of resolution, and that an engrossed copy of the same be presented to the family of Dr Pyle.

Committee for the Society, Fred Whiting, M.D.

A Reception to Dr. Presley M. Rixey, Surgeon-General, United States Navy, was tendered on June 14, by the Medical Club of Philadelphia.

The Hospital Graduates Club.—The annual dinner of this society took place on May 26 at the Manhattan Hotel, Dr. W. E. Lambert, presiding. Addresses were made by the Rev. Dr. Greer of St. Bartholomew's Church; Prof. O. Haab of Zurich, and Drs. Wm. M. Polk, James E. Newcomb, D. Bryson Delavan, and George T. Harrison of New York city.

The North Carolina Medical Society.—At the forty-ninth annual meeting of the Medical Society of the State of North Carolina, held at Wilmington, under the presidency of Dr. Robert S. Young of Concord, the following officers were elected: *President*, Dr. A. W. Knox of Raleigh; *Secretary*, Dr. J. Howell Way of Waynesville; *Treasurer*, Dr. G. T. Sikes of Grisson. The next annual meeting will be held at Hot Springs.

The Late Dr. Oren D. Pomeroy.—At a meeting of the New York Otological Society, held May 27, 1902, the following minutes and resolutions were adopted: *Whereas*, Death has removed from among us a former member and one of the founders of this society, Dr. Oren D. Pomeroy, long and favorably known and respected among us, *therefore be it Resolved*, That we deeply regret the loss we have sustained in the demise of one of the pioneers of otology in America, and one who, until illness clouded his advancing years, kept fully abreast with its advances. *Resolved*, That we extend our sympathy to the bereaved family of the deceased and that a copy of these resolutions be spread in full upon the minutes of the society.

Committee, N. G. Hepburn, M.D.
J. B. Clemens, M.D.

Obituary Notes.—Dr. James T. Jelks of Hot Springs, Ark., died suddenly on June 24, at the age of fifty-three years. He was a graduate of the Medical Department of the University of Nashville in 1870. He was professor of gynecology and syphilology at the Barnes Medical College, St. Louis, and was formerly professor of genitourinary surgery and venereal diseases at the College of Physicians and Surgeons, Chicago. He was editor of the *Hot Springs Medical Journal*.

Dr. Robert A. Work died at Bethlehem, Pa., on June 17, at the age of thirty-four years, following an operation for appendicitis.

Dr. Alexander M. Mecray died at Maple Shade, N. J., on June 26, as a result of an apoplectic seizure, at the age of sixty-three years. He was graduated from the medical department of the University of Pennsylvania in 1863. He was at one time president of the Camden Company Medical Society and for many years a member of the staff of Cooper Hospital.

Dr. Arthur Ward died at his home in Newark, N. J., on July 6. He was born in Belleville in 1823, his father being a well-known physician, Dr. Samuel L. Ward,. He was graduated from Yale College in 1844 and then studied medicine at the College of Physicians and Surgeons in this city, his preceptor being Dr. Thomas Cook. He obtained his medical degree in 1847, and had practised in Newark continuously since that time. Dr. Ward enjoyed a very extensive practice and was beloved by colleagues and patients for his kindly disposition and abundant charities.

Dr. Charles C. Furley died at his home in Wichita, Kan., on July 6, of tuberculosis. He was a graduate of the Cooper Medical College, San Francisco, in 1860, and served throughout the Civil War as surgeon in the Union Army. At the close of the war he settled in Wichita, and at the time of his death was the oldest medical resident of that city.

Correspondence.

VACATION COURSES FOR POST-GRADUATE STUDY IN BERLIN.

To the Editor of the Medical Record:

Sir: Especially available to those desiring to pursue brief post-graduate study in Berlin are the Ferien-Curse that are given twice yearly, preceding and following the regular winter term of the university.

These are exclusively for graduates in medicine, usually practitioners of some experience, are of a month's duration given by a Docenten-verein that numbers some 125 members, for the greater part professors and privatdocenten of the university.

No less than 175 courses are offered, arranged with the usual precision and detail, so that one may pursue, without conflict in hours, studies in various subjects. There are but few didactic lectures, and the classes are usually limited to a maximum of from three to ten members. The fee ranges from 20 to 150 marks.

In pathology courses are offered by Langerhans; in internal medicine by Furbringer, Frankel, Renvers, Ewald; in children's diseases, by Professor A. Baginsky, at the Kaiser and Kaiserin Friedrich Hospital. A rapid review of recent therapy is given by Klemperer, and Grunmach demonstrates the Röntgen rays in physical diagnosis. Professor Posner, who had charge of the great jubilee in celebration of Virchow's eightieth birthday, gives a course in cystoscopy.

In surgery there are courses by Professor Gluck and F. Krause, and Drs. Lexer and Borchardt. The early morning course upon the cadaver, formerly given by von Bergmann, is now conducted for the Ferien-Curse by Borchardt. In gynecology there are Dührssen, Landau, Ruge, Koblanck; and all the operations may be practised upon the cadaver under Strassmann and others. Orthmann, though not a member of the Verein, usually forms a class at this time.

One may be one of three to spend twelve hours a week with Professor B. Baginsky in the treatment of ear diseases, or a similar period in treatment of throat and nose, or may be given excellent opportunity for operative work upon throat and nose in the clinic of Professor H. Krause, or with Jansen see many ear, nose, and throat cases, and witness some radical surgery. Bernhardt, Oppenheim, and Remak give clinics in nervous diseases.

The course given through the month of October is, perhaps, the most popular. Toward the latter part of the month von Bergmann and Oleshausen begin again to operate with an abundance of selected material, and throughout the month the operating rooms of Israel, Güsserow, and Koenig may be visited, as also the great pathological collection of Virchow. At the new institute for the study of infectious diseases Robert Koch is accessible, and courteous even to the casual visitor, and, under generous State endowment, is arranging to give systematic instruction.

Your recent review of post-graduate instruction is most desirable, but hardly complete without mention of the Ferien-Curse of Berlin.

Daniel B. Hardenbergh, M.D.

Middletown, N. Y.

REMOVAL OF THE APPENDIX.

To the Editor of the Medical Record:

Sir: Some six or seven years ago I adopted a new method of removing the vermiform appendix. Up to that time it was the custom with all the operators I had seen performing this operation to tie the appendix about a quarter or half an inch from the cæcum with silk or catgut, and then to cut it off a quarter of an inch above the ligature, this leaving at least half an inch of the diseased organ. Some, but not all, took the precaution to cut only through the peritoneal coat half an inch above the cæcum, the peritoneum being then peeled back until the root of the appendix was reached when it was tied and cut off. As a rule, a drop of pure carbolic acid was dropped on the gaping diseased mucous membrane so as to disinfect it, or it was touched with the actual cautery. These two expedients are very good as far as they go, but they have no effect upon the mucous membrane closely brought in contact by the ligatures, and as mucous surfaces never unite they go on secreting again just as soon as the ligature has sloughed off. The result is a fecal fistula, which keeps the patient in hospital three or four months and generally requires a prolonged and exceedingly difficult operation for its cure.

Having seen and heard of this accident in a considerable number of cases, I introduced a method by which it is entirely avoided; and brought it to the attention of the Surgical Section of the British Medical Association when it met in Montreal several years ago. It consisted simply in cutting the entire appendix off flush with the cæcum and then treating the circular opening in the bowel precisely as I would a bullet wound with Lembert sutures, first securely fastening the muscular walls together and then covering them over with one or two layers of sutures of the peritoneum. With this method I have not had a single fecal fistula in my practice. Within the last year I have made another improvement by which the same result is obtained with a much less expenditure of time. My assistant draws the appendix tightly upward and I then pass a purse-string suture around the base of it on the peritoneum and muscularis of the cæcum and the appendix is cut off even with the bowel and at the same moment the purse-string suture is tied firmly, by which means the *cut edges* of the mucous membrane are brought in contact and unite, and the peritoneum unites over it, making a water-tight seal in a few minutes.

While on this subject I would like to say a few words of condemnation of the method of leaving the diseased appendix intact and merely turning it outside into the bowel. In some of the cases I have had, the opening of the appendix into the cæcum was so contracted that it could not have been invaginated, while even if it could I maintain that it is bad surgery to leave an infected organ which it is so easy to remove completely by the above method and which is no longer required by the economy.

A. Lapthorn Smith, M.D.

Montreal, June 23.

MOSQUITOS AND MALARIA.

To the Editor of the Medical Record:

Sir: In Henry M. Stanley's note-book, under date of Oct. 5, 1888, appears the following note, which, in view of recent discoveries, is interesting: "Emin Pasha informed me that he always took a mosquito curtain with him, as it was an excellent protector against the miasmatic exhalations of the night." Question, might not a respirator attached to a veil or face screen of muslin assist in mitigating malarial effects? In Darkest Africa, p. 33, vol II. So near did this scientific Pasha come to discovering the connection between mosquitos and malaria.

Frederick A. Wright.

New Milford, Conn.

The Treatment of Fractures.—N. Wolkowitsch believes that the protracted disuse of the entire limb that accompanies the usual immobilization treatment of fractures militates greatly against the rapidity of the cure. In consequence of the enforced inactivity the muscles atrophy exudates are but slowly absorbed and the circulation is sluggish, so that bony repair is retarded. In some forms of fracture, such as those of the upper extremity of the humerus, he uses no retentive dressing whatever, simply allowing the wrist to rest in a sling. From the very first, daily massage and passive motion are begun, beginning very gently, later more actively, as the pain and swelling subside. For a routine dressing for most fractures molded plaster of Paris splints are recommended. These are prepared by wrapping longitudinal and circular turns of ordinary wet plaster bandages on strips of cardboard three inches wide and of the requisite length, until a sufficient thickness has been reached. The splint is immediately applied to the limb, which has been previously smoothly covered with a flannel bandage and is molded to shape, after which a second flannel roller is applied over all. In fractures of the lower extremity, the patient is allowed to walk as soon as the plaster has set; a cane, but no crutches, being given him. In compound fractures the condition of the wound determines the time of the beginning of the ambulatory treatment. The usual form of splint used is a "stirrup splint" consisting of a single strip prepared as described and passing down the legs on its outer side, under the arch of the foot and up again on the inside, thus permitting fairly free motion at the ankle in walking. In fractures of the leg the splint ends below the knee, in those of the thigh it is carried higher. After resections, such as those of the knee, a spiral turn, giving posterior support, is added. The results by this method, which has been used by the author for over seven years, show a decided shortening of the time necessary for firm union and a general improvement in functional results.—*Deutsche Zeitschrift fur Chirurgie.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 3, 1902.

On the Classification of the Benign Thyroid Tumors.—Joseph Hersey Pratt divides the benign glandular thyroid tumors into three primary classes: (1) Simple adenoma, (2) fetal adenoma, (3) papilliferous adenoma. The first is the most common form and includes endemic goiter. It seems evident that the other forms of goiter described by Virchow—fibrous, colloid, and cystic—belong to this same primary type. Simple adenoma may be multiple, but is usually single. It may be diffuse or encapsulated. Its histological appearance lends support to Wölfler's theory that simple adenoma is formed by the growth of scattered groups of embryonic thyroid cells, which are found in the intervesicular tissue. Fetal adenoma are composed of solid masses of rosettes of epithelial cells, with little or no colloid, and the structure resembles the fetal thyroid. Papilliferous adenoma has branching papillæ lying in cystic spaces, (*a*) developing from the walls of old cysts, (*b*) true adenocystoma resembling the adenocystoma of the ovary.

Tuberculosis of the Prostate.—L. R. G. Crandon says that the diagnosis of tuberculosis in the prostate, since the disease may be primary here, is of great importance. A gleet or a catarrhal prostatitis persists; there is pain in the prostate or neck of the bladder, there may be a drop of blood at the beginning of micturition instead of at the end, as in stone. There is increased frequency of micturition, and perhaps burning. The urine is slightly turbid, but in it are no renal elements as in pyelonephritis. The prostate, examined by rectum or bimanually, is found to be soft, slightly enlarged and tender, especially far back and including the area of the trigonum. One or both vesicles may show enlargement, but this is probably secondary. To rule out stone finally the sound should be used, but with the greatest gentleness. Malignant disease must be borne in mind. Tuberculosis elsewhere in the body, old or recent, helps in the decision, and the bacilli may sometimes be found in the prostatic milkings, or the secretion may cause tuberculosis when injected into a guinea-pig.

Tuberculosis of the Testicle.—Paul Thorndike and W. T. Bailey have collected seventy-five cases. In only 20 per cent. of the cases were there any symptoms referable to the urinary tract, and in only 16 per cent. was the vas deferens palpably involved at the time of operation. The first statement means that in most of the cases operations, if done at all, were preformed either because of the mere presence of a diseased focus, or in order to palliate or remove an active inflammatory mass. The presence of small masses is insufficient as an operative indication, and the bulk of the cases are not operated upon until more acute local symptoms render such a procedure necessary. This means that most cases do not come to operation until a fairly late stage in the development of the disease. In the cases collected the testis as well as the epididymis was involved thirty-two times out of seventy-five. As to the second point, the frequent non-involvment of the vas deferens, the important question suggested is: Is it necessary to remove all the diseased area in order to benefit the patient? The author holds that partial removals are often of the greatest benefit, and says that it must be true that the removal of a large focus of disease in this region is often of the greatest value, just as is a similar removal in cases of typical or atypical resection of an involved joint, where one does not necessarily remove all of the disease in order to accomplish a great benefit to his patient.

Journal of the American Medical Association, July 5, 1902.

Nephrectomy, Subsequent Nephrotomy, and Finally Suprapubic Cystotomy.—A case presenting the stages indicated in the title is reported by E. D. Ferguson, his patient being a boy of eight years. Radiography showed calculi in both kidneys. Successive attacks of renal colic led to the necessity of the operations detailed. The result was favorable, the patient having stood all the operative measures well.

The Treatment of Pneumonia.—N. S. Davis, Jr., discusses the use of blood-letting, tartar emetic, blisters, poultices, veratrum, calomel, etc., all from the historical standpoint. To-day he notes the establishment of what may be called the eliminative plan. The sources of danger in pneumonia are: (1) The toxins produced by the diplococcus lanceolatus; (2) The rapid involvement of large areas of lung tissue in inflammation which makes them functionally useless; (3) The sudden distension of the right ventricle to the point of paralysis by obstruction of the pulmonary vessels; (4) Œdema of the lungs, the result of a weak heart, enfeebled respiration, and probably of toxins which excite œdema in tissues no longer possessing the vitality required to develop the changes characteristic of inflammation. Acting on this theory, we should look carefully after the bowels, use milk, broths, gruels, etc., for food, give water very freely, relieve cyanosis by oxygen, care for the heart (digitalis being the remedy par excellence); give strychnine as a respiratory tonic, employ the diffusible stimulants, such as the ammonia salts, and for antipyresis rely on cold packs and ice-baths. Opium should be used with the greatest caution, if at all. Davis does not believe in the utility of antitoccic serums in this disease. Destruction of the sputa should be effected as in tuberculosis or diphtheria. An antiseptic mouth wash should be used several times daily. The most careful observation of sick-room hygiene must be insisted on.

Medical News, July 5, 1902.

A Plea for the Simpler Medicinal Treatment of Chronic Nervous Diseases.—Joseph Collins warns against the abuse of drugs. In regard to the treatment of tabes, he believes in telling the patient that he is afflicted with a disorder that will eventually incapacitate him, but that in the mean time a number of years of activity remain to him, and by pursuing an appropriate line of treatment, and by the observance of the rules of hygiene, this period may be greatly extended. Non-medicinal measures, such as massage, suspension, electricity, hydrotherapy, dieting, and conformation to the best hygienic measures are very powerful therapeutic agencies, and the best in our power to stay the course of the disease. The best treatment of epilepsy is to put the system in such a condition that excitants of epileptic attacks, such as autointoxications from the gastrointestinal tract, from fatigue, from poisonous products, which should be eliminated from the body, will not develop within the body, and also to guard against those experiences which we have learned often precipitate attacks. Also to so influence neuromotor irritability in a sedative way that discharge of energy in the shape of explosion will be less likely to occur. As to neurasthenia, the writer finds that its treatment by rest, exercise, change of environment, isolation, hydriatics, massage, diet, avoidance of deleterious indulgences, and conformation to hygienic rules is so far superior to drug-therapy that he rarely uses drugs in these cases, unless to fulfill some pointed indication. It is not that the writer does not believe in the right use of medicine, but he calls attention to its frequent abuse.

Tetany.—Sanger Brown carefully discusses this subject. Pregnancy and lactation furnish a large proportion of the cases met with in women. Thyroid deprivation, due either to surgical interference or to disease, may cause tetany. Certain gastrointestinal disorders, such as diarrhœa and constipation, sometimes have an etiological significance. The acute infections are answerable for some cases. Hysteria is frequently, and epilepsy is sometimes, associated with tetany. This affection is most common in young adults. No post-mortem findings have as yet thrown any light upon the nature of the disease. Muscular spasm is the essential feature of tetany. As a rule, the spasm lessens during sleep. The electrical excitability of both nerves and muscles is greatly increased. The distribution of the spasm is, perhaps, more variable than its nature. The spasms are nearly always symmetrical. There may be certain sensory phenomena, such as tingling and burning. Vasomotor and trophic phenomena, as œdema of the parts of the seat of spasm are common. Some cloudiness of the lens is said to be present in some cases. In typical cases the diagnosis is not difficult. There is a wide variability in the duration of the disease, from a few hours to months. In cases resulting from extirpation or atrophy of the thyroid the treatment is obvious. Excepting for thyroid and pregnancy cases, no specific has yet been discovered. The relief afforded by sedatives and antispasmodics is often urgently demanded. The degree of medication of any kind necessary to subdue severe paroxysms demands the presence of a physician. In conclusion, it may be stated that the disease is characterized by tonic spasms, paroxysmal or continuous, and usually symmetrical, limited to the hands and feet in mild cases, but much more extensive in severe ones. Sensory and general symptoms, when present, are almost invariably distinctly subordinate.

New York Medical Journal, July 5, 1902.

The Eye as a Factor in Causing General Symptoms; Illustrated by the Report of a Case.—J. L. Minor relates the case of a negro woman of sixty-seven years who was troubled with severe pain in the right eye, spreading over the face and forehead and finally involving the entire body. The physician in attendance pronounced the case to be one of bilious fever and prescribed the usual remedies. Minor found the condition to be one of absolute glaucoma with loss of vision, requiring no immediate treatment. In the meantime. after a remission of symptoms, the pains had again returned, this time starting from the left eye. The latter showed acute glaucoma, demanding a prompt iridectomy. This was done and the general symptoms were entirely relieved.

The Differential Diagnosis of Acute Polyarticular Rheumatism, from a Surgical Standpoint.—Dr. W. G. Stern calls attention to present views on the infectious nature of rheumatism, but notes that it is at times difficult to differentiate between this disease and other infections having the seat of their activity about joints. Bacteriology does not always help us out for as yet there is no known definite germ of the former malady. The features of acute polyarticular rheumatism which may, however, lead to difficulty in diagnosis are (1) The disease may exceptionally manifest itself in only one joint throughout its entire course; (2) It may be of such a mild type and the effusions so scant as to be difficult of demonstration, and yet present later on all the grave endocardial symptoms of a severe case; (3) The initial acute symptoms and the polyarticular character may be masked, and the disease end with a sudden attack upon some one joint, which becomes tensely swollen, especially painful, the periarticular tissues infiltrated, and the joint itself securely ankylosed; (4) The swelling may not always be situated within the joint capsule. At times the neighboring tendon sheaths or the subcutaneous tissues become involved, making the impression of a phlegmon or lymphangeitis. This, however, only comes on late in the course of an attack. The diseases which can simulate acute polyarticular rheumatism, and from which a differential diagnosis must often be made, are briefly classified under two general heads: (1) Primary forms of arthritis, such as acute pseudo-rheumatic tuberculous arthritis, synovitis serosa, synovitis purulenta and arthritis purulenta, intermittent hydrops, syphilitic arthritis and arthritis deformans: (2) arthritis secondary to infectious diseases, septic infection, septicæmia or constitutional diseases. These are gonorrhœal arthritis, arthritis after scarlatina, pneumonia, diphtheria, etc., arthritis in septicopyemia, acute osteomylitis, osteochondritis (syphilitic and rachitic), arthritis in pulmonary tuberculosis, gout and joint neuralgia or neuroses. The paper follows out the lines above indicated.

American Medicine, July 5, 1902.

Ovarian Irritation as a Factor in the Etiology of Pseudocyesis.—J. Thompson Schell, in the cases which he reports, calls attention to the fact that all of the women were comparatively young, their ages being respectively 33, 29, 33, and 28 years, therefore they could hardly be classed as being at the menopause. The mental attitude of these patients was indifference as to the probability of pregnancy. Since their minds had been freed of delusional pregnancy, they had all been annoyed by more or less severe symptoms of ovarian disease. The writer thinks that pseudocyesis is probably a manifestation of hysteria, but he suggests that a pelvic irritation is the possible cause of the hysteria in some cases. He firmly believes that there are some cases, and possibly a larger number than we now have any idea of, in which the hysterical condition is brought about by some form of ovarian disease.

Six Cases of Epilepsy Due to Ametropic Eye-Strain.—George M. Gould, commenting on the reported cases, says that it has been asserted that epilepsy has been caused by imbalance of the ocular muscles and cured by operation, but this cannot be true if, according to the writer's belief, the incoördination of the external ocular muscles is itself the result of ametropia. Ametropia does occasionally cause epilepsy. It may be said that in the experience of others, eye-strain is not a casual agency in the production of epilepsy, but to this it may be replied that (1) Undoubtedly eye-strain is not the most common, and perhaps it is a relatively uncommon cause of the disease; (2) Nevertheless, however seldom it may be the cause, it should not be neglected, on account of the terrible mystery and incurability of the dread affection; (3) The relief of eye-strain is far from certain with the prescription of glasses, even by the most reputable of oculists, because there are a hundred ways in which the prescription may not be correct, the glasses may be improperly worn, or the ametropia may change rapidly.

Philadelphia Medical Journal, June 5, 1902.

Climatology of California.—Alexander G. McAdie sums up the general climatic factors of this land of sunshine and fog, of heavy rainfall and of scant rainfall, this land of contrast—California: Because of its proximity to the ocean, a great natural conservator of heat the temperatures are as a rule moderate and equable. Because of the exceedingly diversified topography the climatic conditions are likewise very diversified, the prevailing easterly drift of the air brings a constant supply of fresh air neither too hot nor too cold to most of the State; and, owing to the general path of storm movements lying further to the north, California escapes many of the disturbances so familiar elsewhere. All these combine to give a climate different from other sections of our great country. The effect of the climatic environment is well shown in the flora of the State. What influence the climate will exert on man, and what the ultimate record will be, the writer does not discuss.

Carcinoma of the Eyelids, with Secondary Involvement of the Eyeball: Removal of the Growth by Extensive Plastic Operations; Recurrence.—William Campbell Posey and Edward A. Shumway report this case. The patient was a woman sixty-one years of age. The right eyelid was ulcerated to such an extent that it was threatening the loss of the eye. The ulceration had originated in a small mole at about the middle of the lower lid some ten years before. The ulcer was painless. Her health was excellent. The left eye had been removed on account of glaucoma. Extirpation of the growth was advised although the loss of the eye was probable. The ulcerated areas were excised, which left large denuded areas. The growth had extended deep into the orbit and severe hemorrhage occurred on its removal. In order to fill in these denuded areas, several flaps were taken, one from the cheek, one from the temple, and one from above the root of the nose. Three days later the stitches were removed and the globe was found to be in excellent condition. Sight was as good as before the operation. Three days later, however, signs of panophthalmitis developed. At the end of three weeks, after the greatest care, the eye was almost quiet. Two years after this the patient returned to the hospital for the relief of intense pain in the eye and temple which had annoyed her for several months. The globe was in a state of absolute glaucoma and the orbit seemed to be completely filled up with an epitheliomatous mass. The whole region was cleaned out, and recovery was rapid. The last time the patient was seen, six months after the operation, there had been no recurrence.

The Lancet, June 28, 1902.

Brief Notes on Three Cases of Auto-Intoxication; One Fatal.—A. B. Duprey calls attention to a common condition in Grenada where corn and peas form the main articles of diet. Constipation is very common, owing to the diet which also includes many fruits of a fibrous texture. As a result of the bowel inactivity a train of symptoms is set up, strongly suggestive of uræmia and caused by absorption from the intestine. Soap and water enemas with castor oil generally relieve the condition. Three cases are reported in detail. One is that of a child who died suddenly but the history of the case and results of autopsy led the author to include it in the present category.

On the Treatment of Incipient Bronchopneumonia in Infants.—The paper of T. Zangger is a plea for hydrotherapy. His plan of treatment is as follows: At the very first onset of pneumonic symptoms (high temperature, diminished resonance, small noncrepitant or crepitant râles, apathy, increased rate of heart beat and respiration) he gives a bath of 86° F. for two minutes and then slowly reduces the temperature of the bath by adding cold water for from two to three minutes till a temperature of 76° is reached. He rubs the body of the patient with a sponge or cloth or the hand to promote reaction of the skin and reduction of the body heat. The bath water need not, and in cases of feeble children, should not, quite cover the body but the water can be sponged on the chest, the patient lying in the arms of an attendant. If definite pneumonic symptoms be present the bath may have to be repeated at intervals of from eight to twenty-four hours. The cross packs relieve the symptoms of bronchitis. Zangger uses them extensively in incipient phthisis, but they give excellent results, and naturally prompter ones, in uncomplicated simple bronchitis. They are applied in the following way. A linen bandage about one and one-half inches broad for infants and five inches for adults, and from two to three yards long, is placed in cold water (from 54° to 66°), is well wrung out, and is applied to the chest thus—(1) Beginning under the right axilla, passing over the left clavicle and round the chest back to the right axilla; (2) From here round the chest horizontally; (3) From the right axilla to the left and over the back and the left clavicle to the front (or left axilla). This bandage is covered in the same way with a thick single, or thin double, flannel bandage perhaps half an inch broader. This "pack" is applied at night and left till the morning; on removing it the chest must be well rubbed with a cold, wet towel and then rubbed dry. Several cases are detailed.

The Fixation of Movable Kidney by Means of Strong Carbolic Acid.—T. Carwardine tabulates the particulars of six cases thus treated. His method consists in freely painting the whole surface of the kidney, except the hilum, with the strongest liquid carbolic acid, so that the surface becomes covered with granulation tissue within a few days. The painting is best done after the supporting sutures, etc., have been inserted, but before they are tied, by means of a swab containing the liquid not in excess. In four of the cases—those in which the kidneys were suspended by gauze slings and packing—he has been able to watch the surface of the kidney for from ten days to three weeks afterwards, and he has observed the granulations and lymph rapidly form, followed by intimate and firm incorporation of the kidney with the surrounding tissues. The kidney could then be seen to move with respiration in conjunction with the parts surrounding it, and on pressing upon the exposed renal surface it was found to be inseparably attached even in those cases in which no sutures were used. Moreover, in a case treated thus combined with gauze packing, he was able to verify the results a year afterwards, for on cutting through the old scar for the relief of pain therein of six months' duration, no differentiation of the scar tissue was visible until the cortex of the kidney was actually cut into, so intimate was the fixation. For these reasons, Carwardine is very favorably impressed with Senn's suspension method (with gauze) combined with cortical carbolization. No disadvantages have followed the acid applications and there has been a marked absence of postoperative pyrexia. One patient had temporary hematuria on leaving her bed, which was attributed to tight suturing.

The British Medical Journal, June 28, 1902.

Generalized Vaccinia.—R. W. G. Stewart revaccinated an able seaman who had previously been revaccinated in 1886, and had five typical foveated marks. Four modified vesicles which developed ran a normal course. Three weeks later a rash appeared on the side of the neck and rapidly extended. There were numerous large shotty papules on the left side of the neck, some of which were just entering the vesicular stage. There was no trace of any rash in the vicinity of the vaccination marks or in any other part of the body. The next day the rash was very profuse, and the entire neck was covered with shotty papules and vesicles showing well-marked umbilication. There was at this time a profuse papular rash on both wrists and forearms, the back of the hands and forehead, similar to that on the neck. The next day the rash had become confluent with considerable inflammatory reaction. The axillary glands were enlarged and tender. From this time the rash ceased to extend. Vesiculation and maturation took place rapidly, the process stopping short of the pustular stage. Scabbing became well marked. All trace of the eruption disappeared within a few days. The only symptom complained of was a sensation of heat in the affected parts during the first three days of the eruption. No rise of temperature took place nor were there any constitutional symptoms whatever.

Localized Peritonitis in Typhoid Fever: Laparotomy: Recovery.—W. A. Mackay believes that the early performance of laparotomy in the perforative peritonitis of typhoid fever offers the greatest and generally the only chance of recovery. The patient whose case is reported was a man aged forty-four years. The first attack of the fever was mild, but at the beginning of the fourth week a relapse occurred. There was tenderness in the right iliac fossa, and relative rigidity of the right rectus muscle. In the right iliac region there was a distinct area of dulness on light percussion, and this increased in extent. At the operation this was found to be due to the contracted and empty state of the ileum. There was a fair-sized liver dulness. The abdomen was opened and the lower part of the ileum pulled out. No perforation was discovered, but over a thickened and congested Peyer's patch about six inches from the ileo-cecal valve the peritoneum was roughened and there was an inflammatory exudation. No appreciable fluid exudation was present in the peritoneal cavity. The lower part of the ileum was contracted and empty. From the peritoneal surface there were one or two small reddened portions of bowel evidently corresponding to affected lymphoid tissue, but the portion through which the inflammation had spread was apparently the only patch of size which was affected by the typhoid process. The patch being thickened, no attempt was made to deal with it, save that it was left under the abdominal wound, which was closed by sutures of silkworm gut passing through all the layers. The pulse-rate was never high, but in view of the other symptoms, stress was not laid on this otherwise than as a hopeful factor in prognosis. If patients are to be saved from perforative peritonitis in typhoid fever by means of laparotomy it is certain that many will be operated on in the pre-perforative stage.

Some Phases of Inflammation of the Appendix.—Frederick Treves states that the greater proportion of cases of appendicitis recover spontaneously, and it is probable that the general mortality of the disease—if examples of all grades be included—is not above 5 per cent. Operations carried out during an acute attack are attended with a risk to life which is considerable, and which is probably expressed by a mortality of over 20 per cent. Certain hospital records and collections of cases appear to place the death-rate even higher than this. It must be remembered that relapses may occur after operation carried out during the acute stage. The removal of the appendix during the quiescent period is attended with a very trivial risk, which may be expressed by a mortality of 1 in 500. The writer thinks that our knowledge of the pathology of the disease and its general mortality will not sanction the practice of opening the abdomen in every case of appendicitis as soon as the diagnosis is established. Immediate operation is demanded, at the earliest possible moment, in all ultra-acute cases. These include those very hopeless examples which present from the onset the phenomena of intense infection, and in which it is evident that a very large dose of poison has suddenly been introduced into the system. Death may occur in thirty-six or forty-eight hours. There are also included cases in which the symptoms are as acute as those attending perforation of ulcer of the stomach. The writer noes not believe that these ultra-acute cases are difficult of recognition. Immediate operation is demanded in every instance in which there is reasonable suspicion that suppuration has taken place. In cases outside of those above named, the question of operation may be kept in abeyance for the first few days after the attack, and may usually be left open for decision until the fifth day or after. The great majority of cases of appendicitis recover spontaneously without either an operation or the formation of an abscess; the ultra-acute cases are actually rare, and relatively to the whole mass of examples of all degree suppuration may be said to be uncommon. There are certain cases of adults in which the attack would appear to be led up to by gross deviations from normal food-taking. For example, those individuals who have no teeth, those who "bolt" their food, those who overeat, those who constantly eat indigestible food, and those who neglect their bowels. If these errors be corrected there may be no repetition of the attack. Removal of the appendix is to be recommended in chronic appendicitis, in those cases in which there are no actual attacks, but in which there is abiding discomfort in the right iliac fossa with exacerbations of uneasiness. The removal of the appendix is not a panacea for all ills, nor even for all those manifold pains which seize upon the lower segment of the abdomen.

Deutsche medicinische Wochenschrift, June 12, 1902.

Pulmonary Embolism Following Bone Fractures.—Jacob Putermann reports a case of fractura cruris simplex which was followed by pulmonary embolism. The fracture was reduced and a plaster bandage applied. Eleven days thereafter the patient was moved from one bed to another. Shortly following this he complained of violent pains in the broken limb. These continued, and after six days, on account of the bad position of the limb, the plaster cast was removed and a new one applied. Soon thereafter pulmonary symptoms developed. The diagnosis of infarctus pulmonis dextri ex embolia rami arteriæ pulmonalis was made upon the following grounds: (1) The physical signs in the affected lung in conjunction with an absolutely afebrile condition; (2) Profuse hæmoptysis; (3) Sudden appearance of the symptoms after the movement of the fractured limb; (4) The localization of the process in the right inferior lobe.

Differentiation of Blood by Means of Serum.—Stephen Minovici points out the great value of the precipitin reaction in differentiating bloods of different origin. It has been conclusively shown by Uhlenhuth, Wassermann and Schultze that it is absolutely reliable. Its great practical importance consists in the ability to determine the presence of human blood by its use. The methods hitherto in use for obtaining a suitable specific serum have necessitated the sacrificing of a considerable number of animals because of various infections introduced at the time or shortly after the inoculations. If the abdominal wall is chosen as the site of inoculation and the following technique instituted a powerful serum may be obtained, and very few, if any, animals sacrificed to concurrent infections: By means of sterile scissors the hair is carefully removed from the skin covering the chosen site of inoculation, which is then thoroughly washed with a 2 per cent. bichloride solution. With sterile scissors a slit is then made through the epidermis, into which the needle of the syringe is introduced until its point enters the peritoneal cavity. Upon the withdrawal of the syringe the wound is closed by the means of absorbent cotton and collodion. In obtaining a specific serum for human blood, the blood used for the inoculations should be preferably taken from a vein, all antiseptic precautions being observed. Blood thus obtained gives, upon inoculation, a stronger serum and is much less liable to give rise to concurrent infections than placental blood. In examining dried blood this should be thoroughly macerated in physiological salt solutions and the whole filtered. To 2 c.c. of this clear solution 8 to 10 drops of the specific serum, obtained in the above manner, is added. If the blood is of human origin a precipitation usually takes place in about half an hour at the ordinary room temperature. In many cases,however, a prolongation of this time is necessary for the production of the reaction. In general, it may be said that the older the blood spots, the longer is the time required for the formation of the precipitum. Fresh fluid blood uniformly shows a prompt reaction.

Berliner klinische Wochenschrift, June 16, 1902.

Nephrolysin.—G. Ascoli and F. Figari, as the result of a series of experiments, confirm the results obtained by Lindemann, Nefedieff, and Bierry, and materially enlarge upon the same. The blood of rabbits which have been inoculated with portions of dog's kidneys shows the presence of a powerful nephrolysin. The same, however, cannot be demonstrated in the blood corpuscles, and is exclusively found in the serum. Such serum when inoculated into normal animals at from four to eight-day intervals produces albuminuria, hæmaturia, and cylindruria, which may continue for weeks or months. Similar results may be obtained by the inoculation of the blood serum of animals which have been submitted to unilateral ureter-ligature or nephrectomy. They are, however, of less intensity and duration than those produced in the manner first described. Further experiments show that iso- and auto-nephrolysins possessing a specific elective action are also produced during the process, and that by increasing inoculations of a serum containing nephrolysin an anti-nephrolysin may be produced which, when in sufficient amount, will more or less completely protect the animal against large doses of nephrolysin. These experiments show that the injury or removal of one kidney may give rise to the production of a poisonous product—nephrolysin—which acts as a powerful poison, producing albuminuria, hæmaturia, and cylindruria, and that the organism reacts against such a poison by the production of an anti-body—anti-nephrolysin. The intensity and duration of the above-named symptoms depend upon the power and quantity of the anti-body thus produced.

New Results in the Treatment of Carcinoma by Cancroin.—A. Adamkiewicz reports six cases of carcinoma which have recently been successfully treated by inoculations of cancroin. Of this ½ gm. has been inoculated daily during the period of observation. In all of the cases the improvement was pronounced and began immediately after the initial inoculations. Such an improvement consisted in a reduction in the size of the tumor and induration, together with a marked advance toward health in the general condition of the patient. The first case was carcinoma of the tongue, from which the patient had suffered for three years. The period of serum treatment and observation extends from January 21, 1902, to April 20, 1902. The second case was carcinoma of the epiglottis. Here the inoculations were begun on March 13, 1902. The last date of observation was April 14, 1902. The third case was carcinoma of the œsophagus, which developed during the summer of 1901. Inoculations were begun on March 13, 1902, and the latest observation was on April 26, 1902. The fourth case was carcinoma of the stomach which was first detected in August, 1901. The first serum treatment was given on February 27, 1902, and the last observation was on March 24, 1902. The fifth case was carcinoma of the breast, which first appeared in February, 1900. The period of serum treatment extends from February 17, 1902, to May 2, 1902. The sixth case is the one reported below by Kugel. In most of these cases no local or general reaction was caused by the serum treatment, although in some a marked local reaction followed the initial inoculations. The efficiency of this treatment, the author holds, demonstrates the parasitic nature of carcinoma, upon which theory the preparation of the serum is founded.

Recovery from Carcinoma after Inoculations with the Serum of Adamkiewicz.—L. Kugel reports a case of multiple carcinoma which had been submitted to several operations, but in which recurrence had invariably taken place and further operative procedures were deemed inadvisable. As a last resort, inoculations with the antiserum of Adamkiewicz were undertaken. This treatment was begun in October, 1900, and ½ gm. of the serum (cancroin) was inoculated daily for three months; for the following two months the inoculations were given every second day; from this time until October, 1901, the intervals were increased to from eight to fourteen days. The subjective symptoms began to diminish immediately after the initial inoculations, and after twenty of these the pains and œdema had entirely disappeared. After four months' treatment the tumors ceased to increase in size and the induration began to diminish. Coincident with these changes, the general condition of the patient markedly improved. The general and local improvement thus obtained remained practically stationary up to October, 1901, when, upon the advice of Professor Adamkiewicz, the inoculations were permanently discontinued. During the first weeks of December, 1901, the size of the tumors and the induration began to rapidly diminish, so that at the end of December many of them had entirely disappeared. From this time until May, 1902, there was no recurrence, but a gradual improvement in both subjective and objective symptoms. It is thought that the case has been under observation for a sufficient length of time in order to demonstrate absolutely the efficiency of the serum treatment. With respect to the diagnosis there can be no doubt since the diseased tissue has been repeatedly examined microscopically by experts and pronounced to be of a typical carcinomatous nature.

Münchener medicinische Wochenschrift, June 17, 1902.

Microscopical Appearances of Exhausted Muscle.—W. Scheffer, as the result of a series of observations, shows that under low magnifications exhausted muscular fibers possess a wrinkled appearance which is very different from the smooth aspect of the normal fiber. Under higher magnifications it can be seen that the transverse striations are absent. Under the higher power it is seen that the exhausted fibers have lost their characteristic appearance and have become much thicker and homogeneous in nature. The fibers possess a distinct swollen appearance. These enlargements are arranged irregularly throughout the muscle and are apparently without structure.

Diagnosis of Carcinoma of the Large Intestine.—Friedr. Cramer considers the essential points in the diagnosis of carcinoma of the large intestine. Attacks of intestinal colic occurring at longer or shorter intervals are often the first symptoms of this condition, and when present in supposedly healthy persons, especially those who have passed middle life, they should excite suspicion and lead to a thorough examination for the presence of carcinoma of the large intestine. Of course all cases of this disease are not accompanied by attacks of colic, and such attacks may be produced by other causes, notably the excessive use of tobacco, but their occurrence should always excite grave suspicion as above noted. Rigidity of the intestine upon palpation is one of the most characteristic symptoms of intestinal obstruction. Its presence, of course, does not mean that the obstruction is due to carcinoma. It does, however, signify that the obstruction is of a chronic character, and is one of the most valuable signs in the chain of evidence which is necessary to establish the diagnosis of carcinoma of the large intestine. The location of the rigidity does not correspond with the location of the obstruction, and hence is not available for determining the exact situation of the tumor. So-called stenotic murmurs are of great value in the diagnosis of intestinal stenosis, and it may safely be said that most authors do not attach to them a sufficient importance. These murmurs are to be accurately differentiated from the gurgling sounds frequently heard in various intestinal conditions. The sound most closely resembles that produced by water when it is poured upon the ground at some height from a pitcher. They may be distinctly heard at a distance of several feet from the patient. Persistent tenesmus is very characteristic of carcinoma of the large intestine, and its degree of persistence and intensity throws much light upon the location of the tumor. The lower the tumor is located, the greater is the persistence and intensity of this symptom. The characteristic hemorrhages present in this disease are those in which a small amount of fresh or newly-clotted blood is passed at frequent intervals for a considerable period. Great diagnostic importance attaches to this symptom when careful rectal examination with the speculum has failed to show the presence of hemorrhoids or any inflammatory rectal condition. Under such conditions the presence of pus in the discharges is also of significance. Such pus should always be submitted to microscopical examination, in order to ascertain if broken-down fragments of carcinomatous tissue are present. Much importance has been attached by some authors to the presence of so-called stenotic fæces in the diagnosis of carcinoma of the large intestine. The form of the fæces is dependent upon the condition of the lower rectum and the sphincter ani, only in those cases in which the carcinoma is located low enough to cause an irritation of these structures are stenotic fæces present in this disease. Their value, therefore, as a diagnostic sign is entirely limited to this class of cases.

Treatment of Ulcer of the Stomach.—Wilhelm Fleiner reviews the history of the treatment of ulcer of the stomach, and gives in detail his own method therefor. This consists of the careful carrying out of a rest and diet cure, together with the administration of bismuth subnitrate. The patient is immediately put to bed and all food by the mouth interdicted. Nutrition is administered by the means of nutrient enema. These are given three times daily, and consist of 250 to 300 c.c. of meat broth, to which may be added 50 to 100 c.c. of white wine, one or two beaten eggs or 50 c.c. of milk if necessity requires. This regimen should be continued for from one to two weeks, if possible, and during this time ice should be intermittently applied to the stomach. The lips may be frequently moistened and occasionally small pieces of ice held in the mouth. At the end of this time alimentation by the stomach may be begun. At the commencement this should consist exclusively of milk of which small portions should be frequently given. These should be gradually increased until at the end of two to three weeks 250 c.c. are given every two or two and a half hours. During the latter part of this time, if nutritional demands require, flour, meal, rice, or arrowroot may be added to the milk. At the end of this period oatmeal porridge may be given, and the stomach occasionally naturally irrigated by drinking 100 to 150 c.c. of vichy water. Meat should not be given until after the fourth week, and should at first consist exclusively of the white meat of fowls. Red meat should not be given until after the sixth week, at which time various easily digestible vegetables may be added. The patient must remain in bed until between the fourth and sixth weeks. Even after this time he must assume the recumbent position immediately after eating, and so remain for from one to two hours. This precaution must be preserved following the chief meal of the day for many months. The above treatment brings about a permanent cure in about three-fourths of all cases of ulcer of the stomach. The remaining fourth require in addition a suitable medication. This is to be found in the proper use of bismuth subnitrate. In those cases in which irrigation of the stomach is not contraindicated the following method should be employed: The stomach is at first washed out in the ordinary manner, 10, 15, or 20 grains of the bismuth are then dissolved in 150 to 200 c.c. of luke-warm water, and the whole introduced into the stomach. No food should be taken until at least one-half hour after the bismuth has been introduced. Bismuth may be thus administered daily with advantage. In those cases in which washing of the stomach is contraindicated the bismuth may be given in 10 to 20 grain doses in half a glass of water one-half to one hour before meals. In accordance with the above rules, the author has treated successfully more than 300 cases of this disease. It must, however, be remembered that in many instances the sequelæ of ulcer of the stomach require surgical interference, and that satisfactory final results are oftentimes only obtained when the surgeon has rectified the abnormalities resulting from the ulceration.

French Journals.

Some Remarks on the Régime of Diabetics.—G. Linossier concludes that the régime ought not to be the same in all cases of diabetes. The absolute prohibition of hydrocarbons as food may be more harmful than beneficial. The general restriction of diet, which is often too varied in diabetics, is at least as important in obtaining the diminution of glycosuria as the prohibition of sugar and starches. It is permissible to prescribe a régime much less strict. The benefits of the milk diet, or of the potato diet, are certainly, in large measure, attributable to this restriction.—*Journal des Praticiens*, June 14, 1902.

Tuberculosis of the Epitrochlear Ganglion.—L. Verdelet reports the case of a young man of nineteen years who presented himself with a swelling of the right arm in the epitrochlear region. The family and personal history were negative. There was no apparent port of entry. A little ointment was applied locally for the purpose of resolution, and appropriate general treatment was ordered. On account of the improvement which followed, the patient gave up the treatment. He returned later, however, with the swelling the size of a hen's egg. It was rather painful and slightly movable. There was clearly fluctuation. Besides there were two small swellings in the axilla. Operation was advised. The ganglion was removed and was found to be full of pus. It was tuberculous. Cure followed rapidly.—*Journal de Médecine de Bordeaux*, June 15, 1902.

Ablation of the Tonsils.—George Mahu states that the operation of removing the tonsils piecemeal is not painful, especially if the pieces removed are not too large. All pain will be avoided if the tonsils are first sprayed with a solution of cocaine. This may be followed by an application of adrenal extract, which will do away with the small hemorrhages that are otherwise apt to occur. After the operation the throat should be gargled with hydrogen peroxide. On the day of the operation, and on the day following, the nourishment should be fluid and very cold. The ordinary diet may be gradually resumed. During the five or six days following the operation the throat should be gargled morning and evening and after every meal with the following solution: Resorcin, 10 grams; glycerin and syrup of orange flowers, each 30 c.c.; boiled water, q.s. ad 500 c.c.—*La Presse Médicale*, June 18, 1902.

Intestinal Perforations in the Course of Typhoid Fever.—Ricard reports two cases, the first of which occurred in a patient of Akopoff's, while the second case was his own. The first patient was a man of forty-three years. On the twentieth day of his fever he exhibited the symptoms of perforation. Laparotomy was performed thirteen hours after the perforation occurred, and the lesion was found to be 40 cm. from the ileocæcal valve. In the second case intervention took place fifteen hours after the accident. The symptoms were not so severe as they are ordinarily; there was a little distention of the abdomen, pain and fever; the general state was not alarming, but the abdomen was opened, and a mass of intestines was found glued together. On separating them, several small perforations were found that had been closed over by the matted intestines. One larger perforation was in the process of healing. In both of these cases the perforations were sutured and good results followed.—*Le Bulletin Médical*, June 21, 1902.

The Journal of Tropical Medicine, June 16, 1902.

Peculiar Markings of the Tongue in Ankylostomiasis.—Percy H. Delamere some time ago began to notice that all the patients under treatment for this disease had a peculiar mark on the tongue, exactly as if the patient had just wiped a penful of blue-black ink on his tongue. Further observation showed that all patients who had passed ankylostomes after treatment had more or less marked tongues. Further than that, the examination of the tongues of a number of apparently perfectly healthy coolies without anæmia nor any sign of disease, showed the blue-black marks, and after the administration of thymol every one of them passed mature ankylostomes. If this is a regular symptom of the disease, it is well worth making public, as the author believes it to be an early sign, before there is pronounced anæmia, and of such easy diagnosis that cases can be treated and cured before there is much damage done. Illustrations of the markings accompany the article.

Quinine Idiosyncrasy Leading to Hæmoglobinuria.—Aubrey Hodges describes the case of a patient who had heard of Koch's theory of the relation of quinine to blackwater fever, and had therefore carefully abstained from taking the drug. On one occasion when he did so he passed black urine a few hours later. After that he took methyl blue as a substitute for the quinine, of which he had so great a horror that he could not be persuaded to try it. The writer mixed half a gram of quinine sulphate with the patient's morning nutrient enema without his knowledge, and as no bad result followed, except the passing of port-colored urine on one occasion only, increased the dose to half a gram twice daily, without recurrence of hæmoglobinuria, and with distinct benefit to the patient. The latter was then told that he had been taking quinine daily, and has lost all fear of the drug. He has had two subsequent attacks of malaria, during which he was freely dosed with quinine without any recurrence of hæmoglobinuria.

Sterilizing Edged Eye Instruments.—Instruments should be wiped and placed in the tincture for fifteen minutes, then wiped again and placed in boracic-acid solution before the operation. After use they should be replaced in the tincture and wiped and put away. This not only cleans off blood and pus, but preserves the edge.

Therapeutic Hints.

Infantile Diarrhœa. The keynote to the management of these cases is the complete elimination or cleansing of the gastrointestinal canal of all bacteria as far as possible, as well as that which generates bacteria; absolute rest and quiet, giving sterilized food, and strict attention to the smaller details. C. L. Lawless.

Chronic Otitis Media. Installations into the ear of fifteen to twenty drops of a 2 per cent. watery solution of methylene blue, after a preparatory cleansing of soap and water, diminishes the purulent discharge and controls the fetid odor in the chronic otorrhœa of children. H. Gaudie.

In Peritonsillar Suppuration.—Equal parts of carbolic acid, menthol, and cocaine, to which a few drops of alcohol are added will produce local anæsthesia along the line of intended incision. John J. Kyle.

Burns. A saturated solution of potassium permanganate is recommended as an application for burns. It diminishes pain very markedly and causes a rapid healing of the wound. Kharitonov.

Rheumatic Gout.—Jonathan Hutchinson considers the salt pack the most effectual remedy for getting rid of the irritation and synovial effusion of rheumatic gout. A flannel soaked in a saturated brine of common salt is wrapped around the affected joint, covered with oiled silk and a bandage, and kept on over night.

Loss of Voice from fatigue or simple laryngitis is relieved by small doses of nitric acid well diluted and given every two hours. Bartholow.

For Gunpowder Stains of the face, a cloth saturated with a 50-per-cent. solution of hydrozone is very efficient. Corbett.

In Pulmonary Œdema a one-fiftieth of a grain of strychnine and a one-hundredth of a grain of atropine injected beneath the skin below the clavicle, repeated according to indications, will relieve and save many cases. C. Donovan.

Treatment of Ophthalmia Neonatorum.—Edward Lander (*Cleveland Medical Journal*) states that treatment must be energetic regardless of the tender age of the patient. The first indication is to keep the conjunctival sac free from pus, and this is best accomplished by the frequent use of a sterile salt solution, a 3 per cent. solution of boric acid, a 1 to 8,000 solution of formalin, or a 1 to 15,000 solution of bichloride of mercury. Pledgets of linen or cotton, laid on a cake of ice, should be applied and changed every one or two minutes. Cold should be discontinued when the swelling of the lids diminishes, or when the integrity of the cornea is threatened. The best germicides for the destruction of the microorganism are a ½ to 2 per cent. solution of silver nitrate, a 20 to 40 per cent. solution of protargol, formalin 1 to 3,000 and bichloride 1 to 5,000.

In Opium Narcosis first empty the stomach with stomach tube to prevent further absorption; then give a cup of strong hot coffee. The latter allays nausea and acts as a physiological antidote. Keep the patient aroused by walking and the application of water, and give atropine sulphate, gr. 1-50, and strychnine sulphate gr. 1-30, hypodermatically. J. J. Peterson.

The Time to Operate in Appendicitis.—In the early hours of an attack, preferably the first twelve, insist on operating, provided a competent surgeon is to be had, and tell the patient that an early operation by a competent surgeon is practically safe, but that the non-operative treatment is safer in any event than operation at any time by a surgeon of doubtful ability. Christian Johnson.

Treatment of Infantile Paralysis.—Dr. James Taylor (*The Hospital*) divides treatment into that which is required at the outset and that which is employed later on. At the time of the attack treatment must be conducted on general lines, as if one had to deal with a general febrile disturbance, care being taken not to overlook a commencing infantile paralysis in a child with high fever and pain in the limbs. There is no specific, but salicylate of soda relieves pain in the early stages. Later on massage and passive movement favor the nutrition of the muscles and tend to prevent contractures. Electricity, though important, is less so than massage; it gives exercise to the muscles. The constant current should be employed. Though treatment of this condition is limited, it is essential that it should be carefully carried out.

Enlarged Bronchial Glands in Children.—These patients are best treated as one would treat phthisical subjects, namely, by forced feeding, careful regulation of the diet and hygiene, plenty of fresh air, and guaiacol and cod-liver oil internally. For the spasmodic cough, which is a source of great annoyance and irritation, thirty drops of creosote, with or without the addition of menthol, burnt on a hot shovel in the patients' room at night, gives very beneficial results in most cases. D. McM. Officer.

Chronic Laryngotracheitis.

℞ Formalin . . . mxx
Menthol. . . . ʒss
Tinct. iodi. . . ʒii
Alcohol . . . . . ℥i
M. Sig.: Inhale four or five times daily.
—E. Fletcher Ingals.

Synovitis.—

℞ Chloral hydrate . ℥ss
Acid carbolici . . . . . ℥ss.
Aquæ q. s. ad. . . . . . Oi
M. Sig. Apply as hot as possible upon lint.
—*Journal of the American Medical Association*, May 10.

Pruritus Ani.—

℞ Alumnol . . . . ʒss
Pulv. camphoræ . . . . . . ʒiss
Lanolini, q. s. . . . . . ℥i
M. Sig.: Apply night and morning.
—*Journal of the American Medical Association.*

Passive Congestion of the Liver.—

℞ Ext. ergotæ . . . . . ʒi
Pulv. scillæ. . . . . gr. xiv
Hydrarg. chl. mitis. . ʒss.
Pulv. digitalis . . . . . gr. xv
M. ft. pil. no xl. Sig.: One pill t. i. d. —Bommier.

Tropical Dysentery.—

℞ Morphinæ sulphatis . gr. ss-i
Sodii sulphatis. ℥i
Acid. sulphurici dilut . . ʒi.
Aquæ cinnamomi . . . ℥iv
M. Sig.: ℥ss q 3 h. —T. S. Dabney.

Post-Scarlatinal Albuminuria.—

℞ Pilocarpine hydrochl. . gr. i.
Inf. digitalis. . . . . ℥iii.
M. Sig.: ʒi q 3 h. —Otto Maier.

Pertussis.—

℞ Bromoform . . . . gr. xv.- ℥ss.
Oil of sweet almonds . . . ℥vii.
Powdered gum arabic . gr. ccc
Syrup of bitter orange peel . ℥ii.
Water. . . . . gr. ℥viii.
M. Sig. ʒi-vi daily. —G. Carriere.

Rhythmical Head Shaking in Aortic Patients. Charles Valentino reports fourteen cases of Musset's symptom, of which one occurred in pleurisy, eight in aneurysm of the arch of the aorta, and five in aortic insufficiency. He considers that the case of pleurisy is not perfectly established, and that the symptom is still to be considered as belonging exclusively to aortic affections. It has not as yet been determined whether the sign is systolic or diastolic. The author agrees with Delpeuch, that the presence in aortic patients of this new symptom, which is certainly rare, but very well marked and striking when it does exist, should constitute an indication of a grave lesion, which, until the appearance of the symptom, has been either latent or unperceived.—*Revue de Médecine.*

Society Reports.

THE PRACTITIONERS' SOCIETY.

172d Regular Meeting, Held on Friday, May 2, 1902.

Joseph D. Bryant, M.D., President, in the Chair.

A Case of Bullet Wound of the Brain Followed by Epileptic Convulsions; Operation.—Presented by Dr. Robert Abbe. The patient was a young man who, in 1885, was shot in the head, the bullet entering just above the left eye. The ball was of small caliber, and did not give rise to any symptoms until seven years after the accident, when the man began to have convulsions, which gradually increased in frequency, sometimes as often as six a day. When he came under Dr. Abbe's observation, two radiographs were taken, one lateral and one front view, which clearly showed the bullet imbedded in the brain. An operation was thereupon undertaken for its removal. Upon opening the dura, a cyst about the size of a large marble was found pressing upon the brain. After evacuating this and dissecting out the cyst-wall, an effort was made, with the radiograph as a guide, to locate the bullet. The brain was probed at the apparent site of the bullet by a steel pointed probe attached to the Girdner telephone. The needle was inserted about forty times, but it failed to detect the bullet, and it was deemed best not to incise the brain.

Subsequent to the operation, there was no immediate improvement in the man's condition, but gradually his convulsions abated in frequency, and during the past six months he has had none at all. The man is still taking bromide in small quantities. Dr. Abbe said the subdural cyst was probably the cause of the convulsions in this case, and not the bullet. An interesting feature of the case was that in spite of the fact that the bullet was beautifully shown in the *x*-ray picture, it could not be located by very thorough probing. This was possibly due to the deceptive deflection of the rays, though a firm capsule of the encysted bullet might have prevented metallic contact with the needle point. The cyst could not be made out in the radiographic picture.

Dr. Abbe said this was the fourth time he has had occasion to use the telephonic probe, but it had never proven of assistance to him in locating an encysted bullet. In every case he had made a control test with a similar bullet fresh laid in the wound to prove the perfect working of the beautiful mechanism of Girdner's telephonic probe.

Dr. George L. Peabody said that as an illustration of the uncertainty of the probe in bullet wounds of the brain he recalled a case which came under his observation some years ago. The patient was a man who was shot in the forehead, and it seemed quite possible to get a very definite idea of the direction of the ball from the angle at which it had been fired. The surgeon who had charge of the case inserted a probe, and claimed that while he was unable to locate the bullet, he could readily follow its track entirely through the brain to the occipital region. The patient died and at the utopsy it was discovered that the bullet had merely perforated the frontal bone, not even penetrating the dura; it was found just inside the skull about a quarter of an inch from its point of entrance.

The President, Dr. Bryant, said that some years ago he saw a case of bullet-wound in the temporal region, and he was unable to locate the ball until he adopted the following expedient: He introduced a large probe directly into the track of the bullet, and carried it backward until it struck the cranium on the opposite side; he then took a piece of string and described several meridians corresponding to the external portion of the probe around the skull; a trephine opening was then made at the point where these lines crossed each other at the opposite side. Through this trephine opening the probe which had been passed through the brain came directly out and the bullet was found.

In operating for the removal of foreign bodies which have been located by X-ray pictures, Dr. Bryant said he had found much assistance and had been entirely successful by using needles as a guide. For example, in a case of foreign body in the wrist, he divided the region into quadrilateral spaces by means of cambric needles passed through the skin before the picture was made. By this method he learned exactly where the foreign body lay, and in which of the spaces to make his incision. The depth of the foreign body in the tissues was determined by taking a picture of a side view of the limb.

Dr. Bryant said that one drawback he had met with in using the telephonic probe was the repeated alarms produced by the particles of metal which are apt to be left behind by a bullet passing through a bony structure. He regarded Dr. Girdner's probe as an excellent apparatus. In Dr. Abbe's case, the cyst was probably the exciting cause of the convulsions rather than the bullet.

Pancreatic Lithiasis, with Report of a Case.—Dr. F. P. Kinnicutt said he had already reported this case at the meeting of the Association of American Physicians in Washington. The patient was a woman, aged forty-two years, whose family history was unimportant. In 1888 she had suffered from the first attack of pain in the right, hypochondrium, associated with nausea and vomiting. There were two other attacks, one in 1897 and the other in 1898. Then there were no more until 1901. This attack was very severe. On the sixth day six small calculi were passed in the stools, and analysis of four of the concretions, showing them to be composed chiefly of phosphate of lime, pointed to their origin in the pancreatic duct. The patient had first come under Dr. Kinnicutt's observation on December 25, 1901. Specimens of both biliary and pancreatic calculi passed by this patient were obtained and were exhibited. Cultures made from the central portion of one of the recently passed calculi gave no growth. Repeated examinations of the urine failed to show the presence of sugar. The weighing of the fat ingested and excreted showed normal fat absorption. The presence of an unusually large number of striated muscular fibers in the stools, the speaker said, could not be regarded as of much diagnostic importance. The presence of fat in the stools was often due to the coexistence of jaundice, and its consequent interference with the digestion of fat. A deficient splitting up of the intestinal fat into fatty acids and soaps was, on the other hand, apparently a symptom of great importance. The absence of glycosuria could only be regarded as a negative sign in connection with pancreatic lithiasis, though its presence was a suggestive sign. The absence of a cachexia or other signs of a malignant disease of the pancreas in the case reported, and the presence of the other signs and symptoms detailed, seemed to warrant the diagnosis of pancreatic lithiasis. Dr. Kinnicutt said that literature gave only six cases in which a positive diagnosis of pancreatic lithiasis had been made or the condition suspected during life.

Dr. Beverley Robinson said he had at present under his observation a patient in whom he suspected this rather rare condition of pancreatic lithiasis. There have been several attacks of pain in the right hypochondrium, the first one occurring about three or four months ago. There is some abdominal distension, but the patient has never been jaundiced. Biliary colic has also been suspected, and there is a possibility that there is a calculus in the cystic duct. The patient's stools have been examined by Dr. Soudern, who reports that they do not contain any calculi or an excessive amount of fat; he found, however, an unusual quantity of muscular fibers and a trace of blood.

Dr. W. Gilman Thompson said that if the case reported by Dr. Kinnicutt had not been so exhaustively studied, it could easily be mistaken for one of gall-stones, and it leads one to inquire whether this condition of pancreatic lithiasis is not more common than the limited records would suggest. Many cases of supposed gallstone are operated upon in which at the time of operation no stone can be found, and this study should emphasize the importance of carefully examining, in such cases, the pancreas, in view of the possibility that one is dealing with pancreatic calculi instead of gall-stones.

Dr. **Peabody** asked if it is possible to examine the pancreas successfully for the presence of small stones like those found in the case reported by Dr. Kinnicutt.

Dr. **Bryant** said he would regard the result of such an examination as very questionable. It could hardly be relied upon as a certain element of diagnosis.

Dr. **Peabody** said that in advanced diabetes he has found, at autopsy, well-marked pancreatic lithiasis associated with an atrophied condition of the pancreas. He recalled one case where the pancreatic duct was so completely occluded that the condition resembled a plaster of paris cast. In none of his cases had the stones given rise to any symptoms during life, so far as the history of the patients disclosed.

Dr. **Kinnicutt** said that in one of his cases, where pancreatic calculi had existed for a considerable period, the condition was associated with a suppurative pancreatitis.

The speaker said it has been exceedingly difficult to get any definite information as to the frequency with which calculi are found in the pancreas. Only about fifty cases have been reported in which calculi of the pancreas were found at autopsy. Unless a very careful examination of the pancreas is made, the small, gritty particles, composed of carbonate and phosphate of lime, might easily escape detection. He had been rather surprised to learn that fatty stools were so frequently absent in pancreatitis. Among 330 cases, they were only present in twenty-eight. It is not the absorption of fat that is in any way interfered with in this disease, but the splitting up of the fat, and this point should be regarded of importance in the diagnosis, rather than the mere presence of fat in the stool. The absorption of fat is enormously interfered with in the absence of bile, but not when there is an absence of pancreatic juice.

Removal of the Cervical Sympathetic for Optic Atrophy in Tabes. Function of the Cervical Ganglia of the Sympathetic.—Dr. **Charles L. Dana** said that physiologists, basing their conclusions mostly on animal experiments, give rather less importance to the cervical sympathetic than do clinicians and pathologists. Thus, Dr. Langley, in Foster's Physiology, states that stimulation of the cervical sympathetic causes: (1) Dilatation of the pupil; (2) Retraction of the "nictitating membrane"; separation of the lids and protrusion of the eyeball; (3) Contraction of the blood vessels of the skin and mucous membrane, and of the salivary and other glands; (4) Dilatation of the blood vessels of the bucco-facial region of the dog; (5) Decreased secretion from all the glands; lachrymal, salivary and mucous; (6) Erection of hairs. Section of the cervical sympathetic causes: (1) Dilatation of blood vessels, marked in skin, ear and conjunctivæ, and in the mucous membranes; doubtful in brain; (2) Rise of temperature; (3) Decreased secretion; (4) Narrowing of palpebral fissure and retraction of eyeball. These effects disappear in three or four weeks. Destruction of the sympathetic in man has been observed to be followed, in addition, by: (1) Lessened tension of the eyeball; (2) Hemiatrophy of the face; (3) Bradycardia in rare cases (usually no effect on the heart); (4) Headache, nervousness and cephalic pressure. Late experiments have shown possibly some increase in retinal vascularity, and (in dogs and cats) some trophic changes in the retina and eyeball. Any marked effect on the vascularity or activity of the thyroid gland has not been established. Extirpation of the cervical sympathetic has been attempted: (1) For epilepsy; (2) For Grave's disease; (3) For glaucoma and atrophy; (4) For optic atrophy of tabes dorsalis. There is no justification for attempting it in epilepsy, and the results have been poor. The operation has no standing. In Grave's disease some improvement has resulted, mainly in the exophthalmus. In glaucoma a good many operations had been done often with temporarily good results.

In the *Journal of the American Medical Association*, for June, 1900, Dr. J. M. Ball reported a case of simple optic atrophy (of tabes?) in which he removed the superior cervical ganglion on the right side. The patient was a man forty-six years old, with total blindness in the left eye and perception of light in the right. There was advanced atrophy in both eyes. The result of the operation was practically negative, although a slight enlargement of the cilioretinal artery was noticed. On November 23, 1899, Dr. George F. Suker removed both superior cervical ganglia in an advanced case of simple optic atrophy. The perception of light and form and the visual field were all increased after operation. This case was reported in the *New York Medical Journal*, 1900, page 267. Recently Dr. Dana had a patient with tabes and optic atrophy referred to him by Dr. John L. Adams. He had advised removal of all three cervical sympathetic ganglia on the least affected side. This had been done by Dr. Frank Markoe. The patient, a man about fifty, was in the first stage of tabes; the optic atrophy moderately advanced, but he could still read large type. The tests for visual aciuty and field, taken before and two or four weeks after operation by Dr. Cutter, Dr. Adams and himself, showed distinct improvement in vision and enlargement of visual field. There were the usual narrowing of the palpebral fissure, contraction of pupil, and anidrosis on the operated side.

Dr. Dana had under care another case of optic tabes with advanced atrophy. He had been under Dr. Gruening's care and had, at that time, had the upper cervical ganglion removed by Dr. Gerster, with no improvement. Dr. Markoe's operation was the first in which all three ganglia had been removed, viz., for tabetic atrophy, and it had apparently produced the best results.

The speaker had always regarded the cervical sympathetic as a somewhat superfluous organ, whose functions were readily dispensed with or assumed by other parts. Still, some very positive results had been claimed in Graves' disease and glaucoma. In optic tabes the outlook is so hopeless that we grasp at any measure that may by any possibility give relief.

Dr. **Charles Stedman Bull** said that so far as it concerned glaucoma, the operation of resection of the cervical sympathetic, or sympathectomy, as it was called, was still *sub judice*. The operation was suggested by two very competent men, who are known to be of rather enthusiastic temperament. The number of cases on record thus far is still too small to allow any definite conclusions to be drawn. The operation is indicated only in simple, chronic glaucoma. Dr. Bull said he had done the operation in two such cases; one about a year ago, the other two months later. In both of these cases the patients had declined an iridectomy. In both the operation was followed by evidences of increased circulation in the optic nerve, but this improvement was only temporary, and both the patients are now going on towards total blindness. The most that can be said for these cases is that the operation produces a temporary, and, at times, a decided visible and demonstrable increase in the circulation of the optic nerve, with apparent arrest of the symptoms and the maintenance of existing vision. In the cases which have been long enough under observation, there has been, after a time—sometimes as long as a year after the operation—a reappearance of the disease, with an increase of the symptoms. The intraocular tension is decidedly diminished within an hour after the operation.

Dr. Bull said that in the future he would perhaps feel inclined to do this operation in the cases where iridectomy is declined. In many of the cases reported, only a transient benefit followed the operation, the disease again following its regular course, much the same as is not infrequently seen after iridectomy. The speaker said that in one case where he did an iridectomy, fourteen years ago, the vision then existing is still the same to-day, but such a result is exceptional.

Dr. Abbe said that some three years ago he removed the greater part of the right cervical sympathetic from the base of the brain down to the mediastinum, because its involvement in an extensive fibro-neuroma which was composed of a chain of glands ranging from the size of a bean to that of a hen's egg. That portion of the cervical sympathetic below the mediastinum was also involved in the growth, but could not be removed. Dr. Abbe said that this case, which he reported at the time, was almost unique. ("Large Multiple Neuro-Fibromata of the Cervical Sympathetic," *Annals of Surgery*, April, 1898.) The patient's health was apparently not affected in any way by the removal of the cervical sympathetic; there was no hemiatrophy of the face, nor other symptoms. Since the operation, there has been a slight similar growth in the glands on the opposite side without deterioration of health.

The Ultimate Result of Beatson's Operation.—Dr. Abbe said that at a meeting of the Society one year ago he presented seven patients upon whom he had performed oophorectomy, as suggested by Beatson, for inoperable or recurrent cancer of the breast. As the result of a careful observation of these cases for one year, the speaker said he was able to report (as he had then promised the Society) that, in the majority of instances the operation produces a temporary retrograde metamorphosis in the diseased tissue and adjacent glands. This improvement lasts, upon an average, about four and one-half months; then the disease usually takes on renewed activity and pursues its regular course. Of the seven cases reported a year ago, Dr. Abbe said that four had died. In the remaining three he is now using the *x*-ray with even more striking results than were obtained by the Beatson operation. In connection with the report of these cases, Dr. Abbe showed a number of colored plaster casts of malignant mammary tumors, illustrating the effects of his treatment by raidotherapy, not only in recurrent but in primary cancerous tumors of the breast and other parts. A year hence he felt we could have a similar report of results which would give a fair estimate of its value—as judged by time. At present he can only say that the outlook has more of promise than any therapeutic method—outside of pure surgery.

Dr. Peabody said the Society owed Dr. Abbe a debt of gratitude for his report upon the value of the Beatson operation after having investigated a sufficient number of cases to justify him to generalize in regard to it. The speaker expressed the hope that the results of the *x*-ray treatment in cancer of the breast would be equally satisfactory and more lasting.

Dr. Abbe, in reply to a question as to the value of the *x*-ray in cancer of the internal organs, said that he had employed the treatment in two cases of cancer of the stomach without any apparent benefit.

Dr. Clement Cleveland said that in the treatment of recurrent or inoperable cancer of the breast, he thought the use of the *x*-ray was more promising than Beatson's operation, especially in those women who have passed the menopause. As an illustration of the apparently marvelous effect of the *x*-ray upon cancer elsewhere in the body, the speaker reported the following case: The patient was a woman, over fifty, with a cancer of the uterus, which Dr. Cleveland removed by vaginal hysterectomy three years ago. The vaginal opening healed rapidly and the result was apparently very satisfactory. During the first year the patient reported at his office every three months; then at less frequent intervals. Up to eighteen months after the operation the whole vaginal vault remained apparently normal, but at the woman's next visit she said that she had suffered from a little bleeding. Examination showed a small ulcerated spot at the seat of the vaginal scar, which was cauterized and healed within a week without any resulting infiltration. After three months this area of cicatricial tissue broke down again and was again cauterized. This was repeated several times, until finally the ulceration failed to heal in spite of repeated cauterizations. Her family physician then suggested the use of the *x*-ray, with which he had been experimenting. That treatment was thereupon used and, as a result of it, the ulceration has entirely healed, the induration has disappeared and the vaginal vault is again perfectly soft and apparently normal. The *x*-ray certainly produced a curative effect in that case

Specifics in the Treatment of Disease.—Dr. Peabody said he wished to make a preliminary report in connection with Dr. Andrew H. Smith's recent paper on this subject. The speaker said that during the past two months he had treated twelve cases of pneumonia by aspirin with very gratifying results. The drug was given in doses of fifteen grains four times daily. In some of the cases only one lung was affected, in others both. Some of them were accompanied with active delirium and one with alcoholic delirium. All of them recovered, and in every instance the disappearance of the fever was by lysis. In one of the cases the pneumonia complicated typhoid fever.

The drug apparently had a marked effect upon the course of the disease, usually causing a rapid subsidence of the pain and dyspnœa. In its effect it resembles other forms of salicylic acid. As it does not undergo resolution until it reaches the duodenum, it rarely produces any stomach symptoms, as the more soluble preparations of salicylic acid do. It apparently does not readily cause head symptoms, although one is justified from its composition in supposing that such symptoms would occur if the dosage were sufficiently large.

THE AMERICAN PEDIATRIC SOCIETY.

Fourteenth Annual Session, Held at Boston, Mass., May 26, 27 and 28, 1902.

First Day, May 26.

President's Address. — Development the Keynote of Pediatrics.—Dr. W. S. Christopher of Chicago said that pediatrics had more possibilities of usefulness, greater unexplored domain, and dealt with more fundamental biological truths than any other department of medicine. Pediatrics was a part of general medicine, but general medicine as taught and practised was free from active interest in the subject and had many important omissions. The fact that pediatrics was preventive medicine of the highest order was possible because the developmental period of human life could be acted upon strongly by environment. The higher the intelligence of adult animals and the more complex its life activities the longer the period of development. As the number of experiences in the life of the individual increased more nerve connections must be established to control them. Finally, in course of development a time was reached when necessary nerve connections could not be established before birth, but were partly established by education after birth. This gave rise to a period of infancy. The course of natural development, the pathological conditions resulting from deviations from this course, and the influence of enivronment were factors of sufficient import to create the subject of pediatrics. The President requested the members of the Society to favor the establishment of a laboratory at Washington, by the Department of the Interior, for the study of the criminal and pauper classes, as by this means most valuable data could be obtained referable to the development of the child.

Intussusception: Clinical Remarks.—Dr. F. Huber of New York said that early recognition of the lesion and knowledge of the limitation of methods of injection and inflation were essential to success in the treatment of acute intussusception. He reported the following case. Male child, eight and a half months old, weighing nineteen pounds, previous health good, no history of trauma. The child had a sudden attack of diarrhœa, not accompanied with vomiting or pain. Four hours later became suddenly restless and refused to nurse. A few hours later there was evidence of severe paroxysmal abdominal pain, accompanied with incessant vomiting. The abdominal wall was soft, relaxed with a slight swelling in the region of the transverse colon. A high rectal enema was given with hips elevated, which was followed by a bloody mucous discharge resembling currant jelly. The tumor disappeared, but as no feces escaped, partial reduction was thought to have taken place. The case was seen by Drs. J. F. Erdman and H. M. Silver. An abdominal section was performed, the mass reduced, and the child recovered. Dr. Huber said that Edmund Owen (*British Medical Journal*, September 7, 1901), based a diagnosis on the following conditions: Sudden abdominal pain, vomiting, passing of a stool with much straining containing blood and mucus, and the presence of a tumor, usually in the ascending colon. Injection was advocated to reduce the invagination and lessen the size of tumor, and so decrease the field of operation, but should be employed only during the first twenty-four hours of the attack. The disadvantage of the injection was dependent upon the impossibility to gauge the amount of pressure, inability to exclude beginning gangrene and the fact that the reduction is not always complete.

Intussusception: Surgical Comments.—Dr. John F. Erdman of New York said that operation for intussusception was accompanied by far less mortality than when hydrostatic pressure and inflation were practised. After twelve hours surgical treatment should be considered the only treatment. Shock called for more rapid reduction and should not be considered a contraindication for operation. In reducing the invagination, traction on the proximal end was apt to cause a tear; pressure should be made on the apex of the mass at the distal extremity.

Healed Septic Endocarditis. Dr. Samuel S. Adams of Washington, D. C., referred to his service at the Children's Hospital of that city and said that this affection had been considered rare in children, but he thought the frequency had been underestimated, a fact probably due to difficulty in diagnosis. Osler had reported 209 cases, only three being under three years of age. The disease had been considered to be of two varieties, but the concensus of opinion to-day was that the difference was of degree rather than of kind. The history of a case with recovery of a child six years old was given. In the discussion Dr. Jacobi thought that these cases were caused by the presence of bacteria or of toxins. In those cases termed malignant, there were bacterial deposits on the valves. Cases caused by toxins were apt to get well because the toxin eventually exhausted itself or was eliminated.

A Case of Chondrodystrophy Fœtalis.—Dr. John L. Morse of Boston reported the case of a boy who died at the age of four months. When seen at two months he weighed six pounds and was of average intelligence. The legs were short, otherwise the child was normal. Dr. Morse said that little was known as to the cause of the disease, hereditary influence probably playing an important rôle. Most cases died in youth; mild cases might reach maturity. In the discussion, Dr. J. P. C. Griffith of Philadelphia reported two cases which he considered chondrodystrophy fœtalis. The cases had curious paddle-shaped hands and feet. Dr. Holt of New York, reported a case four years old, in which he used thyroid extract almost continually for about two years without appreciable progress.

The Management of Rheumatic Children.—Dr. F. M. Crandall of New York read this paper. He called attention to the frequency of the distribution of symptoms through months and years, and that same symptoms, habitually found in children, were rarely seen in adults. The management was considered under four heads: Clothing, exercise, diet, and medication. Flannel should be worn all seasons of the year—thin in summer. Exercise and outdoor life should receive particular attention. The diet should be generous and nourishing, for there was a marked tendency to anæmia. The trend of opinion was of restriction of sugars and starches. By the use of salicyl compounds, much could be done to prevent acute outbreaks by administering small doses three times a day one week of every month of the year. The object of active treatment should be to control fever, relieve pain, check the arthritis and other local symptoms by neutralizing the effect of the rheumatic poison on fibrous structures, and to prevent involvement of serous structures, especially the heart. Referring to the alkaline and the salicylic methods of treatment, Dr. Crandall said that large doses were required at the outset in either method, and that both were prone to disturb the stomach and depress circulation. The selection of one treatment or the other should be made and adhered to as chief treatment.

The child should be given a cathartic in beginning treatment; calomel was to be preferred, salines having a tendency to increase anæmia in children. In the experience of Dr. Crandall, sodium salicylate had proved the most satisfactory drug; he gave 40 grains a day to a child six years old in 5-grain doses every three hours. The interval was reduced after three days, if the disease was under control, but during the first three days the drug should be given at regular intervals both day and night. As a rule the drug was not well borne on an empty stomach. Hyperpyrexia could be controlled by cold baths or cold packs, or small doses of phenacetin well guarded with a stimulant. Anæmia developed rapidly in rheumatic children, therefore iron should be given early, as soon as the temperature was below 100°. A generous diet should be given as soon as possible. As to local treatment, the joint should be protected from air by a flannel bandage or cotton wool, a light splint frequently added to the degree of comfort. Heat was more acceptable than cold. Oil of wintergreen sometimes gave good results, but the odor soon became objectionable. A child suffering from any rheumatic manifestation should be put to bed and kept between blankets until all evidence of the affection disappeared. This would do much to prevent cardiac involvement.

Typhoid Fever in Children Under Two and a Half Years of Age.—Dr. J. P. C. Griffith of Philadelphia said that more detailed study would tend to eliminate the difference of opinion which existed on this subject. A wrong impression was conveyed by the statement that typhoid fever in infancy (under two years) was rare, and several cases were reported to prove this. Cases under three months were revealed at the autopsy and not recognized during life. Statistics were read in support of this statement. In the discussion Dr. Morse thought that typhoid fever was rare among infants in Boston. Dr. Holt said that there was insufficient evidence to show that typhoid fever was common in infancy.

Typhoidal Appendicitis in Children.—In presenting this paper, Dr. A. Seibert of New York said that the subject of typhoid fever in children had been somewhat neglected. Two cases of typhoidal appendicitis were reported. The first case of a boy, aged eleven, in which a diagnosis of typhoid fever had previously been made. The child was suddenly seized with severe abdominal pain in the right iliac region; temperature rose to 106°. Later an ulcerated appendix was removed. The indications of typhoid fever disappeared in two weeks. The wound discharged pus freely for about five weeks. (Charts were shown giving temperature variations.)

SECOND DAY, MAY 27.

Report of a Case of Extreme Enlargement of the Spleen with Anæmia; Autopsy.—Dr. S. McC. HAMILL of Philadelphia reported this case. Child six years old, family history negative; had frequent profuse epistaxis, severe gastric pains for several weeks, accompanied by hæmatemesis; blood was passed from lower bowel; there was marked prominence of the abdomen. By palpation a huge firm mass could be made out in the upper left abdomen. Urine examination was negative. The child was well for over a year following this attack; a second similar attack resulting in recovery occurred nineteen months later. One year later a third attack proved fatal. The autopsy, limited to the abdomen, showed a large spleen, seven by four inches, pancreas imbedded in fat, and kidneys larger than adult organs, exceedingly pale on section.

A Case of Venous Thrombosis Resulting in Extensive Cerebral Hemorrhage in an Infant Fifteen Days Old.—This case was also reported by Dr. S. McC. HAMILL. A specimen of fusion of the kidneys was shown, an accidental finding at the autopsy.

Presentation of Cases of Tuberculous Peritonitis.—Dr. T. M. ROTCH of Boston, presented six cases in which an abdominal section had been performed, giving a brief history of each case. He said that the operation was simple and gave good results when performed by a skilled operator. Tuberculosis of the mesenteric glands and peritoneum should be considered an indication for laparotomy. Of twenty patients that had come under his observation, eighteen were alive and apparently healthy two to five years after operation. Dr. Rotch said that the patient should be given the benefit of the doubt and a laparotomy performed, especially as the operation was practically harmless.

In the discussion Dr. FORCHHEIMER of Cincinnati said that while laparotomy when properly performed was generally without danger, it was difficult to select proper cases for operation.

Dr. KOPLIK of New York thought that the percentage of recoveries was about the same whether an operation was resorted to or not. If the child improved with hygienic treatment operation should not be resorted to.

Dr. JACOBI of New York said that as long as the tuberculous process was localized the child was likely to recover, no matter what was done, unless the surroundings were unfavorable, when the disease was apt to progress. A localized process was not usually characterized by fever. He recommended cod-liver oil in winter, guaiacol in summer, the iodide of potassium or sodium as adjuvants to rest, air, and good food. When the process was disseminated no treatment would avail after one or two years' standing; results seemed to be about the same whether operation was resorted to or not.

In closing the discussion Dr. Rotch said that it was not good practice to resort to operation as a last hope, especially in view of the lack of danger associated with laparotomy.

The Use of the Term Enanthem.—Dr. F. FORCHHEIMER of Cincinnati read this paper. He said that the term had been adopted by the French in 1882, later by the Germans, and was growing in use. He recommended this term for the following reasons: (1) It was etymologically correct; (2) It had been adopted by other nations, and there should be a tendency to make medical nomenclature international; (3) Time was saved by its use; (4) Precision was gained in definition, and as the term would be applied to eruptive fevers the connection would always preclude any doubt as to meaning.

Some Remote Diseases Arising from Tonsillar Infection.—In presenting this paper Dr. FORCHHEIMER said the fact that the tonsils might be the seat of infection in remote parts had been known for some time. Among such possible infections were recognized diphtheria, erysipelas (Gerhardt), tuberculosis (Baumgarten), pneumonia, scarlatina and measles (Menzer). Bacteria were not frequently found in the tonsils, a fact which might be due to rapid blood current, active phagocytosis, or resistance of endothelial covering of the tonsil (Hodenpyle). If bacteria passed through the wall of the tonsil they might be expected to be present at the next barrier, namely, the lymph nodes at the angle of the jaw. While these nodes received lymph from the root of the tongue, the nose and pharynx, as well as from the tonsils, it was true that in most every case of tonsillitis the lymph nodes at the angle of the jaw became enlarged; this would suggest the possibility of bacteria being taken up by the tonsils. From this portal of entrance, bacteria were carried to the general circulation in the lymph or blood. Dr. Forchheimer quoted Stillman, Courmont and others to show that bacteria had been found in the blood. The only remaining factor necessary for remote infection was a *locus minoris resistentiæ*. Remote effects might also be produced from toxin absorption. A case of typical angina tonsillarum, followed by appendicitis, was reported.

A culture showed the presence of the staphylococcus albus and the streptococcus. The amygdalitis ran a normal course. There was a sudden rise of temperature following a normal period of about twelve hours, the patient complained of severe abdominal pains located in the right lower segment, McBurney's point was sensitive, vomiting was distressing. The patient was kept on a fluid diet, opium given, and an ice bag applied to the abdomen. The case recovered. On the fourth day of the appendicitis a diffuse erythema appeared over the abdomen, thighs, arms, and back. Dr. Forchheimer explained the fact that an appendicitis appeared three days after the tonsillæ involvement, by considering the appendix a *locus minoris resistentiæ*, as this was a rudimentary organ, both as regards structure and functional activity.

Another case operated on for appendicitis (the patient had suffered previously from sore throat) developed signs of nephritis, endocarditis, and pyelitis in rapid succession. Considering the short time that elapsed between the operation and the breaking out of the septicæmic symptoms, the infection was probably not from the appendix. Dr. Forchheimer also reported five cases of jaundice following tonsilar infection, the jaundice appearing in three to ten days; any gastrointestinal condition that might give rise to jaundice had been excluded.

Clinical Observations on the Management of Circulatory Failure in Acute Infectious Disease.—Dr. AUGUSTUS CAILLÉ of New York, in presenting this paper, said that it was not always easy to determine the cause of circulatory failure, thus making the choice of a stimulant difficult. Several cases of septic conditions were reported, in which saline infusion, enteroclysis or hypodermoclysis had been employed with favorable results. Saline infusion was followed by almost immediate reaction; hypodermoclysis gave results in five or ten minutes. The action of each was more prompt than drugs, and was said to aid the action of drugs hypodermatically administered. The salt solution should be given until the pulse was good, then stopped. Enteroclysis stimulated the kidneys and favored elimination of poisons; it should be carried out whenever increased elimination by the kidneys was desired.

In the discussion Dr. KERLEY of New York said that the colon would not absorb more fluid than was needed by the system. He inserted a small rectal tube until it could be felt in the descending colon, employing saline solutions at body temperature in septic cases. Enteroclysis was better than any other one measure in acute suppression and in post-scarlatinal nephritis.

Dr. SEIBERT made use of enteroclysis in typhoid fever, injecting one and a half pints of salt solution every six hours; no catheter was used, buttocks slightly elevated

Dr. Jacobi said the effect of enteroclysis was twofold; a new circulating medium was supplied, if needed, and at a high temperature (110–120°) the salt solution acted as a stimulant. Shock usually meant a paralysis of the splanchnic nerves, due to an engorgement of the abdominal vessels. When the splanchnic nerves were stimuated, the body was supplied with blood that was slowly circulating in the dilated abdominal vessels, as well as furnished with a requisite amount of new circulating medium.

Dr. Cotton of Chicago thought the stimulation of abdominal ganglia would be more marked if small amounts of asafœtida and turpentine were added to the salt solution.

Chronic Parenchymatous Nephritis in a Child Treated by Renal Decapsulation (Edebohls' Operation).—In presenting a second paper, Dr. Caillé reported a case of a child, five years old, in which there had been several attacks of acute nephritis. Nine months after the last acute attack a diagnosis of chronic parenchymatous nephritis was made. Renal decapsulation was performed on both kidneys, the organs being exposed by the lumbar incision, capsules split and removed, and the kidneys replaced Recovery was uneventful. Dr. Caillé said the object of the operation was to establish a new blood supply to the kidney by removing the fibrous capsule which served as a barrier between the richly-supplied fatty capsule and the kidney. Complete recovery might be expected in nephritis following an acute infectious disease, but might be delayed months. If recovery should be delayed over six months, an exploration of the kidneys was advised; should they be found enlarged, decapsulation should be resorted to.

Specimen of a Large Thymus Gland.—Dr. Caillé presented this specimen removed from an infant six weeks old. The child had become restless, refused to nurse, had a convulsion, and suddenly died.

Dr. Jacobi said that the distance between the manubrium of the sternum and the vertebral column was about two and one-fifth centimeters, and that a congestion lasting but a few seconds might press on the trachea with sufficient force to cause suffocation. A case was cited in which a diagnosis of enlarged thymus was made, the gland was promptly drawn down out of the way, and recovery took place. The size of the thyroid might be determined by percussing from below, with the body of the child inclining forward.

Effects of Tight Diapers.—Dr. A. C. Cotton of Chicago read this paper. He said that diapers should be made of cheese-cloth, loosely applied and abundantly padded with absorbent cotton, which should be destroyed as soon as soiled. Dr. Cotton then spoke of the extreme flexibility of the infant pelvis, and said that the steady, general compression of a tight diaper tended to retard the growth and development of the structure. Skiagraphs were shown to illustrate the effects of tight binders and diapers. Dr. Cotton thought that tight diapers might be responsible for a certain per cent. of the justo-minor pelves of American women, as well as for many bowed femurs.

Some baby clothes were shown to the society, the main feature of which consisted in a bag-shaped gown gathered at the neck, with an enlargement at the shoulders. A drawstring was inserted at the bottom so that the garment might be closed and exclude draughts.

Third Day—May 28.

Two Cases of Umbilical Fistulæ Due to Tuberculous Peritonitis.—Dr. George N. Acker of Washington, D. C., presented this paper

Case I.—Male child, five years old, gave a typical picture of tuberculous peritonitis. During an attack of pertussis a rupture occurred at the umbilicus, resulting in a fecal fistula. The edges of the orifice became hard, and pus which was discharged showed the presence of tubercle bacilli. At the autopsy the fistula could be traced to a cavity attached to the abdominal wall by fine adhesions.

Case II.—A colored girl, eight years old, suffering with peritoneal tuberculosis, suddenly had a rupture at the umbilicus during a paroxysm of coughing. The rupture was followed by a discharge of muco-pus; twenty-four hours later a yellow serum was observed, having a fecal odor. The autopsy revealed similar findings to the first case. Dr. Acker thought that the rupture was probably due to a congenitally weak abdominal wall.

Diphtheria, With and Without Antitoxin.—Dr. Charles G. Kerley of New York reported observations on 159 cases of diphtheria seen by him at the New York Infant Asylum. All of these cases were well fed and housed and had the advantage of having trained nurses and physicians within call; 103 cases were treated without antitoxin, of these sixty died; of the fifty-six cases which received the antitoxin treatment, three died. In suspicious cases the injection of antitoxin should not be delayed until after a culture had been taken, but employed at once. A point not generally appreciated in the use of antitoxins was when to repeat the injections. Beneficial effects should be seen in ten to twelve hours; if there was no improvement by that time the antitoxin should be repeated. If, after twelve hours, a change in the child's condition was noticed, but fresh deposits of membrane detected, more antitoxin should be administered. The only unfavorable effect of the antitoxin was the production of an urticaria in some instances, which usually disappeared in a few days. In conclusion, Dr. Kerley said that, if there was a visible membrane, antitoxin should be injected; if there was inspiratory and expiratory obstruction, even though no membrane could be seen, injection should be made. In children under one year, 2,000 units were used; in children over one year, 3,000 units were injected, the amount to be repeated as might be necessary.

Intubation in Diphtheria.—Dr. John H. McCollom of Boston made some remarks on this subject. He said that all the members of the society could remember how hopeless a condition laryngeal diphtheria was before the days of antitoxin and intubation. A brief historical sketch of the intubation tube was given, several varieties shown, and methods of introduction and extraction demonstrated. Owing to the frequency of middle ear complications, Dr. McCollom said that he had abandoned the nasal method of feeding an intubated patient and adopted the esophageal, a soft rubber tube being used, open in the end to prevent clogging, in place of the soft catheter formerly used. Intubation should be resorted to in adults as well as in children. Eliminating moribund patients, the mortality of intubated cases was estimated at 10 per cent. In private practice, especially in the country, unless the doctor was within easy call, tracheotomy might be a better operation, since an intubation tube was often coughed up. In hospital practice, or when the patient could be watched by skilled attendants, intubation should be preferred. It was attended with little shock, patients readily gave consent, and the chances of bronchopneumonia were probably not increased. The operation was not difficult in skilled hands, and in only one case in 1,200, under Dr. McCollom's care, the tube had to be retained over one year. As a rule, the tube was left in three to four days; frequently it was coughed out at the end of forty-eight hours and replacement unnecessary. In moderate stenosis, antitoxin should be given at once without waiting for a culture, often there might be severe laryngeal diphtheria without sore throat, the process having begun in the lungs or bronchi and ascended. Rigidity of the sternomastoid muscle was a warning sign that stenosis was coming sooner or later, and should be considered an indication for immediate injection of antitoxin.

The papers presented by Drs. Kerley and McCollom were discussed conjointly. Dr. Caillé, New York, thought that the results in intubation were better when sublimation of calomel was resorted to, the calomel tending to loosen the membrane. The O'Dwyer tube, covered with hard rubber, was to be preferred. Cases of retained tube were usually due to a cicatrix resulting from an injury to the larynx; the operation was not for everyone, but required experience and practice.

Dr. Jennings of Detroit said that more than 6,000 units of antitoxin in divided doses was a waste of material in any one case. The esophageal tube should be used in feeding an intubated child or the patient to be allowed to lean over with the head low and suck through a tube. The long tube was to be preferred in private practice, being less easily coughed out.

Dr. Chapin of New York said that much pneumonia might be prevented by frequent cleansing of the tube and allowing inspired air to pass through a warm moist sponge, changed every fifteen or twenty minutes. In an extreme case a child held upside down would sometimes breathe when artificial respiration had been ineffectual.

Dr Buckingham said that feeding could be satisfactorily accomplished by raising the foot of the bed, the esophageal tube being unnecessarily severe.

Dr. Cotton of Chicago said that tracheotomy instruments should be at hand when intubating a patient, as the tube was not infrequently occluded by loose membrane

Dr McCollom said that a retained tube might be due to paralysis of the vocal cords and not always due to trauma. When loose membrane had been crowded down by the introduction of the tube, it was usually coughed out when the tube was withdrawn. Swallowing the tube was an annoying accident, but not dangerous; the thread should never be cut until the tube has been felt in the larynx. In closing the discussion Dr. Kerley said that in diphtheria there was a poison to be met and it must be met with sufficient antidotes.

Tetany of the Type Called Pseudotetanus.—Dr. Irving M. Snow of Buffalo read this paper. He said that several cases of pseudotetany had been described resembling idiopathic tetany in the onset, but differing in subsequent course and termination. An illustrative case of diphtheria with persistent trismus and opisthotonus was cited. The contractions were relieved by morphine, tetanus antitoxin having had no effect. Dr. Snow referred to several other cases of so-called pseudotetany associated with diphtheria, otitis media, and intestinal worms.

In the discussion Dr. Jacobi asked why a case of mild tetanus should be given a new name, and said that morphine and chloral hydrate had cured and relieved many cases Tetany was increased with increasing immigration and was probably associated with rickets.

The Management of the Percentages of Fat in the Feeding of Difficult Cases in Infants.—In presenting this paper Dr T. S Wescott of Philadelphia, said that the present day tendency to simplicity in infant feeding failed to bring precision into play. In most cases it was the abnormal infants which the physician was called upon to feed In meeting the requirements of such infants mathematics failed. Individual cases should be studied and the largest amount of nourishment that could be digested should be secured The natural ratio of digestive power would vary much in each instance, and a proper food could only be accurately determined by working backward—that is, from the study of the stool. In chronic gastric catarrh or catarrhal inflammations of the upper intestine it was impossible to estimate the degree of damage to the mucous membrane It was a common idea in such cases to reduce the proteid percentage to prevent curds in the stool. Holt and others had said that too high a fat percentage as well as too high a proteid percentage might cause the same condition. Vomiting was said to have been caused more frequently by too much fat than by any other condition. If by reducing the proteid percentage vomiting and other disturbances continued, too much fat should be suspected. Good results occasionally obtained by the use of condensed milk in conditions of gastro-intestinal catarrh were explained by a low fat and proteid percentage. Dr. Westcott said that the danger of under-feeding should be guarded against, and recommended a more frequent use of cream and whey mixture.

Dr Chapin said that cream was very inconstant and unless centrifuged was very uncertain. The modern tendency was to become too theoretical, figuring should be based upon a stool analysis.

Dr. Holt said that if milk was cooled at once in a quart bottle practically all the cream rose to the upper fourth in four hours. Many children did not get along well because of high fat and low proteid percentages. A healthy child could take a high fat percentage, but an unhealthy child could not stand it. It was a mistake to try to overcome constipation by increasing the fats, a condition probably dependent upon the low total solids. As long as the bowels moved every day with comfort, they should be considered normal irrespective of the amount and condition of the stools. If fats were run up because stools were thought abnormal, there was trouble. The physician should study what a child could do and not what he ought to do.

Dr. Freeman of New York advised ordering a definite percentage of cream from a reputable laboratory.

Recent Investigations Upon the Proteids of Milk.—Dr. Henry D. Chapin of New York showed several charts to the society representing analysis of 200,000 quarts of cow's milk. The percentage of albumoses and peptones were compared with the percentage of similar bodies in human milk. The proiteid percentage in milk of many animals was shown, being highest in those animals growing most rapidly. The principal object of infant feeding was to increase body cells. Proteids did not contain phosphorous, body cells did, from this it was thought that albumoses and peptones were transition forms. The question of mixing the different kinds of proteids was worthy of study.

Local Variations in the Mortality of Summer Diarrhœa.—In presenting a second paper Dr. Chapin said that while a high mortality from this affection might be largely due to great numbers of bacteria in milk there were other factors at work. Roughly speaking, one-half of the population of New York State lived in a maritime district—the other half in the country. Statistics showed that when a large number of deaths occurred in the country district a comparatively small number of deaths were reported in the maritime district and vice versa. Tables of deaths during the last ten years in the maritime and country districts together with the weather conditions were shown. In addition to the bacteria associated with the souring of milk, a putrefactive type was described, the spores of which were readily carried in dust and might thus easily infect exposed milk. It was significant that the death rate had decreased with cleaner streets. Since New York streets had been torn up in the construction of the subway the death rate from summer diarrhœa had increased 58 per cent. The heaviest mortality did not occur in the hottest months and was apparently but little influenced by humidity. Dr. Chapin said that he drew no conclusions in presenting this paper, but simply wished to call attention to a few observations.

Dr. Seibert, New York, said that the reason more children died in July than in August was because in August they were not there to get sick. Weather statistics were valueless, the terms "mean temperature" and "mean humidity" were unscientific. It was asked if six inches of rain fell in two days of a certain month and no rain fell during the remainder of the month, should such a month be called a wet or a dry month. Most of the infections of milk probably came from cow manure being shaken into pails in the process of milking and not from city dust

A Case of Auto-intoxication with Unusual Urinary

Findings.—Dr. C. G. Jennings of Detroit reported this case. A female child, ten years old, with a gouty father and neurotic mother, was subject to attacks of auto-intoxication. She became languid, tongue coated, indigestion was troublesome, vomiting became frequent. The patient relapsed into a state of coma and was especially sensitive to light and sound. On the fifth day of the trouble the extremities became cold and the pulse feeble, after a free evacuation of the bowels there was marked improvement, the patient being able to sit up two weeks after the onset. Dr. Jennings said that he wished to call particular attention to the finding of neutral magnesium phosphate in the urine, which was a rare occurrence.

Dr. Edsall said the urine should be tested for acetone and diacetic acid in such cases, for acid intoxications sometimes accompanied similar conditions.

Dr. Christopher said that he had noticed high urine acidity in cases of auto-intoxication and had known cases of cyclic vomiting to have been relieved by large doses of alkali. A child would sometimes tolerate two ounces of bicarbonate of soda a day when everything else was vomited.

Notes on the Temperature Cure in Acute Croupous Pneumonia.—Dr. Jennings read the histories of five cases of croupous pneumonia. The essential feature of the temperature cures of these cases was a sharp remission occurring on the third day. The remission, which might take place in any part of the twenty-four hours of the third day, was not accompanied by a corresponding decrease in the pulse or respiratory rate. This remission was liable to lead to errors in diagnosis.

Report of a Case of Pneumonia.—Dr. Walter L. Carr of New York read this paper. A female child eight months old, bottle fed and weighed seven and one half pounds. A paternal grandfather had died of a streptococcus infection three days after a cut in the tongue while sealing an envelope. A maternal aunt had also died of a streptococcus invasion. The child gave evidence of a rapidly extending pneumonia which was most violent in its onset. The temperature was very irregular and bore no definite ratio to pulse or respirations. Quinine was given without any improvement, a blood examination was negative. After death the pneumonia process was proven to be due to a streptococcus infection.

Officers of the Society.—The following officers were elected for the ensuing year: *President*, J. P. Crozer Griffith, Philadelphia; *First Vice-President*, Henry D. Chapin, New York; *Second Vice-President*, F. S. Churchill, Chicago; *Secretary*, Samuel S. Adams, Washingon, D. C.; *Treasurer*, J. Park West, Bellaire, Ohio; *Recorder and Editor*, Walter Lester Carr, New York. *Councillors*, F. E. Packard, *Chairman;* William Osler, C. P. Putnam, F. Forchheimer, J. C. Wilson, F. M. Crandall, T. M. Rotch.

A Case of Traumatic Tetanus Treated with Beechwood Creosote Hypodermically.—George Higginson, having failed to affect a case of tetanus with the usual remedies, determined to use creosote in large doses. Twenty minims of beechwood creosote were administered in a drachm of olive oil, hypodermically, morning and evening. Chloral and morphine were still used, and in a short time distinct benefit was noticed. The patient would entirely relax for short intervals, relieving the dysphagia, and could take nourishment. After twenty days the dose of creosote was diminished. Convalescence was slow, but in three months the patient was entirely well, and had regained his flesh and strength. The creosote in the above mentioned doses did not cause any untoward symptoms, and at no time during its administration was the urine rendered dark and smoky. The antitetanic serum seemed to have no effect whatever, the symptoms progressing rapidly during its administration.—*Nashville Journal of Medicine and Surgery.*

Book Reviews.

The Röntgen Rays in Medical Work. By David Walsh, M.D., Edinburgh. Part I. Apparatus and Methods. Rewritten by Lewis Jones, M.D., Cantab., F.R.C.P. Part II.—Medical and Surgical. New York: William Wood & Company, 1902.

No department of medical advance is attracting more attention to-day than that of diagnosis by the aid of Röntgen's discovery and the treatment of disease by various forms of light. While radiotherapy is still in its early infancy, it is growing rapidly, and the time is already near at hand when much of a definite nature may be said concerning it.

When this edition appeared there was still so little known about the therapeutic action of x-rays that this portion of the work is comparatively brief and inadequate, but six pages being given to the treatment of rodent ulcer, cancer, skin diseases, focus-tube dermatitis, etc. The bulk of the work is divided into part first, which treats of electrical apparatus and methods; and part second, giving medical and surgical applications of the ray. These are both full and up-to-date, describing the methods of producing the rays and applying them in the best way to the detection of foreign bodies, fractures, deformities, stones in various organs, and some disease-processes.

The various subjects have been ranged and treated of systematically, and alongside of the actual achievements have been placed the possible limitations and difficulties.

The whole of part first has been rewritten by Dr. Jones, and in an appendix is given the more recent advances and improvements. Taken as a whole, it must be regarded as a valuable addition to the literature of a still new but most interesting subject.

Grundriss der Pathologischen Anatomie. By Prof. Dr. Langerhaus, Prosector am Städtischen Krankenhaus Moabit, in Berlin. Third enlarged edition, with 231 illustrations. Berlin: S. Karger, 1902.

As stated in the preface, this third edition has required very little change, except in the index, which has been made more complete. The text, in part, is more condensed than in the preceding edition, whereas additions have been made to other subjects. The chapter devoted to Congenital Anomalies and Monstrosities is complete and well classified, and introduces a subject which is too often omitted in works upon general pathology. The subject of Infectious Diseases is treated as a sub-heading under the chapter of Poisonings (Vergiftungen)—that is, poisoning occurring from infection by vegetable organisms as opposed to animal organisms; this latter class occupying a parallel sub-heading and including diseases caused by worms, insects, infusoriæ amœbæ, etc. Although it cannot be said that the reader of German medical literature is limited in his selection of a work upon general pathology, this volume will be found to cover the subject matter thoroughly, is concise in statement and accurate in diction.

The Study of the Pulse, Arterial, Venous and Hepatic, and of the Movements of the Heart. By James Mackenzie, M.D. (Edin.), Burnley. 325 pages. New York: The Macmillan Company. Edinburgh and London: Young J. Pentland, 1902.

This treatise differs greatly from the usual publications which are devoted to the study of the pulse. In it we find reproduced numberless graphic tracings, often with synchronous records of two or more pulsations taken at the apex, the radial, the carotid or over the jugulars and the liver. These are given as facts, from which the reader can deduce his own conclusions or assent to the explanations of the author. The author has endeavored to make less obscure the many unexplained phenomena noticed in circulatory disturbances, and in so doing has rendered a distinct service to both the physiologist and the clinician.

The work certainly proves the value of sphygneographic tracings when under the supervision of one familiar with its use. Especially is this true of the simultaneous tracings, for by no other means can we judge what the different portions of the circulation, ventricular, auricular, arterial, and venous, are doing at certain times. The significance of pulse irregularities, arterial tension, venous and hepatic pulsation, all of such speculative interest, are discussed with fairness and explained to a great extent. The volume contains much that is new, and is splendidly enriched with the author's tracings, numbering over 300.

The International Medical Annual. A Year Book of Treatment and Practitioner's Index. New York: E. B. Treat & Co., 241-243 West 23d St. Chicago: 199 Clark St.

The twentieth year of the "Annual" has been attained with credit. Yearly it has grown in worth as well as in size until it now covers almost every branch of medical and surgical progress. No year book can be complete and above criticism, but this one has successfully aimed, it would seem, to give the greatest number of readers the greatest amount of practical information in the least space. May it have another twenty years of usefulness.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare M.D., assisted by H. R. M. Landis, M.D. Philadelphia and New York: Lea Brothers & Co., 1902.

In the March number of this serial, the list of contributors includes the well-known names of Crandall, Frazier, Hektoen, Packard, Randolph and Thomson.

The topics are Surgery of the Head, Neck and Chest; Infectious Diseases, Diseases of Children, Pathology, Laryngology, Rhinology and Otology.

Recent advances in all these departments have been carefully gone over and little of essential importance or interest has been omitted. The work is put out in excellent style, and when completed for the year makes a good reference library-set.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, with the collaboration of John B. Murphy, M.D., of Chicago; Alex. D. Blackader, M.D., of Montreal; H. C. Wood, M.D., of Philadelphia; T. M. Rotch, M.D., of Boston; E. Landott, M.D., of Paris; Thomas C. Morton, M.D., Chas. H. Reed, M.D., of Philadelphia; J. W. Balantyne, M.D., of Edinburgh, and John Harold, M.D., of London. Volume IV. Eleventh Series, 1902.

The high scientific tone of the "Clinics" is well maintained. Jacobi, Wood, Burnett, Brocq, and others contribute to the Section on Therapy. The names of Duckworth, Bruce, Curtin, Walsh, and others equally prominent are found under "Medicine:" Walton, Krauss, and Pick treat of Neurology. In Surgery, Senn, Cantlie, and Deaver are among the contributors.

The volume contains nearly 300 pages and is well illustrated.

Traitement des Maladies Contagieuses de l'Appareil Générateur (Guide Pratique). Par Dr. F. Buret. Paris: Sociéte d'Éditions Scientifiques 4, Rue Antoine Dubois, 4, 1902.

In this volume of two hundred odd pages Dr. Buret gives directions for treatment by large injections of insoluble salts of mercury; for making accurate scientific observations on syphilitic reinfection, and discusses with much detail the operative procedures connected with the hypodermic method. He asks all who have knowledge of reinfection after cure to communicate the case for future publication.

Rough Notes on Remedies. By Wm. Murray, M.D., F.R.C.P., London, Newcastle on Tyne. Fourth Edition. London: H. K. Lewis, Philadelphia. P. Blakiston's Son & Co, 1012 Walnut Street, 1901.

The degree of popular favor accorded Dr. Murray's "rough notes" is indicated by the appearance of this fourth edition. The preface contains a letter from Canada telling of a life saved by one of the suggestions. In this edition the author adds a chapter on "Roxbury as a Health Resort."

The Operations of Surgery. Intended especially for those recently appointed on a hospital staff and for those preparing for the higher examinations. By W. H. A. Jacobson, M.Ch., Oxon., F.R.C.S., Surgeon to Guy's Hospital, and F. J. Steward, M.S. London, F.R.C.S., Assistant Surgeon to Guy's Hospital, etc. Fourth edition. 550 illustrations. Vol I. and Vol. II. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St., 1902.

When this work appeared some years ago in a single volume, it at once became popular with students and recent graduates, on account of its obvious merits, and subsequent editions have served only to fix its popularity more firmly. It now appears in two large volumes, and its original author has called to his assistance men who are well qualified to assume the task of bringing it up to modern requirements. The operations of surgery are arranged according to regions, and Vol. I covers the surgery of the hand, arm, head, neck, face and thorax, with all operations upon any given part under one heading, a method which has some advantages over that which arranges matters according to the kind of operation. Much of the matter does not differ materially from that in previous editions, but some of the more recent surgical advances receive full attention. We might mention the Hartley-Krause operation for trigeminal neuralgia, and the operation for removal of the cervical sympathetic in exophthalmic goiter, but the newest experiences in ligature of the innominate artery are not mentioned, perhaps, because they are too recent. All operations are minutely described, and enough statistical information is given to enable the student to judge of the relative value and dangers of the various procedures. Vol. II. contains chapters on the surgery of the abdomen, hernia, the kidneys and ureters, the female pelvic organs, the whole of the lower extremity and the vertebræ column. Much of the text is the same as in the last edition, but the chapter on the radical cure of hernia is considerably improved. The recent advances and novel manœuvres in the surgery of the ureters receive considerable attention, but we think the chapter on appendicitis could be improved upon in regard to completeness. The latest operations upon the carcinomatous breast are fully described.

The two volumes undoubtedly form one of the most satisfactory works on operative surgery extant, but we should like to see some of the old illustrations suppressed and new ones introduced more in conformity with what actually occurs at surgical operations. Many of the engravings have been in use for years and are antiquated.

The Social Evil. With Special Reference to Conditions in the City of New York. A Report Prepared under the Direction of the Committee of Fifteen. New York and London: G. P. Putnam's Sons.

This may be considered rather as an essay upon the various problems associated with prostitution in general than as a report of a committee appointed to inquire into the causes of a supposed increase in gambling and the social evil in this city. The conclusions and recommendations of the committee are included in twenty pages at the end of the book, and the "Cadet" system and tenement-house evils are dwelt upon. The work is published in an attractive manner and there is much contained in it of value to all having these questions at heart or brought before them in one way or another.

The Diagnosis of Surgical Diseases. By Dr. E. Albert, late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorized translation from the Eighth Edition by Robert T. Frank, A.M., M.D., with 53 illustrations. New York: D. Appleton & Co., 1902.

Albert's work upon the diagnosis of surgical diseases has long been a popular book with German readers, and now those unfamiliar with its original language have it presented to them in its present form. The work is strictly one upon diagnosis, and is compiled in the form of a series of lectures, arranged systematically according to anatomical regions, beginning with the head and proceeding to the trunk and extremities. The clinics of Vienna have supplied Albert with an enormous amount of material, which fact has made his generalizations most sound. His style is clear and holds the interest. Surgically speaking, this book lacks completeness and fails somewhat on the score of accuracy, but this fault is apparently unavoidable when lectures are the chief source of literary material. In its present form the American student will no doubt find this a useful volume to amplify his course of didactic lectures and as a source of systematized information. The translator's work has been satisfactorily accomplished.

The Medical News Pocket Formulary for 1902. By G. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. Fourth Edition, Revised. Philadelphia and New York: Lea Bros. & Co., 1902.

There are many new formulæ in this edition, and while the newer remedies have received notice, the older combinations of drugs which have proven of value in particular conditions of ill health have not been neglected. As no credit is given, the prescriptions are all supposed to be devised by the author himself.

Psychical Vertigo.—N. Vaschide and Cl. Verpas treat of the sensation of disturbance and timidity felt by certain persons when looking down from a great height, a sensation which leads them to fear that they will be induced to throw themselves over, and which makes them imagine that they are doing it. This passes under the name of vertigo, but, as a rule, there is no giddiness, nor are there any visual troubles. The sensation is a purely psychic one, and, from its symptoms, as described by the, patients, by the general characteristics of these patients, by its mechanism, origin, and psychological structure, is a true obsession. Psychical vertigo is a descriptive title for the affection.—*Revue de Médecine.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 21, 1902:

	Cases.	Deaths.
Measles	217	18
Diphtheria and croup	340	43
Scarlet fever	226	18
Smallpox	26	11
Varicella	19	..
Tuberculosis	234	135
Typhoid fever	33	11
Cerebro-spinal meningitis	..	3

Imperial Medico-Military Academy of St. Petersburg.—Marcou describes this medical school of St. Petersburg for physicians of the army and navy. This is the only school of the kind in Russia, as the University of St. Petersburg has no medical department, this school taking the place of it. It is an ancient institution, having celebrated its centennial in 1898. It is the oldest medical school in Russia, and its history is connected with the first rational efforts at instruction in the empire. Peter the Great was the first to found a school of medicine. He built several hospitals, but there were no physicians to manage them. In 1708 the Emperor Paul signed a decree ordering the construction of the Medico-Surgical Academy. Gradually it rose to its present position. The German influence in the field of medicine has been very strong, but even at the time when French culture dominated all the departments of intellectual activity in Russia, its influence in medicine was *nil.* In the olden times it was the seminaries of priests, especially, which furnished the medical students, for the medical career could scarcely be called brilliant. But, gradually, the situation has been improving, and a larger number of young men have turned their attention to medicine. Even now the Russian military physician is more poorly paid than any other officer of corresponding grade. Only the Russian Christians or Mahometans are admitted to the school; Israelites are refused. The number of students is limited to about 750. That is a small number for a large capital. But there is also the Institute for Women Physicians, with 1,200 students. The cost of the course for a year is sixty roubles, or $32. The course extends over a period of five years, and, after finishing it, the student is at liberty to practise anywhere in the vast empire The students enter the school at about eighteen years of age. They wear a uniform, and carry a saber, and are officially under military discipline. The students and professors, in reality, form part of the army. For each course there is a commanding colonel. He inspects the students, signs their passports and all sorts of papers, and, in case of any disturbance, he judges the culprits. But, in spite of appearances, no trace of military spirit exists in the school. In general, the students appear to be very quiet, and hard workers. At the end of five years there is a comprehensive and long examination, consisting of twenty-eight parts, which alone gives the right to practise. About 150 students are given the title of physician, with "satisfactory" or "extremely satisfactory." From this number about seventy can be presented as candidates for the Institution of Improvement. A thesis, usually on general pathology, is presented by each candidate, without any signature. These theses are compared, and the ten most desirable are designated, and the authors are "Physicians of the Institution of Improvement." These young physicians are connected with the school for three years. The first seven are paid $53 a month. The other three are not paid, but have the same privileges. They choose a specialty, and study with a professor for the three years. They pass examinations during this time to obtain the title of Doctor of Medicine, which is of more value than the first title of Physician which they have received. Every year several of the young physicians are sent to a foreign country to study in the line of the specialty which they have chosen. After a period of two years of foreign study, the student is eligible to the examination leading to the title of Privat-Docent. Thus the student will have spent, at the end of this time, ten years in study -five in the academy, three with a Russian professor, and two abroad. The professor is at liberty to choose his own assistant. As to the election of professors, when a chair is vacant, the fact is published, and every physician in Russia is at liberty to present himself as a candidate. Generally, they are chosen from the old assistants, or from the provincial professors. The professor is calm in his manners, and speaks without gesticulating. The scholastic year lasts from the 16th of September to the 1st of May. The first two years are devoted to the preparatory course. The last three years to the special medical courses. The theoretical work lasts from nine o'clock in the morning to two o'clock in the afternoon. Laboratory work is very comprehensive and carried out on a large scale. To this the afternoon and evening hours, especially, are given up. The Minister of War is very generous, and large sums are devoted to the maintenance of the laboratories The instruction in the hospitals amounts to very little, and a vast amount of material is wasted. At the end of the first year, if the examinations are not satisfactory, the student is dismissed from the school. The examinations of the other years are less severe. This medical school at St. Petersburg supports a complete corps of medical instructors, which compares favorably with the faculties of the large capitals of the West. The writer believes that the theoretical instruction and the laboratory advantages are more comprehensive than the same work in Paris. On the other hand, the hospital work in Paris is superior, for the students can work in all the hospitals of the city. Finally, everything is ruled methodically here, and the student is not left to himself as he is in Paris.—*Archives Générales de Médecine.*

An Ambulatory Treatment of Leg Ulcers.—Guadin describes a method of treating leg ulcers which allows the patient to keep at work. His cases have all been varicose ulcers, but he sees no reason why other kinds may not be treated in the same manner with equally happy results. The leg is just washed with water and soap, and then, with the exception of the ulcer, is entirely covered with a paste made of iodocresol, gelatin, glycerin, and water. This mixture is melted in a water bath and spread on thick with a brush. The ulcer is powdered with traumatol in powder. Traumatol is a combination of iodine and cresylic acid; it is an antiseptic as powerful as iodoform but without the disagreeable odor; neither does it irritate the skin. After powdering the ulcer, it is covered with gauze impregnated with traumatol, over which a layer of absorbent cotton is placed. Before the paste on the leg is dry, there is applied to the leg a starched bandage, first softened with hot water. This is applied to the point of the leg opposite the ulcer, and the ends are crossed from the two sides of the ulcer, so as to draw together the edges of the ulcer and diminish its extent. This manœuver is continued throughout the application of the bandage and ensures a certain compression. Then a bandage is put on from the toe to the hip. The first dressing should remain in place two or three days, according to the amount of secretion produced—secretion which the traumatol disinfects and deodorizes. The subsequent dressings remain longer. The writer has left one in place more than fifteen days. In order to remove it, the leg is plunged into warm water till the bandage is softened. By this dressing the pains immediately lessen, the bad odor disappears, and a cure is established in three or four weeks, and the patient can continue at his work.—*Le Caducée,* May 3, 1902.

Recent Advances in the Study of Immunity.—W. Silberschmidt reviews the recent advances which have been made in the study of immunity, and cites the views of Ehrlich, Morgenroth, Gruber, Buchner, Bordet, Baumgarten, and Metchnikoff with respect thereto. Although much that is of importance along this line has been ascertained, nevertheless the treatment of infectious diseases has not as yet been materially advanced thereby. In immunization the amboceptors play the chief rôle nevertheless a sufficient amount of alexin is necessary. It has been shown that in the blood of persons suffering from bacterial diseases the alexin is greatly reduced in amount. For this reason Wassermann has recommended the inoculation of normal serum rich in alexin as a means in the treatment of infectious diseases. This has been tried in typhoid fever, but not as yet sufficiently to warrant definite conclusions. Metchnikoff has endeavored to produce an acquired immunity by the inoculation of a specific leucotoxic serum, thus producing a hyperleucocytosis. The result of this method is also still in doubt. Morro has shown that the serum of breast-fed children contains more alexin than that of those who are artificially nourished. In this manner the greater resistence of breast-fed children is to be explained. The recently gained knowledge with respect to precipitins, agglutinins, hæmolysins, etc., has opened a new field in bio-chemistry and possesses great forensic value. It is certain that the differentiation of human from animal bloods is greatly simplified thereby. Human blood which has been dried for five, eighteen or twenty-five years may thus be easily identified.—*Correspondenz-Blatt für Schweizer Aerzte.*

Toxæmia from Suppuration in the Temporal Bone.—H. Eulenstein states that suppurative disease in the temporal bone may cause general infection in two ways. The inflamed wall of the sinus may permit the passage of the bacteria or their toxins into the blood, so that death may occur from toxæmia without any special increase in the inflammatory process, or the bacteria may be taken directly into the circulation by the large, and especially the small, vessels, and thus be permitted to increase with great rapidity in all parts of the body. We do not yet know why the same kind of microorganism behaves with different degrees of virulence under different circumstances though individual susceptibility must play some part. Powerful stimulation and saline infusion are important parts of the treatment, but the value of the antitoxic serums is not yet settled. In all cases it is important to remove the focus of infection as soon as possible.—*Archives of Otology.*

The Treatment of Wounds.—E. D. Martin thus sums up the treatment of wounds: (1) Cleanse the hands by washing with soap (that manufactured by process of boiling is the only soap free from germs), and scrubbing with brush for ten minutes; then cleanse the subungual spaces, scrub again for five minutes, wash or scrub in alcohol one minute, wash in permanganate and oxalic-acid solution, or solution of chlorine, for five minutes. These solutions are not necessary for the ordinary handling of wounds, and can be substituted by alcohol and bichloride 1-1000, and afterward rinsing in sterilized water; (2) Prepare the skin by scrubbing with soap and brush five minutes or more, cleanse with alcohol, and wash off with bichloride 1-1000. Cleanse the wound with peroxide and antseptic solutions; dress according to the character of the wound. (3) Instruments are best prepared by scrubbing with soap and water and sterilizing in a 1 per cent. solution of cooking soda for at least five minutes; (4) Towels, dressing, etc., are prepared by sterilizing for at least twenty or thirty minutes. Moist heat (steam) is best, as it is more penetrating.—*New Orleans Medical Journal*

The Treatment of Hæmatemesis.—H. Hervieux enjoins both moral and physical rest in a case of hæmatemesis If syncope is threatened, rhythmical tractions of the tongue according to Laborde's method, are of value, conjoined with injections of caffeine or of ether. Dry cups should be applied to the chest and the abdomen, or ice bladders over the epigastric region. The ingestion of cracked ice seems to be of use in slow or slight hæmatemesis. Some authorities recommend the injection of morphine. The following potion given in tablespoonful doses every two hours has a beneficial effect: Bonjean's ergotine, 1 dr.; Gallic acid, 9 gr.; Extract Thebaic, 2 gr.; Syr. of Terebenthine, 1 oz.; Lime water, 4 oz. The administration of this potion should be continued until all hemorrhage has ceased. After the attack the patient will usually be weak and anæmic. Tonics should be given and all hygienic measures taken to restore health and strength.—*L'Union Médicale du Canada*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 5, 1902:

SMALLPOX—UNITED STATES.		CASES	DEATHS.
California, San Francisco	June 15-22	2	
Colorado, Denver	June 14-21	3	
Illinois, Chicago	June 21-28	7	1
Indiana, Indianapolis	June 21-28	3	
Muncie	June 1-30	2	
Terre Haute	June 21-28	2	
Iowa, Ottumwa	May 31-June 28	10	
Kansas, Wichita	June 21-28	1	
Kentucky, Covington	June 21-28	4	
Lexington	June 21-28	1	
Louisiana, Shreveport	June 14-21	2	
Massachusetts, Boston	June 21-28	8	2
Cambridge	June 21-28	7	7
Everett	June 21-28	2	
Lowell	June 21-28	1	
Melrose	June 21-28	1	
Newton	June 21-28	2	
Somerville	June 21-28	4	1
Taunton	June 21-28	2	
Michigan, Detroit	June 21-28	4	
Grand Rapids	June 7-28	5	
Missouri, St. Louis	June 22-29	6	
Montana, Helena	June 1-30	1	
Nebraska, Omaha	June 21-28	7	
South Omaha	June 23-30	18	
New Hampshire, Nashua	June 22-29	11	
New Jersey, Newark	June 21-28	20	5
New York New York	June 21-28	46	10
Ohio, Ashtabula	June 14-21	2	
Cincinnati	June 20-27	1	
Cleveland	June 21-28	17	5
Dayton	June 21-28	3	
Toledo	June 21-28	3	2
Pennsylvania, Altoona	June 21-28	1	
Johnstown	June 21-28	0	2
McKeesport	June 21-28	1	
Philadelphia	June 21-28	15	1
Pittsburg	June 21-28	13	4
Tennessee, Memphis	June 7-28	2	
Utah, Salt Lake City	June 14-28	6	
Virginia, Petersburg	June 1-26	2	1
Washington, Tacoma	June 14-21	1	
Wisconsin, Green Bay	June 22-29	2	
Milwaukee	June 21-28	3	
SMALLPOX—INSULAR.			
Philippines, Manila	Apr. 26-May 10	6	2
SMALLPOX—FOREIGN.			
Austria, Prague	June 7-14	10	
Canada, Quebec	June 7-14	8	1
China, Hongkong	May 3-17	5	
France, Paris	June 7-14		1
Great Britain, Belfast	June 7-14		1
Birmingham	June 7-14	3	1
Glasgow	June 13-20	2	
Liverpool	June 7-14	3	
London	June 7-14	157	20
New Castle on Tyne	May 31-June 14	1	
Sunderland	June 7-14	1	
India, Bombay	May 27-June 3		7
Calcutta	May 24-31		4
Karachi	May 24	3	1
Italy, Palermo	June 7-14	4	
Mexico, City of Mexico	June 15-22	1	2
Vera Cruz	June 14-21	1	
Russia, Odessa	June 7-14	5	2
Straits Settlements, Singapore	May 3-10		1
YELLOW FEVER.			
Mexico, Vera Cruz	June 14-21	28	12
CHOLERA.			
China, Hongkong	May 3-17	71	65
India, Bombay	May 27-June 3		1
Calcutta	May 24-31		72
Karachi	May 25-June 1	4	1
Straits Settlements, Singapore	May 3-10		00
PLAGUE.			
China, Hongkong	May 3-10		52
India, Bombay	May 27-June 00		133
Calcutta	May 24-31		132
Karachi	May 25-June	72	60

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Original Articles.

MOSQUITO WORK IN HAVANA.*

By W. C. GORGAS, M.D.,

MAJOR AND SURGEON, U. S. ARMY.

I TAKE it for granted that the work of Lavaran and Ross has been generally accepted by almost all medical men as proving that the Anopheles mosquito is the only means of transmitting malaria, and that the work of Finlay and Reed has proved still more conclusively that the Stegomyia mosquito is the only agent in the transmission of yellow fever.

At the beginning of 1901 the whole attention of the Sanitary Department of Havana was centered upon ridding the city of yellow fever, and our measures were taken exclusively for this purpose. The results upon malaria have necessarily followed from the mosquito work.

Our scheme at the beginning of 1901, so far as mosquitos were concerned, was, in the first place, to destroy all the Stegomyia mosquitos we possibly could, so as to leave as few as possible to transmit the yellow fever from patient to patient. In the next place, to prevent as much as possible those that escaped from biting yellow-fever patients, and thus transmitting the disease. And in the third place, when mosquitos had escaped our first two lines of defense, to have a third line and endeavor to kill all that had become infected.

With the idea of destroying all the mosquitos possible, we formed a brigade, naming it the Stegomyia brigade, which worked within the houses. The Stegomyia mosquito breeds principally in the yards of the more thickly settled portions of the city, in all fresh-water collections, such as rain-water barrels. The water supply of Havana is very hard, and nearly every house in the city has a barrel of rain water for domestic purposes.

Early in the season the Mayor issued an ordinance requiring every collection of water in the city to be kept mosquito proof. After one or two inspections this was enforced by fines. Wherever a collection of water was found not protected as required, the owner was fined.

The Stegomyia brigade is divided into seven sections; each section has a portion of the city assigned to it. The section consists of an inspector and two laborers, who accompany him in his inspections. Every house in his district is visited by this inspector. The inspectors report upon the condition of the water collections as to larvæ, and the manner of their protection. On this report the department acts as to fining the tenant or owner, according as the responsibility rests.

The oilers pour crude kerosene oil into all the drains, privies, cess-pools, etc., that cannot be otherwise protected. If the families are poor, the department covers their water barrel and puts a spigot in the bottom. Havana has no general sewerage system, but each house has a cess-pool. Sometimes a cess-pool will have an outlet into some neighboring drain, or it may not have any outlet at all. All these cess-pools and the drains leading thereto are favorite breeding-places for the common Culex pungens, and to a very slight extent for the Stegomyia. The only way of managing these is by oiling. Practical experience has taught us that when mosquitos are troublesome in a house, they are almost invariably bred in that house, or in the contiguous houses, and of the Stegomyia that can be stated as a fact almost without exception. It is a very domestic mosquito, seldom leaving the immediate neighborhood of the place of its birth. The work within the thickly inhabited part of the city has had a most striking result in the general decrease of the mosquitos. The chief of the division estimates that we have not more than one-tenth the number of mosquitos in the city at present that we had at this time last year, and so far as I can observe, I can concur in this estimate.

We can give accurate figures as to the number of houses which had deposits of larvæ. When the work was first commenced, the ground was carefully gone gone over by inspectors and a report made that mosquito larvæ were found on 26,000 different premises. At the last inspection, going over the same ground, less than 200 premises contained larvæ. In this work during the past year we have employed constantly from thirty to fifty men.

Havana has its population crowded into a very small area, the garden and farm districts coming right up to the city proper. This was due to the fact that the Spanish military authorities drew a line beyond which they would not allow buildings, so that the gardens commence at these buildings. These gardens are constantly irrigated, irrigation ditches traversing the country in every direction, and they are great places for breeding mosquitos, particularly the Anopheles.

For work in this district we organized an Anopheles brigade; at one time during the summer, we had as high as 150 men at work; at another time during the past winter we reduced it to forty men. The brigade was entirely separate from the Stegomyia brigade, was under charge of a chief, and was divided into as many sections as were necessary for the work in hand. They cleaned all the irrigation ditches and the small streams, of grass, waterlilies, and obstructions, and ditched the land, and stopped irrigation on any extensive scale. The irrigation in the gardens was not found so objectionable, as the water did not stay on the ground, but was merely collected in holes and put on the ground by hand. But in the grass lands which made up the greater area around the city, we were obliged to stop irrigation altogether. These irrigated grass lands were found to be great places for the breeding of Anopheles, particularly such lands as were used for grazing purposes; the cattle making a hole wherever they stepped in the muddy ground, which retained the water and made an ideal receptacle for breeding Anopheles. In certain cases when we could not get at the water collections in other ways, we used oil. But we have about given up oil in the outlying districts. It is very much better to drain. Oil on a large area of water will blow to one side and is very difficult to distribute.

We have extensive swamps about a mile from the city, across the bay, covering several square miles.

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*Read before the Sanitary Conference, Charleston, S.C.

These we have not attempted to drain in any way, as we have no evidence of mosquitos having come from them.

This is a rough description of the work we have inaugurated for preventing the breeding of mosquitos.

To prevent the mosquito from becoming infected from the yellow-fever patient, we have screened, at public expense, every yellow-fever case as it has occurred, having the family designate the room or rooms they want to occupy, and at once putting up wire screens at the doors and windows, and stationing a guard at the door to see that proper precautions are observed with regard to keeping the door closed.

With the object of destroying the infected Stegomyia, we organized three fumigating brigades of thirteen men each, under the direction of a chief. These at once went to the houses, and as soon as the patients were screened, went to work killing mosquitos. The screening was generally completed within two hours after the case was reported. Each room in the house outside of those occupied by the patient was closed; the cracks were carefully pasted, and pyrethum powder was burned at the rate of one pound to every 1,000 cubic feet of air space. At the end of three hours the room was opened, and the mosquitos were swept up and destroyed. The whole house was gone over in this way, and on the possibility of some of the mosquitos having escaped, the houses adjoining the infected house were treated in the same way. On an average, 150 pounds of pyrethrum were used to a disinfection.

DEATHS FROM YELLOW FEVER ACCORDING TO YELLOW FEVER YEAR.

YEARS	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	Average	1901
MONTHS.													
April......	13	5	8	8	4	6	14	71	1	2	0	12.00	0
May........	23	7	7	23	16	10	27	88	4	0	2	18.81	0
June.......	38	41	13	69	31	16	46	174	3	1	8	40.00	0
July.......	67	66	27	118	77	88	116	168	16	2	30	70.45	1
August.....	60	66	67	100	73	120	262	102	16	13	49	84.36	2
September ..	33	65	70	68	76	135	165	56	34	18	52	70.27	2
October....	32	48	54	46	40	102	240	42	26	25	74	66.27	0
November .	15	24	52	28	23	35	244	26	13	18	54	48.36	0
December .	9	17	33	11	29	20	147	8	13	22	20	29.90	0
YEAR	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901		1902
January. .	10	15	15	7	15	10	69	7	1	8	7	14.90	0
February....	3	10	6	4	4	7	24	1	0	9	5	18 18	0
TOTAL....	303	364	352	482	388	549	1355	743	127	118	301	462.00	5

As soon as the patient had recovered or died, the rooms occupied by him were gone over in the same way, and the infected mosquitos were killed before the screens were taken down.

Pyrethrum is not the best insecticide, but it was used because it was least objectionable to the people being fumigated. Sulphur is very much better, but it injures so many fabrics that we never use it in rooms where any injury can be done. From the stupor caused by the pyrethrum powder a certain number of mosquitos will revive when exposed to the fresh air, and for this reason, after the fumigation the mosquitos have to be carefully collected and destroyed in some other way.

The habits of the Stegomyia have greatly assisted us; they seem, as a genral rule, not to leave the neighborhood of their birth-place, and for this reason we were able last summer to get all the infected mosquitos around each focus as it developed by killing the mosquitos in the way described.

In this work we have employed through the year an average of about forty men, and spent about $7,000. The results are, first, the extermination of yellow fever; second, a marked decrease in malaria.

Yellow fever is known to have been present in Havana ever since the English occupation of 1762, not a year having passed since that time without many deaths from this disease. I insert here a table of deaths from yellow fever covering the period since 1889. The records of Havana, as far back as they go, show the same condition of affairs as to this disease.

From this table it will be seen that, for the year of mosquito work, from April 1, 1901, to March 30, 1902, there were only five deaths from yellow fever in Havana. Since September 28, 1901, there has not been a single case. The maximum for the same period, according to the table, is 1,385 in 1896–97; the minimum, 122, in 1899–1900; average, 467. These results, it seems to me, are due entirely to the mosquito work.

Our reports for 1900 show 344 deaths from malaria; for 1901, 151 deaths; for the first four months of the present year, twenty-six deaths.

The decrease in the death rate from yellow fever and malaria is directly attributable, I think, to the mosquito work. Havana is the first place in which mosquito work has been attempted in a systematic way and on any large scale, and we can accurately measure its results, as we have done above, by taking the number of deaths before the mosquito work and after. This work, as above described, has been going on in Havana for the past fourteen months. In the prevention of yellow fever it has attained entire success, and while we cannot hope for such effective results as far as malaria is concerned, the statistics show that without doubt the work has decreased malaria to a very great extent.

How far such a plan as ours could apply to country districts and small towns, would have to be determined by experience; but I am inclined to believe that the same general outline would apply everywhere. Mosquitos generally do not travel very far; those that annoy houses come from the immediate neighborhood, and I believe that, by destroying the breeding places in a town, or immediately around the houses, the diseases conveyed by mosquitos can be very greatly decreased.

APPENDICITIS AS VIEWED IN THE EARLY PART OF THE LAST CENTURY, WITH A FEW NOTES ON THE ESSAY OF MÉLIER.

By THOMAS H. MANLEY, Ph.D., M.D.,
NEW YORK

At the annual meeting of the American Medical Association held in Atlantic City, N. J., in 1900 it was my privilege to present a contribution on "Appendicitis in Children." This was published in the *Journal of the American Medical Association*, May 12, 1901. In that essay I stated that the first published description of the pathology of appendicitis, was by "Mélier."

In making this statement I was aware that it was not supported by any acquaintance with the original publication, but it was borrowed from a monograph, by a very painstaking reliable author.

Last August a noted English author sent to me a note in which he challenged the accuracy of my citation, asserting that the first to write on the pathology of the appendix was a London physician in 1838. He informed me that he had then in preparation a work on "Disease of the Abdomen" and was anxious to secure reliable data, and concluded by demanding the date of Mélier's publication, the journal it was published in, and where?

It was now evident that the veracity of my statement was questioned, and in order to support it, the original was indispensable. After an extended correspondence with the principal medical libraries in America, and an examination of the vast bibliographical store of the New York Academy of Medicine, I was about to give up further effort, when Mr. E. B. Browne, the courteous librarian of the New York Academy of Medicine, suggested an appeal to the library of the Surgeon-General of Washington, D. C. From this great library the original brochure of Mélier was generously loaned me.

On a most superficial perusal of this pamphlet, I realized that it was a veritable treasure in its way; that it contained the report not of one case only of appendicular lesion, but of nearly a dozen, and that, though published now seventy-five years, there has been essentially no advance on the pathology of the disease or a more rational conception of its treatment.

Hence, I have ventured to translate it verbatim, and add a few notes.

(Translation from the original.)

A Memoir of Some Maladies of the Cæcal Appendix. By Dr. L. Mélier.

From *Journal of Medicine, Surgery and Pharmacy*, 1827. Second series, 110, 39, p. 317. (From a reprint.)

M. Mélier says, anatomico-pathological researches have nearly nothing on diseases of the cæcal-appendix. Authors appear to have given it no attention. In fact, this omission seems justified by the slight importance of this organ, this vestige, of the uses of which we are ignorant and of the purposes in the economy, we know nothing.

It is well known that physiologists have operated on the cæcal-appendix of animals, removing it after ligation, when it was found to contain fecal matter, or foreign bodies.

I shall not stop to describe the appendix nor will I hazard an opinion on its usage, as vague conjecture and hypothesis are without interest. I shall note some of its diseases, and especially the fecal accumulations in its cavity. We will record here two observations, verbatim, presented at the Academy of Medicine in 1834 by Dr. Louyer Villermay and others from various sources.

Case I.—**Acute Inflammation of the Cæcal Appendix; Gangrene of the Organ and Death on the Fourteenth Day.**—W. G., thirty-five years of a full habit, usually enjoyed good health, and led a sober life; was seized, suddenly on the 10th of November, 1823, at 5 A.M., with a severe pain *in the right side* [italics the author's] of abdomen had bilious vomiting; all *this part* of the abdomen *extremely sensitive* to the touch. Testicle on right side strongly retracted. The pulse was somewhat slow.

Patient had observed that the *dorsum of the* right foot was cold for four days prior to the invasion M. Selévestre, his ordinary physician, prescribed emollient drinks, enemata, with twenty leeches to the anus. The punctures from these bled all day. In the evening the pain was less severe and vomiting had ceased. But the pulse had quickened and the night was troubled.

On the second day thirty leeches were applied over the right iliac fossa. Nitrated milk was prescribed and emollient cataplasms applied. In the evening the pulse was hard; in spite of the diminution of the beats; twenty more fresh leeches were applied over the site of the greatest pain. Every six hours a warm bath was given; during the night green vomiting returned, great pain attending each effort.

On the morning of the sixth day the patient was without pulse, cold and extremely restless, but had no pain. Vomiting continued and the Hippocratic facies was pronounced. In order to diminish the vomiting and the great heat of which he complained, iced lemonade was prescribed and taken with relish. Meanwhile I enveloped the lower members in sinapisms. At midday he expired without agony.

Autopsy Made Twenty-four Hours after Death.—Found the right testis drawn firmly up to the external ring. The abdomen was opened. *In the right iliac fossa* was discovered about three ounces of black serous fluid, exhaling a foul gangrenous odor. In the middle of this floated the cæcal appendix; it was *about a third longer* and larger than commonly; black, involved by *gangrene* and *putrescent.* It was detached without effort. This gangrene was confined to the appendix. *The cæcum was everywhere healthy*; the omental investment of the cæcum was in patches, gangrenous and adherent. The subperitoneal tissue was infiltrated as far up as the kidney.

The mucous membrane of the stomach was reddened and thickened, but the intestine and all the other organs were healthy.

Reflections.—When one reads of the grave accidents in this case and the promptly fatal issue one would expect some spread of the disorder to the viscera, and is astonished to find the appendix the only organ diseased

It was evidently a case of inflammation of the elongated organ, with advance to gangrene, which had been the cause of all the grave accidents and death.

All the symptoms were in the right iliac fossa, the only seat of the disease. It was for these symptoms the leeches were twice applied and a bleeding from the arm was resorted to. In spite of these measures and energetic treatment, the affection of a circumscribed organ, without function, carried the patient off in three days.

The second case recorded by Dr. Louyer Villermay is not less interesting than the first.

Case II.—**Acute Inflammation of the Cæcal Appendix Terminating in Gangrene and Death on the Third Day.**—Patient, a man thirty-seven years old, endowed with a good constitution, had an inguinal hernia, well supported by a truss; on July

21, 1821, an hour after his supper, he felt a general malaise with nausea and sharp pains over the umbilicus, and he had great oppression. He vomited his supper with a very green viscous substance, but the pain and distress lasted all night. Enemata gave no relief.

Twenty-second inst., at 6 A. M., momentarily calm, but extremely feeble; face pale, tongue humid, thirst intense, pulse small, hard, and frequent, cramps in calves of legs. The umbilical region sensitive, the hypochondria full, hernia reduced. Respiration and speech painful. Sweetened flaxseed tea ordered, with fomentations over the abdomen. Patient to submit to leeching or bleeding. By two o'clock vomiting recommenced, of a dark green color, there were fecal discharges of the same color, dysuria, considerable distention of the abdomen, some pain in the *right lumbar region*, and frequent chills. During the night the patient was very calm, rather somnolen than sleeping, muttering, vomiting less, and complaining of sharp thirst at intervals.

Twenty-third inst. Integrity of the faculties, pulse small, feeble and irregular, the abdomen not painful. At 6 o'clock syncope; death soon after.

Autopsy: On opening the abdomen, a pyramidal body appeared in the right iliac fossa—the cæcal-appendix—this was about 3½ inches long and an inch thick at its base. Here a large, violet-black plague of gangrene encircled it.

The mucous membrane was very thick and of a silvery white; where it approached the cæcum it was black and disorganized. When the cæcum was opened *it was found perfectly healthy* till the mouth *of the appendix was approached*. The intestines were distended with gas with no structural changes, but the mucous membrane of the stomach showed traces of inflammation. The other organs showed nothing unusual.

Reflections: In this recorded case the affection of the cæcal appendix was as circumscribed as in the first, and had a more rapidly mortal termination, the disease remaining through only one day and night. Perhaps, in view of the great violence of the malady, sufficiently active remedies were not put into use. As in the preceding case, all the abdominal organs were healthy, even the cæcum itself; its appendix alone leading to the accidents and death.

CASE III.—**Obstructive Inflammation, Gangrene and Perforation of the Cæcal Appendix, Effusion into the Peritoneum; Death.**—M. Laent, age thirty-five, strong constitution, sanguine temperament, considerable *enbonpoint*. Always enjoyed good health, was never ill; only had effusion within knee-joint when a child, which left the knee anchylosed.

He was seized in the night of July 3, 1824, with a colic. I was called in the morning. His state was as follows: He had severe pain in the abdomen, which augmented at intervals, borborygmi, some nausea; the abdomen was supple and nowhere painful on pressure, tongue white and moist, pulse small but not frequent, general anxiety. Some days before he complained of heat of the belly, of constipation, some colicky pains, which he attributed to severe muscular effort and suppression of perspiration. After the bath the pain diminished; patient was tranquil. In the evening pain recurred and sleep was interrupted. On the 5th but little colic, no fever, but abdomen was now sensitive to pressure. Passed a fair day. In the evening, the same day, the belly was sensitive and colic more frequent; prescribed twenty leeches, with some relief following.

The following day the man passed two copious fecal movements, bilious and very fetid. This was attended with intense colic, but was followed by much relief.

Sixth day diarrhœa followed as a sort of crisis, and this was succeeded by so much relief that no more leeches were applied; the patient now had no doubt of his early recovery, and this hopeful view was shared by myself.

The painful aspect of the visage particularly seemed effaced after the large spontaneous evacuation, and I deluded myself by this sign into giving a hopeful view of the situation. Patient now had neither thrist nor fever; he received friends through the day, and fed himself; was very comfortable at 6 P.M.

Suddenly, while taking an injection, he was seized with atrocious pains in the belly; he lost consciousness, his body became cold and covered with cold sweat. I was called (I had intended to make no more visits); I soon arrived, found the belly painful on the least pressure; the man was nauseated, making frequent efforts at vomiting; he had a small pulse, and was in a miserable condition. Appreciating the great danger and wishing for additional counsel, I called Dr. Fourcadelle, who continued with me in charge. It was evident now that there was peritonitis, which had suddenly developed.

But what could be the cause of this sudden and terrible change? The abdominal passages were examined with care, but no hernia was found. We concluded that there had been a *spontaneous perforation*. Prescription, twenty leeches on the abdomen, fomentations, and a little milk. These had no effect, symptoms persisted, but they became more and more alarming, the patient soon became much weaker, prostration was setting in, which is so characteristic of grave abdominal inflammation.

Seventh day—general sinking, features altered, cold sweat, cold extremities and constant vomiting of green bilious liquids; abdomen distended, especially in the epigastrium and in the right flank; respirations, rapid and shallow; tumultuous action of the heart, pulse almost imperceptible; now in no pain, but could bear no pressure on the abdomen. He begged for rest and that he might only sleep. Nausea and hiccough now distressed him, but the faculties remained clear, in their full integrity.

In a state so near the impending end, no further leeching was ordered, but camphoretted blisters were applied on both sides of the abdomen, mustard to the extremities, and ether friction to the arms. Symptoms continued; death at noon—that is to say, eighteen hours after the symptoms pointing to the invasion of peritonitis.

Autopsy twenty-four hours after death.—Nothing found of special note till the abdomen was opened On opening the peritoneum a serous fluid escaped, the omentum was found congested with some adhesions. The peritoneum presented a rosy tint, more pronounced toward the right iliac region. Large plaques of a yellowish film covered the lower circle of the ileum; at first they appeared like gangrenous eschars, but they were found to consist of *discolored fibrine*, which, on removal, left the peritoneal surface intact; this material was found in various situations. A yellow bilious liquid, mixed with fecal matter, was found in the right iliac region. It was not from the intestines, but from the *cæcal appendix*.

The appendix was large, quite the volume of the gall-bladder; it was of a livid color, soft and partly gangrenous. On pressure there escaped fecal matter. A female catheter, introduced by the cæcum, came out through the opening. Its interior was irregular with various constrictions. The interior of the cæcum was natural. The stomach was distended by gas; its mucous membrane was *very* red in places; toward its greater curvature were thickening and emphysema, which we attributed to a commencing putrefaction. The intestine was also distended with gas, but its mucous membrane, except for a reddish tinge of color, was everywhere normal. The liver was voluminous and congested, the gall-bladder well distended.

Reflections.—This third case merits a moment's attention. The patient was subject to colic; it had annoyed him for some days, at first very severe, then much less; soon ceased completely, and we regarded our patient recovered; it was a perfect calm. But in the midst of this calm he is seized in the lower abdomen with the most agonizing pain, with most intense peritonitis, and prompt mortal symptoms, such as follow in *spontaneous perforations of the intestine*, but we must not be deceived by the analogy here.

I explain the divers accidents and their sequelæ here in this way: there was, first, fecal material or a calculus in the cæcal-appendix, this dilated little by little, by a sort of *obstruction*, next gangrene, then perforation. The first symptom, *i. e.* the colic, probably followed distension and inflammation of the cæcal-appendix. The rupture of the latter gave issue to extravasation, which provoked the peritonitis. This rupture might have been determined or hastened by the force employed in giving the enema; the atrocious pains began, and immediately after peritonitis set in.

This case appears to differ from that of Dr. Louyer Villermay in that there was simply inflammation and gangrene of the cæcal-appendix, while that of M. L. there was from the beginning an accumulation of fæces in the cæcal-appendix; there was rupture of the walls, extravasation and consecutive peritonitis; however, as we remarked in the patients of M. L., the cæcal-appendix was dilated to a considerable volume. As it is probable that, as in the case of M. L., there was, at first, a mass of fecal material in the appendix from an obstruction, which later provoked gangrene, with the other changes. This view seems to be borne out by the two following cases:

Case IV.—**Pain in the Right Side of Belly, Vomiting, Meteorism, Constipation. Symptoms of Internal Strangulation; Death. Accumulation of Hard Fæces in the Cæcal Appendix, Gangrene and Perforation, Thickening of the Ileocæcal Valve, Occlusion of the Intestine.**—M., aged thirty-eight, strong and vigorous, *was subject for two years to dull, colicky pains*, but never so violent as to call for therapeutics. He lived in the country on a moderate régime.

In 1825 he was called on business to Paris and had to submit to an irregular mode of living. He hastened his return, when he complained of malaise and pains in the abdomen, but not especially in the right side, and had vomiting.

Dr. Sévestre was called on June 20, and found the patient in following condition: Belly tense and meteoric, painful to the touch; pulse hard and frequent, skin hot and dry, tongue red and rather dry, continued vomiting, constipation, was bled to four palettes, emollient drinks, enemata and bath; bleeding in the evening and forty leeches to the abdomen.

June 22.—Second day of illness, augmentation of symptoms, a bleeding in the morning and another in the evening, leeches to the epigastrium and anus.

June 23.—Pulse frequent, agitation extreme, continual vomiting, enemata bring down no fæces; low bleeding—two palettes—fresh applications of leeches.

June 24.—Enormous distension of the abdomen; all the symptoms are aggravated. Dr. Sevestre did not doubt the existence of internal obstruction and gave an unfavorable prognosis. Professor Alibert called in consultation; opium and its derivatives were employed now.

June 25.—Death is now imminent. It was recorded that the mind was at no time affected. Died in the evening.

Autopsy made after twenty-four hours, in the presence of Dr. Emory.—Abdomen greatly distended by gas, intestines of great volume rolled out, of a brown-red color, and as large as the cæcum in diameter. Intestine is, in places, gangrenous, and has contracted several adhesions. *The appendix* is destroyed by sphacelas; it is nearly the volume of the index finger and presents at its extremity *a perforation*. Its cavity is distended by a hard round body, the volume of a cherry nut. It is formed of hardened fæces, disposed in layers, like a urinary concretion. The ileocæcal valve was found very thick, hard, and closed completely at the orifice of the ileum.

Reflections.—We were struck by the perfect resemblance of this and the preceding case. Both began with colic, followed by continued pain, having its special seat nearly exclusively in the *right iliac fossa*; that is to say, in the region occupied by the cæcal-appendix, the point of origin of the trouble. In both the symptoms augmented with great rapidity, in spite of energetic treatment, rapidly terminated in death.

The abdomen opened presented essentially the same conditions, to wit: the appendix distended with fecal matter, destroyed by gangrene and perforated. The relations of the symptoms and cadaveric lesions are easy to understand and interpret, in this case, as the preceding. There was in the last, as in the preceding, a slow accumulation of fæces in the cæcal-appendix, obstruction, distension, inflammation, and gangrene. In the last case there was thickening and induration of the ileocæcal valve, with the occlusion and strangulation following. This alteration in the ileocæcal valve was of long duration and interfered with the fecal current. But the inflammation in the appendix extended into, and attacked this already defective valve, it accelerated its defect and finally arrested its functions.

Case III.—**Indefinite Alteration in Health, Malaise, Diarrhœa, and Vomiting Attributed to Indigestion, Pain in the Right Iliac Fossa; Peritonitis and Death, Distension of Cæcal Appendix with Fecal Material, Gangrene.**—M. H. Vincent, age twenty-three years, strong constitution, always enjoyed good health. For two months his family noticed a change of an indefinite character; formerly gay and vivacious, he was now morose; though in pleasant society, he sought seclusion. Light exercise caused great fatigue, was tormented by thirst. Every one remarked his changed appearance; however, he claimed that he had no suffering. He ate and slept well, and gave no attention to his apparent failing health.

On March 2, 1827, about two hours after a trip into the country, where he dined, drank champagne and liquors, he was seized with malaise, nausea and vomiting. Nothing was thought of this other than that it was an attack of indigestion. He took an enema and had a large alvine discharge. He passed a restless night and was tormented by thirst, which was relieved by cool drinks.

Second Day.—M. Jacquemin saw him and attributed his condition to the fatigue and the incidents of his country visit. He then had a hot skin, a quick pulse, and thirst. Patient had vague pains in the abdomen. Cataplasms applied, enemata given, and mucilaginous drinks ordered. Passed a bad night; no sleep.

Third Day.—Had an icterus tint of face, belly distended. *The right iliac region has become the seat of intense pain*, augmented by pressure, hiccough, nausea and vomiting of green material. Thirty leeches applied to the region of the cæcum. The bites bled freely for twenty-four hours, but without relief.

Fourth Day.—Extreme agitation, pulse frequent, dry tongue, pain in the right iliac region has extended. The patient groans with distress and tosses about like one deranged, a large phlebotomy from right arm; given hot drinks, and continued enemata. During the day had vomiting of dark-colored material without fecal odor. Belly extremely tense, and can suffer no pressure; whole body now icteric, fresh application of leeches on the abdomen and sinapisms to the legs. In the evening, features profoundly altered, looks haggard, ideas confused, pulse small and frequent; blisters applied to the legs. During the night agitation diminished, speech embarrassed, patient now whispered that he had no more suffering. At 5 P.M. M. Jacquemin found him in that deceptive state of calm in peritonitis; skin cool and bedewed by a clammy perspiration; lips pale and pulse scarcely perceptible.

Fifth Day.—At 7 A.M. M. Lelinier and Anchaf Jr., gave a fatal prognosis. Death two hours later.

Post-Mortem Examination.—M. M. Lerminier, et Andral, M. Fresne, Jacquemin and Marx proceeded with the autopsy, twenty-four hours after death. They found:

1.—A purulent effusion in the peritoneum, especially in the pelvis; traces of inflammation, covered with false-membrane, everywhere.

2.—The wall of the *cæcal appendix was thickened and destroyed by gangrene.* It contained an ovoid fecal calculus, a half-inch thick, which distended its cavity.

3.—A bridle of fatty tissue extending from the mesocæcum to the abdominal wall. The bridle was so placed as to envelop the cæcum and narrow its cavity. Everywhere the cæcum and appendix were bathed in pus and false membrane.

The gastrointestinal mucous membrane showed no signs of intense inflammation. The intestines were all distended by gas.

From this examination the council of physicians concluded, 1st, that the cause of death was abdominal; 2d, that the calculus, found in the appendix, was proved by its consistence and other characters, to have existed a long time, and had progressively led to trouble in function; 3d, that the appendix was at first irritated by this calculus, which had provoked an inflammation, promptly terminating in gangrene, and that the extending peritonitis had determined a mortal phlegmasia.

Reflections.—The explanation conforms with what we have observed in the preceding cases. They were essentially similar; in all the symptoms bore a striking relation to the lesions found.

It was evident that in the three last cases the accumulation of fæces, irritation therefrom, inflammation and obstruction preceded gangrene and perforation.

The third and fourth cases began by *colic*, with vague pain in the abdomen, *and acute distress over right iliac region.* The dominant symptoms of acute, intestinal obstruction were manifest here.

If this succession of accidents is constant, it may, perhaps, permit us to distinguish—two stages in the march of this disease. The first, characterized by colic, corresponds to the dilatation of the appendix with fecal matter; second, an nounced by severe pain in the ileocæcal region an effusion into the peritoneum, or an acute peritonitis corresponds with the moment that the over-distended inflamed appendix is destroyed by gangrene and ruptures. However, in the present state of things, it must yet remain very difficult to recognize the types of disease of the appendix which we have described.

Happily, this malady appears to be rare, although these four cases have occurred in a short period.

There are two, by the same physician, which leads us to believe that if this disease has not been oftener observed it is because inadequate attention has been given to the ileocæcal region, to that organ regarded as unimportant, so that even on autopsy one neglects to scrutinize its lesions.

We may add that Dr. Sévestre, who was called to the second case in consultation, has informed me that he was able to pronounce it disease of the cæcal-appendix, because it was characterized by quite the same symptoms as in the first patient. In all the cases the malady pursued a rapidly fatal course toward death.

If it were possible to establish an early and definite diagnosis in this malady in these well circumscribed cases, one can conceive of the possibility of relieving them by an operation. No doubt this day will come. Physiological experiment should be appealed to, to clarify this question and elucidate the pathology. It would be interesting to study the various types of the disease by experiments on the cæcal-appendix. If the foregoing notes have been read with some attention, one cannot but regard this subject as worthy of serious research.

Case 6.—**Perforation of Cæcal-Appendix with a Communication Externally through a Fistula in the Right Iliac Fossa.**—Patient, male, forty-five, slim in stature, one hundred and ten pounds, subject to frequent and prolonged catarrhal affections In 1812 was seized with severe pain in the right iliac fossa, a large tumor presenting; sensitive to the least pressure; constipated; meteoric belly and febrile state.

This disease depended on an effection of the cæcal appendix, with impaction of fæces; was treated tentatively by prolonged baths, topical applications and severe dieting. Pain and fever ceased. Constipation was overcome by senna, and very large, offensive evacuations followed. Sulphur baths, careful regimen. Asses' milk, which, with simple food, led to a cure or a great improvement in his general condition. This improvement continued until February, 1815, when M. Malas was again called to treat a pulmonary affection. The patient recovered from this and returned to his usual occupation, when he was seized with violent pain in his *right iliac region.* The cæcum appeared to be of considerable volume, exquisitely sensitive. The patient had constipation; was given repeated baths, warm drinks, and castor-oil. The weight of a cataplasm was in tolerable. There was little change till the 13th of March; the tumor continued in spite of free evacuations or stercoraceos discharges, and showed no diminution in volume. It was thought that the tumor occupied the intestine itself.

Inflammation became more and more pronounced; the tumor was harder, irregular and more prominent; it was located in the right iliac fossa. MM. Jacquemin, Sr., and Dupuytren were called in consultation.

on March 14. Fluctuation was discovered. M. Dupuytren made an opening, from which there was a large issue of pus of a fecal odor. There was immediate relief. The wound remained unclosed, a fistula followed, from which a great quantity of pus escaped.

Three new openings were spontaneously made, all communicating with the first.

This state continued until the winter of 1816, when the pulmonary condition became worse and dropsy appeared in the limbs. It may be recalled that when the discharges diminished diarrhœa set in, to again abate when pus escaped from the fistula.

Finally, on April 15, the patient taking cold, was once more seized with abdominal pain, and succumbed to acute peritonitis.

Autopsy following day by MM. Jacquemin, Sr., and Jr., with M. Nacquart. The body was greatly wasted, extremities œdematuds, thorax resonant, belly somewhat distended, a collection of pus occupied the summit of the right lung. The peritoneum contained about three liters of serum, in which floated flocculi of discolored fibrin, the surface of the intestines was highly inflamed. On examining the right iliac fossa, the intestine was found to communicate with one large sac, this adherent to cæcal-appendix, which was here opened. The cellular tissue in the iliac fossa was healthy, also the cæcum and colon. The fistula showed signs of closing.

In spite of the communications between the cæcal-appendix and the abscess cavity, pus never appeared in the fæces nor the fecal matter in the fistula.

Reflections.—Thus comparing this case with the preceding, I am compelled to believe that the cæcal-appendix was the seat of the *primary disease*; that the primary trouble was impaction of fæces, in the appendix, perhaps, a stercoral calculus, as in the fifth case, that this provoked adhesive inflammation within the peritoneum, that the cellular tissue became engorged and finally the appendix opened, here a phlegm forming. It is just possible, however, that the abscess formed first, and later opened into the appendix. Before closing this memoir on diseases of the cæcal-appendix, we will add a few other notes which we have read.

They are by Dr. Lewis, vice-president of the *Société de Médecine*, they constitute the text of an essay published in the *Bibliothèque Médicale* (1814 v XLIII, p. 333).

CASE VIII.—**Ascarides-Lumbricoides Found in the Cæcal-Appendix** (From a clinic by M. ladolot in 1808.)

A youth of thirteen years died on the tenth day after his entrance into hospital from a disease treated as *adynamic fever*, and who in his last days presented some symptoms of *ataxia*. On opening the body it was discovered that the end of the ileum, the cæcum and appendix, were filled with lumbricoids.

Case VIII.—**Stercoral Calculus in the Cæcal Appendix; Inflammation of the Appendix, Gangrene of Cæcum.**—A young man, eighteen years old, of strong constitution, complained for some time of colic—at first trivial, but later severe. After three days' suffering a physician was called. He discovered *severe pain* in the *right iliac region*, occupying an area equal to the palm of the hand; augmented on the least pressure, belly distended, constipation preceded by moderate diarrhœa, hiccough, nausea, followed by vomiting, at first bilious; after twelve hours fecal; aspect of the face and eyes presaged delirium; tongue moist, pulse irregular. Following day, prostration of strength, features altered, *no pain*, marked meteorism, pulse weak, constantly vomiting of fecal fluids, delirium tranquil, extremities cold. Patient succumbed quietly in the evening.

Post Mortem.—On opening the cadaver, inflammation of the ileum at its junction with the cæcum, with gangrene, appeared. This condition appeared to start in the cæcal-appendix. *Cæcum ipsum a gangrenâ destructum erat, quæ omnis ab ea parte, ubi processus-vermicularis illi se inscrit. Exorta esse videbatar.* The appendix was of a red color, larger than natural, its mesentery injected was adherent. The appendix contained several calculi. These calculi were sent to the *Société-Médicale d'Emulation*, where they were analyzed by M. Robiquet. The largest was ovoid in form and weighed a grain. The others were nipple-shaped and spurred, they presented an aspect of marble calculi; their odor was fetid. They were found to consist of 60 per cent. of fatty matter, 30 per cent. of phosphate of lime, 8 per cent. of animal matter; their general characters were those of biliary or bladder-stones. These calculi were the primary cause of inflammation, the disease beginning in the appendix.

We note in this history that the principal symptoms were first a *moderate colic and later intense pain, continued and circumscribed in the ileocæcal region.*

This is noted by the author himself, that the gangrene seemed to first manifest itself from the side of the appendix. We were able to find but one case recorded similar to Wegler's; this was published by Amgand. A needle found the center of a calculus. *Unicus tantum casus, ubi acus, crusta lapideâ obducta in processu-vermiculari detecta fuit.* Vicg. d'Azir has cited an analogous example (Enclycopædic Method, ii, p. 286), the concretion being as large as a hazelnut penetrated in the center by a *hair.* Finally, there appeared a report by M. Oliver Prescott—*Gazette de Saté*, January, 1817, p. 13, of a similar case, death occurring in the presence of symptoms of peritonitis.

On autopsy a concretion as large as a walnut was discovered in the cæcal-appendix; gangrene extend into the ileum and cæcum.

In conclusion we wish to say that M. Louyer Villermay was the first to call the attention of physicians to disease of the cæcal appendix, and impressed the importance of the pathology of an organ of which up to that time we know little.

Inferences from a Review of Mélier's Contribution.—At the onset, we note the striking analogy to the experience of Lambert, who first discovered the secret of artificially inducing intestinal adhesions—*serosa ad serosa*—by the employment of suture in 1823. His deductions as to the utility of this procedure on the human being were entirely based on his experimental observations on the lower animal, as during his life no opportunity ever came to him to test their appreciability in the surgery of the intestine of man; and so with Mélier, who, seventy-five years ago, struck at the very foundation of the pathology of diseases of the appendix and clearly prophesied their ulterior and only rational treatment by surgery; it does not appear that he ever had a case which he recognized as this malady himself.

Nevertheless, he has left posterity in his debt for not only by laboriously gathering cases from widely separate sources and classifying them, but also for bringing the radiance of logical scientific reasoning to bear on their unique and special characters.

Indeed, his brochure clearly demonstrates that he was far ahead of his time, as his classification of cases and his efforts to correlate destructive symptoms with pathological changes and prove their reciprocal relations, demonstrate. Moreover, the thought had clearly dawned on him that in order to prevent disaster from a spread of the infection, it could be only accomplished by dealing with the immediate seat of disease. He emphasizes that because this "vestige" has no functions, anatomico-pathological research on its pathology was omitted, it appeared to serve no purpose in the economy, hence its pathology was regarded as insignificant. His citations from Bèclard, Bichat, and Meckel warrants the inference that long before his time physiologists and surgeons had made an experimental study of the appendix on lower animals; that they had so far perfected operative technique on it as to obviate its dangers. Anæsthetics and asepsis only made it safe or expedient to transfer these experiments to man when they were first safely tested by Dr. Henry B. Sands in New York in 1882.

Dr. Mélier graciously accords to Villermay full credit for "being the first to call attention of physicians to disease of the cæcal-appendix and impress the importance of the pathology of an organ of which up to that time we know so little. But on an examination of Villermay, original brochure of 1826, we find little more than the details of his own two cases, without any attempt at an exhaustive consideration of the subject; Mestivier reported a case of peritonitis from perforated appendix in 1759."—*Journal de Méd. et Chirurgie*, 1760. Celsus in his description of ulcerations in the large intestine, observed that the cæcal-end was the most common seat.

In the beginning of the eighteenth century the physiologists, Ambry, Boerhave, and Morgagni, began an experimental study of the functions of the appendix, but went no further.

Deaver, in his treatise on "Appendicitis," says: "Mélier was the first to draw conclusions from a number of observations in 1827, and in 1833 Dupuytren recorded observations which led him to believe that there was a connection between the abscess and the cæcum, and as it was largely due to this authority that the cæcum was so generally accepted as the primary seat of the disease."

Monod divides the history of the pathology of appendicitis into three periods: (1) The discovery *pour aussi dire* by Mélier; (2) It was denied that the disease originated in the appendix, but it was alleged that it commenced in the cæcum; (3) All agree that the appendix alone is the site of primary changes (*Appendicite*, par MM. Mond et Vauvarts).

An Analysis of Cases.—From an examination of Mélier's series, we note (1) That they were all males; (2) All of robust frame; (3) All acute cases of the fulminant type in the first five cases; (4) They were all primarily dependent on fecal impaction and gangrene of the appendix. One of the remaining three was evidently *chronic*, and complicated by tuberculosis, the last was also acute.

Mélier's graphic description of the first series is a classical portrayal of the progress of acute peritonitis of grave type. The accurate and detailed enumeration of symptoms is one of the most valued features of his notes, something which might be imitated with advantage by many of our authors of textbooks.

The feature of strong retraction of the right testis in the *first* case with the cold foot on same side for four days was somewhat remarkable. In this case we note the *calm*, after energetic treatment. He notes this deceptive truce in others. This is the *interval*, the time when, if at all, we should freely cut down on the appendix. We note here the time-honored poultice, the mustard applications, the enema and, the most prominent of all, the free depletion by "leeching" from its well-known influence on incipient inflammatory affections.

The notes on the autopsies emphasizes what Mélier insists on in all cases, viz., that the appendix alone showed signs of destructive pathological changes, an organ without function was capable of very quickly destroying life.

Case II. points to the sudden onset of the disease and the reflected character of the pain in the beginning. Cramps in the calves. Pain in the right iliac-fossa, with fullness and tenderness later. Patient had a reducible hernia.

The "phlogosis" of the stomach was the only evidence of diseased action, independent of the appendix. The disease ran a mortal course in thirty-six hours. This case evidently called for the scalpel early. A large fecal concretion, encircled by an area of gangrene, was disclosed.

Case IV. bears out Mélier's theory of pathological action after fecal impaction and consequent irritation, obstruction, gangrene, perforation and peritonitis, with effusion and death. Here we find a marked abatement of the symptoms on the sixth day, with every prospect of an early recovery, until all hope had vanished, *after* an ill-advised enema. In this instance there can be no doubt, but the injected fluids over-distended the cæcum, widely opened the gangrenous appendix, and polluted the peritoneal cavity by foul fluids and noxious gases. This case well illustrates the dangers which may attend or follow large and forcibly injected enemata in acute appendicitis.

"The instant the enema was given atrocious pains began and peritonitis set in."

Case IV. was complicated by rigidity and thickening of the ileocæcal valve, and intestinal obstruction; the pathological condition of the valve, it appears, was of a chronic character, intensified by a spread of infection from the rotten appendix. In this case we read for the *first* time that *opium* was administered.

This case is notable in again presenting that symptom of *malaise*, those changes of an indefinite character so often witnessed by keen observers for a time before appendicitis sets in; its prodromal stage.

The patient has lost his grip, is indisposed and easily fatigued, but is fain to admit it; he plods on with his labors, and only takes to the bed when the third stage is reached and perforation occurs.

Case V. was one pursuing the typical course of gangrenous perforation. Mélier pertinently points out here that this malady is of much more frequent occurrence than is supposed, and is not discovered because of an inadequate examination.

Priority in diagnosis of this disease, it appears by the testimony of Mélier, belongs to *Sévestre*, who saw Villermay's second case.

Case VI.—This strikes one as the most notable of the group. Malas's case was of the chronic, tuberculous type. On March 14, 1812, Baron Dupuytren "made an incision" in this case. This appears to be the *first* operation for an appendical-abscess on record, although we have no evidence that this celebrated surgeon had a proper conception of the pathological conditions present.

The case was one of multilocular abscess, with diffuse pus formation, as these were later found in the openings, after the incision was made. Lack of healthy plasticity in the tissue, rendered effective repair impossible, with that sometimes troublesome sequla, fistula, following. No pus was found in the discharges from the rectum, nor any fecal fragments in those from the wound. The microscope had not yet come into use, and hence why the results of this examination are wanting.

Case VII.—The one of "adynamic fever" does not properly belong to this group, though there are cases on record of lumbricoids having been found in appendical abscess.

Case VIII.—Belongs to the serious acute form of the appendicitis, its various stages being quite clearly defined.

Symptoms and the pathological anatomy of appendicitis are described with singular clearness in the Mélier's essay, written three-quarters of a century since. He divides the clinical history into four distinct stages; the first, even our latest and fullest writers have failed to amply emphasize—the period of malaise, with the sense of fatigue, the flatulence and vague pains through the abdomen; the second, the period when the local objective signs of the disease are manifest, the fullness and tenderness over the right iliac fossa, with coincident severe systemic disturbances—the colicky pains.

The third period is described with singular accuracy.

Mélier now points out that the storm is on, the explosive stage is reached, the mortified appendix has opened and the intestine leaks into the peritoneal cavity, when the rupture is large and adhesions have not formed. The symptoms of septic peritonitis are now set forth; the insatiable thirst, the incessant green vomiting, the agonizing pain, loss of sleep; the abdomen is now hard and meteoric, and everywhere hypersensitive.

The fourth period indicates the approach of the moribund state, the settled calm, the clear mind, the absence of pain, the cold and livid extremities, point to death beginning at the periphery.

Melier aimed to connect symptoms with pathological changes, and accomplished his purpose with most convincing effect. In this direction he has left practically nothing for his successors to elaborate on.

The "circumscribed" cases, if diagnosed definitely and early, he thought might be saved by surgery. This is precisely the view of the very latest writers. There are the encysted cases; pus is walled off by adhesions, and all are agreed that the only thing to do is to freely open down, evacuate the pus, and, if expedient, remove the necrotic appendix at the same time. He insists on the supreme importance of animal experimentation as a means of elucidating therapy; and reasons that if we can remove the appendix of an animal with safety, we should do the same in the human being.

Indeed, we must conclude, from the intimations of Mélier, that long before his time several of the most noted anatomists and physiologists had given the structure and diseases of the appendix extended study. Robiquet had determined the chemical composition of appendicular calculi and showed this structural similarity to other conditions.

I have been unable to secure the detailed account of Prescott's case recorded in the *Health Gazette* of London.

Phophylactic appendicectomy, it would appear, from the foregoing brochure of the French surgeon, to be not only justifiable, but a rational and necessary procedure.

He calls our attention in the beginning to the fact that this vestige or *culdesac* is destitute of function, and, this being conceded, no one conceived that it could be the seat of pathological processes; in other words, that there could be *no* pathology in a structure devoid of physiological uses.

Now that it is known, beyond all doubt, that it serves no purpose except for mischief, the early and universal removal of the appendix is called for.

It ought to be as generally performed as vaccination is practised; for, on the whole, appendicitis destroys more lives than smallpox, and various painful types of it are very common. Appendicistomy is certainly a more necessary procedure than circumcision, and in young, healthy adults should have no mortality whatever.

In considering the question, traditional conservatism, we must make way for conclusions based on the revelations of progressive science. Talamon speaks of the appendix as *un organe inutile et nuisible*, and Treaves declares it "obsolete and out of date, and the man of the future will have no such structure hanging from the cæcum" (Lockwood "Diseases of the Appendix"). This author notes that in England George Southam, a Manchester surgeon in 1835 recorded the first case of suppurating appendix. This report was published in 1840. And Kelynack—*Pathology of Vermiform Appendix*—records the case of perforation of appendix from fecal infection in a boy in 1812, submitted at Medico-Chirurgical Society of London.

EAR COMPLICATIONS OF MEASLES AND THEIR TREATMENT.[*]

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In the short time at my disposal it is not possible to treat this very serious subject minutely, but simply to point out the most important details, and such treatment as is useful to the general practitioner.

The ear complications of measles are usually light, and progress to recovery, but a certain number leave serious defects. Roosa[†] ascribes deaf-mutism in seven cases out of 147, and James K. Love[‡] ten out of eighty-one, as being due to this disease. A number of other patients are afflicted with decreased audition, with or without some chronic diseased condition.

In considering the etiology there is no doubt that the mucous membrane of the auditory apparatus partakes of the general catarrhal condition and eruption of the exanthem. So also does the general poisoning of the disease affect the organs of hearing. Bezold[§] found post-mortem evidence of this as early as the first three days of the eruption.

The suppurative condition is due to a mixed infection, which is easily propagated in a system weakened by disease.

The microorganisms found are the streptococcus pyogenes, staphylococcus pyogenes, albus aureus and vitreous, Fraenkel's pneumococcus or diplococcus, and Freelander's pneumobacillus.

The streptococci and the pneumococci are found to do the most mischief. Bacteriological diagnosis will undoubtedly be the guide in the near future, as to prognoses and to operative procedures.

Other cases are due to extension from the postnasal space through the eustachian tubes, and principally found where the vault of the pharynx is occupied by hypertrophied lymphoid tissue. This can be easily understood, when we consider that

[*] Read before the Society of the Alumni of the City (Charity) Hospital.

[†] 1. Roosa, "Treatise on Diseases of the Ear."

[‡] 2. J. K. Love, "Archives Otology," No. 22, p. 271.

[§] 3. *Zeitschrif furt Ohr*, XXVIII.

the increased secretion, on account of the patient's horizontal position, cannot escape easily, and so helps to block up the opening of the tubes.

In considering the complications we find in the external ear and canal when large papules, exist and become confluent, there is a feeling oftension, which, however, wears off, as desquamation occurs.

The acute otitis media, either catarrhal or purulent, may occur at any time during the disease, but generally while fever is present.

It may be either unilateral or bilateral. Although both ears may be affected simultaneously, one may heal more rapidly than the other.

The catarrhal form usually occurs with light attacks, although the reverse may be the case. The discharge is usually turbid from the presence of epithelial cells, and rather viscid from the mixture of mucus.

The purulent is generally associated with severe cases, and often results in destruction of the ossicles and tympanic walls.

In the catarrhal variety the patient, especially an adult, complains of pains, varying in character from a dull ache to one that is sharp or lancinating. Temperature is, as a rule, negative. The hearing power is diminished. In infants and children, who cannot direct attention to the spot whence the trouble arises, any increase in temperature, fretfulness, restlessness, burying the head in the pillow, or putting the hand to the ear, should call attention to that organ. Very often a discharge is the first sign of the trouble.

In purulent cases the pain is usually more intense, being often excruciating in character. The temperature is, as a rule, high, rising to 103°, sometimes higher, pulse rapid. There may be vertigo, tinnitus, headache, constipation, and anorexia.

In infants and children the symptoms are usually much more marked; the temperature high, 104°, pulse exceedingly rapid, convulsions, delirium and coma may be present. After the appearance of the discharge, the constitutional symptoms usually abate and the patient falls quietly asleep. If there is a recurrence of the symptoms, the parts should be carefully cleansed and inspected, and free drainage established.

I have found in children, even where free drainage exists, a recurrence of temperature for a few days. This is due to an early rupture of the drum membrane before the inflammation in the tympanic cavity had run its course, or it may be due to the presence of the hypertrophied lymphoid tissue in the vault of the pharynx.

In severe cases the inflammation often extends to the mastoid, filling the antrum with pus, and causing considerable bone destruction from the acute caries. The temperature in these cases usually shows some increase. The pain may be of marked severity, or of a light character. The discharge diminishes in quantity. Facial paralysis may occur. There is tenderness usually on pressure over the antrum, that is at the attachment of the auricle close to the superior wall of the canal. Sometimes this is most marked over the mastoid tip. If there is a perforation of the mastoid cortex, there will be fluctuation over the bone. In infants the pus often escapes through the Rivinian segment having made its way along the superior wall of the canal, and there is a postauricular swelling, making the ear project out more prominently. There is invariably present a marked swelling of the superior posterior canal wall. A perforation may take place on the internal surface of the mastoid when a brawny swelling will extend along the Sterno Cleio mastoid. If the pus passes to the cerebrum or cerebellum the following are the symptoms: Pain in the head, drowsiness, or violent delirium, disordered speech, convulsions, optic neuritis, vomiting, constipation, pareses of various kinds. These are due to an extra-dural abscess, leptomeningitis, abscess of the temperosphenoidal lobe or one of the cerebellum. When one of the large sinuses of the dura mater is involved, symptoms of pyæmia appear. Labyrinthian complication, without much effect on drum membrane, presents more or less pain, dizziness, nausea, troublesome tinnitus, and hearing power impaired or lost on one or both sides. Fortunately, this is of extremely rare occurrence.

In examining an adult the auricle should be pulled upward, backward, and outward in order to straighten the canal. In children the canal is straight, and the membrane easily inspected. In infants the lobe should be pulled downward and outward, and we should look upward.

The examination of the drum membrane in the otitis media conditions will show more or less congestion. One must not be deceived if the membrane is of a dead white color. This is sometimes due to necrosis of the superficial epethelium which can be easily removed by a cotton-tipped probe, when the reddened membrane can be seen.

For pain in adults relief is often found by abstraction of blood, applying natural or artificial leech over the traugas. A hypodermic injection of morphine will often cut short an attack. Occasionally I have had results from phenacetin, 5 to 10 grains, or acetanilid, 2 to 4 grains, every two or three hours. The local watery solution of morphine, cocaine and atropine have never been satisfactory. Oils are only mentioned to be condemned. Glycerine, with 5 to 10 per cent. of carbolic acid, applied on a cotton to the drum membrane, and allowed to remain from six to twenty-four hours, often cures the pain. This can be repeated if necessary. Dry heat is very effective at times. Moist heat causes œdema of the tissues, and should not be used. Frequent irrigation with hot water from a fountain syringe, placed about one foot over the head, using about a half to one pint of water, is often efficacious. The nose should be kept clear by irrigation or swabbing, and a gargle used to dispel any mucus from the throat. The bowels should be carefully looked after.

If the attack is not aborted, the hyperæmia increases, and the membrane loses its lustre, causing a general swelling and bulging.

This should not be allowed to perforate spontaneously, as the rupture is jagged, and causes irregular cicatrices, and takes a much longer time in healing, than when incised, and the prognosis as to the future hearing is worse. Only in extremely few cases do we see good results.

When bulging exists paracentesis should be at once performed. For this operation the canal should be cleansed; either irrigated with bichloride solution 1 to 5,000, or else mopped out with peroxide of hydrogen.

Then with a good light, the knife should pass through the bulging portion, or from the point behind or below the stapes to the lower border of the membrane close to its bony attachment, by a curved incision, that is the posterior inferior segment. The knife I prefer is a straight one, but one at an angle may be used. It must be exceedingly sharp, and should pass through the membrane by its own weight, incising at the same time the mucous membrane of the internal tympanic walls to secure thorough depletion. If the membrane has ruptured spontaneously, the opening should be inspected to see that there is sufficient drainage, if not, a free incision should be made. For local anæsthesia I have found cocaine to be of little value. Aniline oil* and cocaine have

*4. Dupuy, "Laryngoscope," October, 1901.

given toxic symptoms. The mixing of equal parts of menthol, carbolic acid, and alcohol, has only been occasionally satisfactory. In adults I invariably use nitrous oxide, and in children chloroform or ether. Infants can be held firmly and operated upon.

After the operation I irrigate, pack the canal lightly with sterilized gauze, put a pad of cotton over the ear, and retain all with a bandage, which I leave undisturbed for twenty-four hours, directing the patient to lie on the side affected to facilitate drainage. If there is much discharge at the time of incision I order douching.

When the gauze is removed I order irrigation, according to the amount of discharge. Some cases heal up in a few days.

The discharge which is usually at first serous, later often becomes purulent and profuse. The cleansing may be needed every two or three hours. Saturated solution of boric acid, bichloride 1 to 5,000 or 10,000, or sterilized water, may be used. As the discharge diminishes the cleansing should be reduced in frequency.

A second method of treating these cases, when they can be watched closely, is to dry the middle ear with cotton, introducing strips of gauze daily for drainage, and a pledget of cotton is put in the external ear.

A third method is to clean out the ear with a syringe, then use peroxide of hydrogen and finish by syringing again. The ear is mopped out or dried with repeated distillation of alcohol, diluted, if painful in its full strength. When painful symptoms stop, inflation either with eustachean catheter or pollitzer bag helps to get rid of the pus, and to prevent adhesions.

The use of powders as boracic acid, iodoform, dermatol, etc., is excellent when the discharge is slight. Then after cleansing an insufflator should be used, care being taken not to block up the perforations. These may remain in until moistened by the discharge.

If the condition becomes of a chronic nature, various astringent applications can be used, either applied with a swab, or in the form of drops. Inflation should be employed, granulations should be cauterized and polypi snared.

If symptoms point to mastoid involvement, I order frequent irrigation of the canal, Leiter's coil or ice bags over the mastoid continually for twenty-four hours. Rest in bed, light diet, and cathartics.

There must be free drainage from the tympanum at the same time. If the membrane is incised, it is always wise to incise the posterior superior canal wall for one-fourth inch down to the bone.

I give no opiates to disguise symptoms, when pain still continues I operate. If pain ceases, I stop the coil or ice bag for twelve hours, then reapply for twelve hours, and judge result.

I employ no leeching over mastoid as it prevents proper examination for tenderness. The brain and sinus complications with the description of mastoid operations, the time permitted does not allow me to touch upon.

There is no doubt, if in the early stages the drum membrane is watched and incised promptly, many of the later complications could be avoided. The incision of the membrane is simple, and has been the means of saving many ears from becoming defective.

So I close impressing the importance of having the nose and throat looked after in all children, and advising an early incision of the drum membrane, if needed, or if in doubt.

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SOME POPULAR OBJECTIONS TO VACCINATION.*

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There never has been a time since Jenner's discovery when vaccination has met with universal, unqualified acceptance; but probably at no period has it stood in such disfavor with the public at large as it does to-day. A glance at the situation will satisfy the most casual observer that throughout our country the feeling of opposition against vaccination is not only widespread in extent, but that it is growing in intensity. Muttering discontent is rapidly assuming the proportions of open and forcible resistance, and sanitarians realize that they are confronting one of the most difficult and serious problems of the day.

In approaching the solution of such a troublesome question a long step forward may be accomplished if disputants show a disposition to take an all-round view of the subject, and, mutually recognizing the grounds of difference, set to work to clear away the barriers which keep them apart. But the man of science is too apt to be so dogmatically sure of his own position that the criticisms and censures of the unlearned affect him not at all. Yet he must learn that if he expects to deal successfully with such a subject as the popular objections to vaccination he must step down from his rostrum and take a comprehensive look from the humbler standpoint of the common people. In the first place he must remember that the knowledge which he possesses concerning the prevalence of smallpox, and the frightful devastations which it wrought all over the world before Jenner published his immortal discovery is not shared by the people at large. It belongs exclusively to the educated. For, in spite of an immense amount of statistical evidence and theoretical preaching on this point, no appreciable impression has so far been made on the public mind. The severe epidemics, which in olden times used to sweep over large expanses of country, killing off thousnds and branding the surviving victims with the scars of loathsome disease, gradually became mere matters of history. The pock-marked faces which used to be met with everywhere, hideous reminders of an ever-present danger, were seldom seen. And the public, enjoying the advantages of a preventive agency of incalculable value, naturally came to regard the new condition of safety as a matter of course. The old terror of smallpox and its dangers passed away and a careless indifference took its place. The family physician began to note a growing tendency among his patients to give up the old-fashioned custom of infant vaccination, and to put off the procedure until the child had reached the school age. Secondary vaccinations became more and more infrequent.

The consequences of this apathy were inevitable. When a large percentage of the population was unprotected, outbreaks of smallpox were certain to occur. The disease reappeared from time to time during the last century; but, succumbing to the potent energy of vaccination, became quiescent, only to burst out again when a thoughtless public, lulled into a false sense of security, abandoned the use of the means which brought it protection. The story has been repeated over and over again, teaching valuable lessons to those who were capable of learning, but passing unheeded by the ignorant. To the latter the frequent reappearances of the disease only seemed to show that vaccination did not furnish the much-vaunted protection which its advocates claimed for it. To sanitarians, on the other hand, repeated outbreaks proved beyond doubt that safety for the people could alone be found in more thorough application of the remedy. Knowing that smallpox would practically be eliminated from the face of the earth, if the people could all be induced, or, failing that, be forced to submit to proper vaccination, the guardians of the public health began to work for more stringent legislation and more effective enforcement of laws already existing. And here the placid indifference of the people began to ripen into active antagonism.

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*Read at the ninth annual meeting of the Associated Health Authorities and Sanitarians of Pennsylvania, at Butler, Pa., May 7 and 8, 1902.

At this point it may be well to indicate the part which the science of bacteriology has played in helping on popular dissatisfaction over the attempt of the sanitary authorities to extend the practice of vaccination. To speak more correctly, it is not the science of bacteriology that is at fault in this particular, but rather the crude and imperfect notions about it which the people have absorbed for the most part from the current press. Bacteriology is of such recent origin, and its growth so rapid, that there has not been time nor opportunity to systematize its facts or to generalize its conclusions, in a manner that would be suitable for popular understanding. With that little knowledge that is known to be so dangerous the wildest inaccuracies are being gravely passed about and accepted without question as the latest scientific dicta. The word "germ" is, for the time being, the bogey-man of grown-up children, whose vague and indefinite terrors may be summed up in an indescribable fear of "microbes" and a wholesome dread of "blood posioning." People whose grandmothers complacently poulticed suppurating sores with equanimity and satisfaction, no longer look on festering vaccination without apprehension.

Recent events have transpired in certain cities that could not do otherwise than shake the confidence of the people in the use of biological products. The occurrence of cases of tetanus after the use of antitoxin and vaccine virus has frightened a great many into a belief that it is better to bear the ills they may possibly have than fly to others which they think they know all about through the newspapers. Such deplorable experiences are, fortunately, very rare indeed, but they serve to furnish material for outrageous attacks upon protective medicine to which a credulous public is too ready to listen. In this connection, however, it is well to remember that the strength of the anti-vaccinationists is not in exploiting the occasional fatal case, but in working upon the fears of the people over the minor complications which so often follow vaccination (the ulcerations, the sloughs, and so on,) always accompanied by pain and discomfort, and now and then by serious consequences. It cannot be denied that, with our knowledge of bacteriology, such sequels to vaccination ought not to be met with. Infection is the cause of these complications, and we know that infection can be prevented. With all our claims of aseptic vaccine virus and aseptic methods, it is questionable whether vaccination, as it is generally performed at the present time, is one whit better in its course and results than it was in the old days before the coming of Pasteur and Lister. In that pre-microbic era when humanized virus was in vogue, the "sore arms" and sloughs and indolent ulcers were probably not much worse nor more frequent than they are at the present time. We talk about aseptic vaccine virus and aseptic vaccination, but very little is heard about aseptic after-treatment; in fact, very little is heard about after-treatment of any kind. Physicians do not seem to appreciate that it is useless to secure the purest virus and to use it with all the details of aseptic surgical procedure if the operator intends to drop the care of his case at this point. Without protection of the site of vaccination infection is pretty sure to follow. In fact, so common is it that it is quite the usual thing (among physicians as well as laymen) to consider an infected or "sore arm" as synonymous with a successful take. A grave responsibility rests upon those physicians who fail to convince the people by practical demonstration that complications after vaccination are the result of infection; that infection is preventable; that vaccination is a surgical procedure requiring care and after-treatment, and that, having these, it is as harmless as it is beneficial. If all would do their duty in this regard much would be done to check the spreading disaffection, and to put a stop to the clamor of the professional anti-vaccinationists. Of these latter, it may be said without harshness, that the honest ones among them are ignorant of the facts about vaccination, and those who know the facts are not honest in their opposition.

The weight of evidence in favor of vaccination is so overwhelming in its logical force, that the one who honestly fails to accept its conclusions must either be grossly ignorant or else incapable of reasoning. This sweeping assertion appears to be the rock on which the warring factions come to grief. No matter how true and unanswerable the statement may seem to be to the trained mind of science, it does not follow that a reiteration of it will carry conviction to the minds of the unlearned public. To call a man an ignoramus or a fool is not the way to promote the amenities of argument, nor will it conciliate the impartial bystander who is interested in the discussion and ready to be convinced. The first thing to attract the attention of such an observer would be the woeful lack of agreement between the different parties who make up the supporters of vaccination. Where he might expect to find union he would find discord. Discussion on every point and agreement on none. He would notice the producers of vaccine virus wrangling among themselves with bitter enmity over the qualities of their various products. Turning to the physicians who employ the virus, in the expectation that experience would enable them to decide the points upon which the producers were at variance, he would be surprised to find a similar state of disagreement. He would find them differing about lymph virus and glycerinated virus; about the mode of operating; about the number of insertions; about the necessity of repetition, and even about the signs which indicate a successful vaccination. On this latter point he would hear the statement freely made that numbers of physicians do not know how to determine whether a vaccination has been successfully performed or not. With such an exhibition of disunion on the part of the supporters of vaccination, it does not surprise him to find that there are some physicians who go still further and denounce vaccination in toto; assailing it as a dangerous practice, corrupting the blood and sowing the seeds of fatal disease. He would discover that in the eyes of the law the status of some of these recalcitrant doctors was just as good as that of the most distinguished college professor who proclaims the discovery of Jenner to be the greatest boon that humanity has ever received at the hands of man. It is the old story of the disagreement of the doctors. Who, indeed, shall decide? If our simple citizen is unable to do so after his contemplation of this dismal spectacle of professional dispute, and should make up his mind to keep his child unvaccinated until those who profess to know all about the matter come somewhat nearer together upon a common ground of agreement, can he be said to be altogether unreasonable? It may be said in answer that he is ignorant and, therefore, has no right to an opinion on the subject. If so, then all the greater is the burden on those whose duty it is to enlighten him. Among the forces that rally to the support of vaccination our honest observer would soon notice a faction whose restless activity has of late been pushing it forward into prominence. It is the party that favors compulsory vaccination because it sees in the growing spirit of popular resistance a senseless opposition to the public welfare which can only be subdued by legal enactment. The evidence is abundant to prove the good results that can be accomplished by means of compulsory vaccination. In Germany, for instance, under stringent laws, statistics show a percentage of cases of smallpox so wonderfully low when compared with those of other countries where compulsion is not resorted to, that no doubt can exist as to the benefits which would follow here upon the enforcement of similar legislation. Compulsory vaccination is, therefore, proposed as a solution of the whole difficulty. It would put an end to all opposition by putting an end to smallpox—a consummation devoutly to be wished. But what are the signs of the times? Within a few months, in a neighboring State, the advocates of a bill to make vaccination compulsory have been utterly routed before a legislative committee by a vigorous onslaught of an anti-vaccination society. In another State the force of public opinion, under intense excitement, has been sufficient to compel the health board of a large city to abandon all attempts to enforce the law requiring vaccination as a requisite for admission to the public schools. Such instances show the trend of popular feeling against arbitrary laws and despotic measures. There is no more reason to suppose that our people would follow the German example and submit quietly to compulsory vaccination than to expect them to accept compulsory military service as complacently as the Germans do. Active resistance would be as likely to follow one as the other. Political conditions are very different here from those which exist in Germany. The Americans are accustomed to do their own thinking, and are quick to resent every measure which seems to them to threaten their individual liberty. Without the support of public opinion no law can be enforced, for the citizen with his ballot makes short work of unpopular laws and lawmakers.

It is one thing to point out the difficulties that surround a subject and another to offer the means by which they may be overcome. It is easier to suggest some of the reasons why and how the public has become estranged from the sanitarians in this matter of vaccination than to propose a plan which will take in all the discordant elements, smooth away all animosities, and restore public confidence. It may be that a national board of health must be created to do this necessary work. A central organization, with authority to decide the vital questions which are now in dispute, to control the manufacture of biological products, to test their quality and regulate their sale, would exert an influence of incalculable benefit. Present evils must be remedied, and sanitarians will welcome any plan that promises to increase their usefulness and, by uniting their energies, enables them to move forward with unbroken front to do battle for the cause of science and the welfare of the people.

THE HYGIENE OF PREGNANCY.

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Coincident with the advancement and perfection of the obstetric art, and the treatment of anomalous or diseased conditions of pregnancy, or the puerperium, there has not, it seems to me, been sufficient attention given to the essentially normal pregnant woman, having in view her physical comfort and peace of mind during the entire period of gestation, as well as a safe delivery at the end of that period.

It too frequently happens that the physician's attention to the pregnant woman is restricted to the actual period of labor. This I well know is not always the fault of the physician, but it has been too often such. While it is certain that pregnancy is a normal function in a healthy and vigorous woman, and not in any degree a morbid state, it must be admitted that a large proportion of the pregnant women of to-day are not, strictly speaking, in a physiologically healthy condition before the beginning of pregnancy; therefore, after making due allowance for the fact that this should be a perfectly healthy state, we must, I think, admit that a majority of pregnant women coming to our attention require professional advice, if not medical treatment.

A first essential for normal and favorable pregnancy is physical fitness. This implies more than a normal development and healthy performance of all functions on the part of both prospective parents; their personal and family physical developments should not be disproportionate. Parentage on the part of either man or woman suffering from certain diseases or degenerative tendencies is always deplorable; may even be little less than criminal. I almost feel like advocating it as a subject for legislative enactment. In the further consideration of my subject, I will mention three general factors that influence favorably the period of pregnancy and its final termination. They are hygiene, psychical, and medical.

The hygiene of pregnancy must begin in the childhood of woman, where only the foundation of a vigorous constitution, and a normal development can be attained by proper food, clothing, exercise, etc.; details and necessities of which are now well understood by most intelligent people, but most sadly neglected in the rearing of young women.

It is not uncommonly remarked by the passing generation of women that the child-bearing women of the present time are having troubles unknown to their mothers, or, in other words, the child-bearing powers of women are degenerating, and they wonder why their daughters are not as vigorous as were their mothers.

Such factors as the comforts, requirements, and indolent tendencies of modern civilization, unsanitary environment, occupation, etc., are, of course, each responsible for a share of trouble. It is certain that trouble in many instances during pregnancy or parturition arises from neglect in some essential particular or period during the physical development of women.

It is essential that women be taught an early and better understanding of themselves, of the physiology of the functions of ovulation and gestation, a better appreciation of the advantages of a vigorous physique, and the methods of attaining it under adverse circumstances.

Providence has ordained that child-bearing should cease before the beginning of retrograding changes, and the wisdom of this provision is obvious, inasmuch as the mother plays the stronger part in fœtal development, and maternal characteristics, physical and psychical, are more frequently and positively transmitted. Some will doubtless take exception to the latter statement; it nevertheless coincides with my observations. Undoubtedly the most favorable time for child-bearing is early in the child-bearing period after full physical and mental development has been attained. The state of pregnancy is not noted for improving the condition of unhealthy women; neither does it confer immunity from diseases to which non-pregnant women are liable; in fact, I think the general statement that disease tendencies are augmented or accelerated by that function is fully warranted. It is admitted that exceptions ocasionally occur.

Beginning with the onset of pregnancy, there occur such various alterations of strucure and functions as to require a hygienic régime peculiar to that condition which must be rational, and varied according to individual temperament, environment, former habits, and physical peculiarities.

Special topics to be mentioned in the discussion of the hygiene of pregnancy are: food, drink, clothing, bathing, exercise, rest, and care of the breasts.

The diet of healthy women with no unfavorable manifestations need not be very much varied from the ordinary. As a rule, meat should be eaten sparingly. Whenever a deficient elimination of urea is found or albuminuria exists, meat should be excluded from the diet, and a liberal amount of milk substituted in its stead.

All cereals, fresh vegetables and fruit, milk, and olive oil can always be taken in abundance. Whole wheat bread should form a portion of the diet of all healthy women. Candies and sweets generally should be avoided. The diet should be so selected, if possible, as to induce without other aid a daily evacuation of the bowels. Of greatest aid in this particular will be found the liberal use of apples and orange juice.

If morning or daily nausea or vomiting exists, meals must be light and taken four times daily, the last meal shortly before retiring at night. When the appetite is excessive, as it often is, it is well to stop eating a little short of full satisfaction.

Coffee and tea must be used in moderation; beer, wine, and other stimulants should be entirely prohibited. Water may and should always be taken in abundance. For the prevention of morning nausea or vomiting, a cup of warm water, to which has been added a pinch of salt, taken a half hour before rising, is worth more than all the drugs of the pharmacopœia.

Regarding clothing, the principle thing to bear in mind out of ordinary is to so dress as to avoid undue compression of the abdomen. This can only be perfectly done by suspending garments from the shoulders. Woolen underwear should always be worn during the entire period. Many women complain of weakness in the back or of lack of support on leaving off their corsets. Corsets may be loosely worn with safety and comfort until the end of the fourth month. After that period abdominal supports or belts, properly gored and made with back and side stays similar to the corset, will be found of advantage to those accustomed to tight lacing, or having pendulous abdomens.

In the observance of the hygiene of pregnancy there is nothing of greater importance than a plentiful amount of exercise taken daily and systematically. Women in moderate or impecunious circumstances usually find sufficient exercise in their household duties, but do not go enough into the open air. For women not obliged or inclined to do household duties a strict régime of daily exercise should be observed. Of all methods of exercise advocated or devised for the pregnant woman there is none so valuable as walking. Exercise is essential for proper muscular development; it materially favors assimilation and elimination, and the proper performance of all functions.

The pregnant woman, undoubtedly, should have more rest and sleep than is necessary in the non-pregnant state. A half hour's rest in the recumbent position after eating favors digestion and tends to prevent nausea.

Frequent bathing promotes functional activity of the skin and the general well-being. A tepid bath should be taken at least twice each week. Robust women can, with advantage, take a daily sponge bath. Those who cannot stand the daily sponge bath should indulge in a liberal daily use of the flesh brush. Sitz baths and douches should, as a rule, be avoided.

An important matter never to be neglected is attention to the breasts. After pregnancy has advanced to the fifth month the nipples should be bathed frequently with a solution of boric acid, fluid extract of quercus alba and glycerin, and the breasts covered with a pad of sterile gauze or cotton. Undue pressure or manipulation of the nipples must be avoided. By these simple methods fissure of the nipples and mastitis can almost surely be prevented. It is well-known that certain bacteria may find their way to the mammary gland through the normal milk ducts, and that mastitis may be due to glandular infection through a local lesion of the nipple, hence the necessity of its careful aseptic toilet.

It is no doubt a matter of considerable speculation as to how far psychological factors influence, favorable or otherwise, the pregnant woman or the fœtus in utero, but I think we must recognize that such factors have a considerable degree of importance, and give them our serious consideration.

Owing to the varying temperaments and susceptibilities, the physical and psychical peculiarities of women, their varied environment and conditions of life, pregnancy and the anticipations of prospective motherhood, produced a wide difference in the condition of individual minds. Emotional susceptibilities are almost always increased, and mental impressions are more pronounced; for this reason the pregnant woman deserves the most considerate attention on the part of friends and associates. Some women can and should attend church and places of public amusement and recreation, while it is best for others to keep in comparative retirement or in the companionship of considerate friends. Profound mental impressions or nervous shock may unquestionably produce structural changes in the ovum, and from such influences the pregnant woman should be protected to the utmost possibility.

After a healthy woman has conceived there is nothing so conducive to her future well-being as to be satisfied with her condition, coupled with a determination to do her utmost to bring to its fullest possibilities the new life just beginning. Unfortunately, this proposition is too frequently reversed, with results either fatal to one or both lives, or disastrous to the health of the unhappy survivor.

Every pregnant woman should, early in her pregnancy, consult her physician for thorough general physical examination. After this examination the physician should inquire into the mental state of his patient, her environment and condition of life, inherited or acquired peculiarities, endeavor to dispel the popular illusions that so frequently and needlessly cause anxiety and distress, and then to regulate her habits and daily life according to her conditions and necessities.

It is not then best to take for granted that pregnancy is advancing favorably, but frequent subsequent examinations should be made for the determination of irregularities of position, or placenta prævia.

Pregnant women are subject to disorders which may be traced directly to their new conditions, or to a deviation from the normal in structure or function existing prior to the inception of pregnancy, and which may have been so insignificant as to have been unrecognized before that time, and which only needed the added stimulus, or depressing influence of the new function to bring them into prominence. Disturbances directly due to the existence of pregnancy are most frequently the result of mechanical influences, or pressure, nervous reflexes, and nutritive changes. Without discussing theories as to causation of disturbances from pressure it is sufficient to say that the pressure of the gravid uterus frequently interferes with the functions of the bladder, kidneys, and bowels, also with the circulation, and sometimes with respiration.

For the relief of disturbances due to pressure there is nothing of more avail than systematic exercise and assuming of such positions or postures as will relieve pressure on the parts affected. Assuming the so-called knee-chest position several times daily will often give much relief and favor return circulation. Assuming the recumbent position, with limbs and hips elevated several times daily, is also advantageous. Women in advanced pregnancy should not attempt to sleep while lying on the back.

Nervous reflexes are various, the more common and noteworthy being nausea and vomiting. This reflex seems more common in women of nervous temperaments and in first pregnancies. It is often, I believe, the result of pre-existing displacement, flexion, or ahdesion following inflammatory processes. Neuralgias are common, and are, I am sure, often due to lack of exercise and consequent deficient elimination.

As a rule, all neurotic tendencies are aggravated, and for their treatment properly applied hygienic and dietetic measures deserve foremost consideration. Medical treatment must be such as to aid digestion and promote elimination, and sufficiently sedative to relieve nervous irritability. For the relief of purely nervous symptoms I have found no drug equal to asafœtida.

Unquestionably, pregnancy is occasionally the exciting cause of nutritive changes, which may vary from an exaltation to a marked depression of normal nutritive functions, but when such changes are pronounced and unfavorable there will often be found a predisposing environment, condition of life, or inherent personality. Unfavorable, depressed, or anæmic conditions call for an improvement of the quality of the blood by a nutritious and easily-assimilated diet, and the promotion of elimination. Iron and other tonics may be indicated. Cases of seeming exalted nutrition or plethora require a carefully restricted diet, a strict régime of exercise, and careful attention to excretory processes.

There has been a quite common notion even among an intelligent laity, that the use of certain decoctions or empirical medicines during pregnancy would influence, in a sort of general way, its course and termination. A safe procedure in the pregnant condition is to take no drug or medicine except for a specific purpose, and on the advice of a physician.

The greatest danger to which pregnant women are liable is from deficient urinary excretion. This danger seems greatest to women in their first pregnancies, and to women inclined to corpulency. Trouble from this source can almost universally be avoided by systematically observing the amount of urine voided each twenty-four hours and requiring its frequent and careful quantitative analysis for urea. The daily amount of this poisonous excrementitious element eliminated by the kidneys indicates more certainly than anything else the danger or safety of the pregnant women from eclampsia. For the approximate estimation of urea, the methods of Squibb or Doremus are sufficiently accurate and easy of manipulation. There has been in the past a common and erroneus idea that no serious renal or urinary disorder was liable to exist in pregnancy without albuminuria or nephritis. It must be borne in mind that deficient excretion of urea is not necessarily the result of nephritis, and that it may exist independently of albuminuria or of structural renal disease. The normal daily amount of urea excreted by the kidneys in different individuals varies according to their size and weight, the quantity and quality of food, the amount of exercise taken, and the degree of activity of other excretory organs.

Purdy states that "the mean amount of urea excreted by adult healthy males is 512.4 grains," and that "the absolute quantity excreted by women is below the average of men." Close calculation gives the average excretion of urea as .015 to .35 gram, per hour for each kilogram of body weight. Therefore it will be seen that in estimating the individual minimum limit of safety there are many factors to be taken into consideration. In the urine of pregnant women I have seldom found the daily amount of uria exceeding 450 grains. In the urine of sixty pregnant women, where I have made several examinations in each case, I have found an average amount of about 400 grains, or about 40 grains less than the amount usually found in the non-pregnant woman. I have noted this circumstance so frequently that I have come to believe that pregnant women normally excrete less urea than the non-pregnant.

When a pregnant woman of average size and weight, and under normal conditions of life, is found to be excreting by the kidneys continuously less than 300 grains of urea daily, her condition demands active treatment and careful watching during the remaining portion of her pregnant condition. As a rule, treatment will be more hygienic and dietetic than medical. As exercise favors elimination, such patients should be required to walk as much as possible in the open air. I have had such women walk from three to five miles daily with the greatest benefit and no discomfort.

Massage and other well-known methods of indoor exercise are worthy adjuncts of treatment for those who cannot be made to walk. Healthful activity of the skin can be promoted by frequent bathing, and the free use of the dry brush. Inasmuch as meat eating entails the necessity for increased excretion of urea, it should be largely and, perhaps, wholly excluded from the diet. Milk should always be taken freely by these women. The more serious cases demand an exclusive milk diet. As increasing the bulk of urine by excessive drinking of water unquestionably promotes the elimination of urea, soft or distilled water should be consumed freely. Digestion should be maintained as perfect as possible, and a free daily action of the bowels not neglected. Non-irritating diuretic remedies may be used when hygienic and dietetic measures are inadequate. Iron and tonics may be needed to improve faulty nutrition. The subject is a large one for a short paper, and I have attempted to touch upon only a few of the more important points.

The Mission of Societies for the Prevention of Consumption in the Anti-Tuberculous Crusade.—S. A. Knopf considers that the educational work of societies for the prevention of tuberculosis should not be limited to the mere distribution of pamphlets, but that there should be frequent popular lectures and reunions where verbal lessons are taught and discussed. One of the greatest missions of such a society is the propaganda for the erection of sanatoria for the consumptive poor, and also for those of moderate means, both adults and scrofulous children. Another important factor in the combat of tuberculosis, particularly among the poor of a large city, is the establishment of tuberculous dispensaries. In France and Germany such special dispensaries, aided by diet kitchens, which are essential in order to carry on the dietetic treatment with the unfortunate consumptive poor, have already done a vast amount of good. A society for the prevention of consumption must make it one of its duties to work for the better housing of the poor. All children at school should have more out-door instruction and more physical culture than they have now. Alcoholism is a strong predisposing factor to tuberculosis, and the creation of tea and coffee-houses where warm non-alcoholic drinks, including bouillon are sold in winter, and cool ones in summer, is to be encouraged. Tuberculous families should be influenced to leave the crowded city and move to a smaller town or village if it be at all possible for them to do so. Every member of a society for the prevention of consumption must consider himself a worker and a missionary in a field as important as ever lay before anyone who went out to preach the gospel to the heathen.—*The Montreal Medical Journal.*

The Treatment of Ileus with Belladonna Preparations.—F. Honigmann, after a résumé of the published cases in which this form of treatment has been employed, comes to the conclusion that atropine has no decided advantages over opium and should be used only when the latter drug fails. Cases of intestinal strangulation or of incarcerated hernia are not suitable for atropine while in obturation or adynamia of the intestine good results sometimes follow. The general effect of the atropine is sedative; the possibility of its exciting peristalsis has not yet been demonstrated clinically. The quieting effect of the drug often appears after very small subcutaneous doses (1-100 to 1-60, or at the most 1-30 of a grain), but sometimes repeated administration is necessary. The initial dose of 1.12 grain, recommended by Batsch, should never be given, and the susceptibility of the patient must always be tested by small doses. Whenever the ordinary dosage is exceeded symptoms of poisoning of greater or less severity are apt to appear. This is especially so with people over fifty years old, with whom caution in the use of atropine is always necessary. If the atropine does not cause the subsidence of the obstruction, as evidenced by the passage of flatus and fecal matter, within the first two days, one should not be misled by the apparently general improvement that is often produced into deferring surgical intervention. Only when this is refused or is for some reason absolutely contraindicated should the atropine treatment be persisted in.—*Centralblatt für Grenzegebiete der Medizin und Chirurgie*

A Case of Chronic Polyarthritis.—Augustus A. Eshner reports a case of chronic multiple arthritis that does not seem to fit exactly into the description of any of the commonly observed forms of that disorder, although it presents most nearly the appearances and features of deforming arthritis. A woman of thirty-one years had tumefaction in varying degree of the metacarpophalangeal joints of all the fingers of each hand, yielding a sense of elastic fluctuation on the dorsal aspect. The intrinsic muscles of the hands were slightly wasted and the hands exhibited a tendency to ulnar deflection. There was also multinodular swelling of the posterior aspect of the olecrenon process of the left ulna, and a smooth swelling in each popliteal space and on the dorsal aspect of each wrist. There was further some enlargement of the metatarsophalangeal joints of the first and fifth toes of each foot, and restrained movements of the right ankle joint. The movements of the jaw were free. Station was steady. The knee-jerks were preserved. The pupils were equal, of good size, and they reacted to light. Sensibility was preserved, and the patient was able to distinguish heat and cold. The patient had never had an attack of rheumatism. The action of her heart was rhythmic, the sounds clear. The urine was free from albumin and sugar. She suffered from gastrointestinal derangement, occipital headache, pain in the right ovarian region at the menstrual period, chilliness, sweating, and undue readiness of fatigue.—*Medicine.*

The Injury to the Young Cells Caused by the Common Surgical Dressings.—Robert T. Morris says that absorbent cotton is perhaps the most injurious of the dressing materials that are placed near the wound. Absorbent gauze and gutta-percha tissue are harmful, and the various antiseptics used, while they may destroy pus, have also the power of destroying new epithelium and new connective tissue formations. Skilful neglect of wounds requires much experience. Lister's protective oil silk is one of the best dressings to lie next to the wound; an innocuous and valuable dressing for the wound surface can be made by pouring collodion upon glass and peeling it off in a thin film after evaporation of the volatile part. Silver foil is becoming popular as a protective dressing. A dressing presented by the author is known as the Cargile membrane, first suggested by Dr. Cargile of Arkansas for the purpose of preventing the formation of peritoneal adhesions. The material, described in a recent issue of the MEDICAL RECORD, is a very thin gold-beaters' skin, made from the peritoneum of the ox. It is pervious to moisture, and at the same time it does not entangle new cells. Its presence, as an animal membrane, seems particularly grateful to the tissues, and the author has not yet found a dressing that has been found so satisfactory as this material to lie next the wound. "Sulphite laps" is the best and cheapest absorbent dressing to be found, but as yet is not obtainable in the market. The combination of Cargile membrane and sulphite laps ought to become a popular one.—*Mobile Medical and Surgical Journal.*

Two Cases of Diabetes Insipidus Transformed into Diabetes Mellitus.—Luigi D'Amato reports two cases and raises the question whether the passing of the one affection into the other consists of a superimposing or of a mere succession of diseases. He inclines to think that in his patients the latter was the case. As to the reasons for the transformation, he reviews the experiments of Bernard and of Senator, founded on the fact that the centers of polyuria and glycosuria are situated very near each other in the fourth ventricle, but concludes that it is impossible as yet to assert that this circumstance plays any part in the consecutive production of the two diseases. Until further and more convincing experiments shall have been made, we must be contented with the mere statement that diabetes insipidus may be transformed into diabetes mellitus.—*La Riforma Medica.*

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MILITARY HYGIENE.

THE paramount importance of military hygiene in relation to the operation of armies has again been emphasized by an official statement from the British War Office, to the effect that of the total of 21,042 deaths among the British troops during the Anglo-Boer war, down to May 30, 1902, 13,250 were due to disease, while but 7,792 soldiers were killed in action, or subsequently died of wounds so received. Everywhere the British were hampered by the sick and the transport required for their supply. For every man killed on the British side, nearly two died of disease, largely of a preventable nature—and this proportion, far from being unexpected, is, when compared with wars of the past, of an unusually favorable character. Thus, the French lost, in the Crimean war, in round numbers, 95,000 men, of whom but 20,000 died of wounds. During the operations of the French army in Mexico the mortality from gunshot and disease was in the proportion of 10 to 29. During the Civil War the Union forces lost 93,969 from wounds and 186,216 from disease, while it is said that of the losses in the Confederate forces but one-fourth were due to the casualties of battle. In the short Austro-Prussian war the Prussians lost 6,427 from disease and 4,450 at the hands of the enemy. In the Russo-Turkish war of 1878 the Russians lost 102,799 men, of whom 16,578 were killed by the enemy. During the war with Spain, during the five months of nominal hostilities, there were but 345 men of the United States forces killed by the enemy, while 2,565 succumbed to disease—a ratio of about seven to one. This proportion was brought about, however, by the very brief duration and trivial nature of the military operations, and the fact that only a small part of our troops came under fire. The statistics of the Germans in the Franco-Prussian war furnish the only exception to the general rule that in all great or protracted wars, armies lose in strength less from wounds and deaths incurred in action than from disease. Judging by the past, and considering the conditions encountered, the British medical officers have no reason to reproach themselves seriously for their sanitary showing during the war just closed. From all accounts, they have done all they were allowed to do under the circumstances by their superior officers. The large number of deaths, however, chiefly due to diseases of a preventable nature, is practical evidence of the existence of serious defect in the military system. This defect lies, apparently, not with the medical department but with the line officers' branch of the service. The business of the latter being to fight, they are rarely far-sighted enough to appreciate fully that to do this they must keep well, and that to keep well they must obey certain sanitary laws well understood by their medical staff. While the average line officer will admit, without fully appreciating the significance of his admission, that military efficiency is crippled to a much greater degree by disease than by battle, he will not, in practice, take a fraction of the precautions against attack by disease that he will require to be carried out in guarding against an enemy. He may dimly understand that a thousand cases of sickness in his own ranks are equal, in their influence on military operations, to a reinforcement to the enemy of twice that number of able-bodied men, yet he is rarely willing to delegate to his medical staff sufficient power to enforce the sanitary precautions necessary to keep his command at its maximum strength and efficiency. While such conditions exist, and they exist in all armies, approximation to ideal sanitary standards is impossible. Military organization requires that the functions of the sanitary officer be purely advisory, and that the dictum of the commanding officer must be paramount. This being the case, the greatest hope for improvement, in the future, in the sanitary condition of armies in the field lies in the thorough education of line officers in the principles of military hygiene, a subject of which, at present, they as a rule know nothing, and in which they take little interest. Such education would not only guard against the commission of the more gross sanitary errors, but by bringing the importance of the subject home in a practical way, it would render commanding officers more attentive to the recommendations of their surgeons, and alive to the military value of such recommendations being carried out in detail. As soon as military sanitation is generally understood to be the factor most directly influencing success or failure in military operations and strategy, making or marring campaigns, and in this way determining the political fate of nations, just so soon may marked improvement be looked for in the morbidity statistics of armies in the field. The point must be emphasized to line officers that Providence is on the side of the largest battalions, and that hygiene and sanitation are not medical matters simply, but, from their effect on the fighting strength, are of vast practical value and importance from the standpoint of the tactician and strategist. The greatest obstacle at present to a closer approximation of the ratio for disease and injury in time of war is found in a lack of appreciation of this fact, dependent upon lack of education in military hygiene by line officers.

THE X-RAYS IN THE TREATMENT OF CANCER AND OF SKIN DISEASES.

DR. CHARLES WARRENNE ALLEN read, at a meeting of the New York County Medical Association in May last, a paper upon radiotherapy in cancer and skin diseases. The subject matter of the paper was wholly based upon practical results obtained by this form of treatment by Dr. Allen, and he gave an account of the favorable effects produced by the

x-rays in the treatment of twenty-six cases of a cancerous nature.

The most interesting portion of the paper was that in which was detailed Dr. Allen's views as to the best manner of using the x-rays. He said: "In regard to the method of securing the proper electric excitation, my experience has been limited to the static machine and the induction coil. My preference till now has been for the static machine, as giving less trouble in producing the requisite excitation of the vacuum tube. Both have produced good results; both have produced dermatitis in my hands. The advantage of the static machine is the steady discharge secured and the facility with which it is put into operation, provided it is so situated that the street main can be tapped to supply the motor power. The advantage of the coil is its portability, enabling one to set it up in the patient's house, employing the electricity from the street main, or, where this is not available, from a storage battery.

In conclusion, the experience of the writer led him to declare: (1) That the method is one of decided value; (2) It is not without its disadvantages, and the injudicious or careless use of it may bring it into disrepute. It is not a method likely to supersede or do away with all previous methods, but it has its decided place of utility.

In the treatment of cancer focus-tube dermatitis should enter but little into the question, as its importance is far outweighed by the gravity of the disease to be eradicated. The method appears to be of utility in recurrent cancers. If it proves as valuable as present indications promise, there is no reason why it should not be applied to primary cancer

Rules for the radiotherapist, so that he may obey the great rule *non nocere*, would seem to include *festina lente*. Stop ray exposures at the first statement of the patient that he feels a burning or pricking in the skin. Do not pave the way to disappointment by promising yourself or your patient too much for this new method. I know of no contraindication to the employment of other forms of treatment coincidently. The most favorable time to treat cancer, by the ray or otherwise, is early. At this stage the majority of cancers can probably be cured. When it has passed beyond a certain stage, cancer does not differ from tuberculosis in its probable fatal issue.

The use and value of x-rays in some forms of cancer and in certain skin diseases has now been demonstrated repeatedly. The method has its limits of usefulness, however, and charlatans have naturally exploited its reputation and exaggerated its curative properties to their own advantage and to the hurt of those members of a confiding public who have been so unwise as to place faith in their representations.

Radiotherapy, as utilized in the manner described by Dr. Allen, is a valuable remedial agent, if not actually curative in its action. The fact, too, must be remembered that the method is yet in its infancy, and the reasonable expectation may be found that in future more striking results will be obtained from its use than have been obtained in the past.

THE AERIAL CONVEYANCE OF SMALLPOX.

Dr. McVail in 1894, referring to the question as to whether smallpox could be conveyed by means of the air, said, "Summing up the evidence, as far as it is possible to sum up on a subject about which so much is still to be learned, we seem to reach the general conclusion that, as a result of the simultaneous action of causes favorable to the spread of infection, the contagium of smallpox may be conveyed atmospherically to a distance much greater than had been usually admitted—a distance measurable by quarters of miles." He added: "The practical conclusion of this whole question may be said to have been already arrived at. Smallpox hospitals are not now erected in the midst of towns, and those already in existence are being more and more sparingly used. Indeed, when the power of aerial convection is still doubted, it seems to be assumed that the prevention of personal communication is impracticable, and that accidents incident to the system of hospital treatment of smallpox within populous districts must be accepted as inevitable; so that the only remedy under the one theory, as under the other, is the removal of such institutions to a distance from populous places."

Dr. John C. Thresh, Lecturer on Public Health, London Hospital Medical College, writing in the *Medical Magazine* for June, differs from Dr. McVail in thinking that a practical conclusion has been arrived at, and says: "It is probably not sufficient to place such institutions at a distance from populous places. It may be necessary to avoid having large institutions, with consequent large concentration of patients and, therefore, of infective material, by substituting therefor a number of smaller hospitals, or a number of tent encampments, in which this concentration of infection cannot occur, or to such an extent only as to reduce the danger of the dissemination of the disease to a minimum. Smallpox hospitals do not necessarily cause widespread prevalence amongst the population around; on the other hand, they may spread the disease over a greater area than is generally conceived. Dr. Thresh then gives several examples coming within his ken in support of these views."

If this be indeed so, it would be advisable to ponder well ere spending the money appropriated for the purpose of providing New York with isolation hospitals for contagious diseases. There seems to be much reason in Dr. Thresh's view that here is less danger of spreading contagion when small hospitals or tent encampments are used than when all those suffering from this type of disease are massed together in one large building.

THE CASUALTIES IN SOUTH AFRICA.

Now that the Boer war is over, a short consideration of the casualties among the British forces will be instructive. In the first instance, it may be said that the losses on the British side have been much less than it was at one time supposed that they would total.

An actuarial correspondent to the London *Times* writes in that journal for June 16, as follows:

In two years, seven months and twenty days of war, down to the end of May last, 723 officers were killed or died of wounds or accidents, and 344 officers died from disease. In the same period the losses among the non-commissioned officers and men were: killed or died of wounds or accidents, 7,862; died of disease, 13,008.

To begin with the officers, the following table gives rates of mortality per 1,000 per annum from battle and disease during the first, second and third years of the South African war:

Officers—Rates per 1,000 per annum.

	1889 to 1900.	1900 to 1901.	1901 to 1902.
Killed or died of wounds.......	71.48	21.94	32.63
Deaths from disease...........	29.09	15.03	16.40
Total....................	100.57	36.97	49.03

There has been a noticeable advance in the losses among officers in battle during the past few months as compared with 1900–01, but the disease rate has remained much the same. The activity which the military authorities have shown in their efforts to finish the campaign during the South African summer accounts, no doubt, for the heavier death rate.

The following table shows that the non-commissioned officers and men have been more fortunate than their leaders:

Non-commissioned Officers and Men—Rates per 1,000 per annum.

	1899 to 1900.	1900 to 1901.	1901 to 1902.
Killed or died of wounds	19.62	10.87	11.13
Deaths from disease...........	31.07	20.56	18.24
Total....................	50.69	31.43	29.37

It will be observed that, while the men have suffered far less in battle of late than have the officers, they have been rather more subject to disease. The disease rates of both officers and men are, however, remarkably low, especially when it is remembered that the ordinary rate of mortality of British troops on foreign service is 15 per 1,000. During the last eight months in South Africa but few more officers and men have died of disease than would have died if no war had been going on at all.

With the exception of the first year's fighting in South Africa, when the losses both from battle and from disease were very heavy, the casualities in the latest war compare favorably with those of the most recent campaigns for which trustworthy figures are obtainable. In the last year of the American Civil war the total death rate of officers and men was reduced to 46.49 per 1,000, and in the Franco-Prussian war the total death rate was 46 per 1,000. In South Africa, during the closing months of the Boer war, the total mortality has been at the rate of 30.03 per 1,000. These figures will show to how great an extent war tends to become less deadly under modern conditions.

Uniform of Medical Department of Army.

It is understood that a board of officers, which is now engaged in revising the uniform of the army, has changed the insignia of the Medical Department and Hospital Corps from the cross to the caduceus. This device is not only very sightly, but is also particularly appropriate for the medical service of the army, the rod signifying power, the serpents healing, and the wings diligence and celerity. The matter of uniformity also was given consideration by the board, since in nearly every foreign army the caduceus is used as the insignia of the Medical Department. A further reason for the abandonment of the present cross is that this device is used by various relief organizations not under military control, and that this fact caused much confusion in the popular mind as to the identity of the Army Medical Department and Hospital Corps, during and since the war with Spain.

The board also proposes to change the distinctive color of the Medical Department from green to magenta. This is also in conformance with the customs of foreign armies, superificial examination showing that dark red, magenta or maroon is the distinctive color not only of the Medical Department of our own Navy, but also those of thirteen of the most important armies of the world, including those of England, France, Germany, Austria, Russia, etc. The attractiveness of the uniform of the medical service is much improved by the change, as the combination of blue and magenta is very rich and sightly, while that of blue and green is quite the reverse. In its general consideration of the uniform as a whole, particularly with regard to the uniform of the soldier for field service, the board is making many changes in the direction of comfort, hygienic advantage, and practical utility under the conditions of modern warfare.

Saving of Life in the Philippines.

War is not always hell, at least in its results. The number of lives saved in Cuba and Porto Rico by the sanitary measures which the result of the Spanish war empowered us to institute is already almost incalculable, but some notion of it may be gained by comparing the death rate of Havana or of Santiago de Cuba now with what it was before the American occupation. The saving in the Philippines is less apparent, because of the distance of the islands and because all the outcry has been of killings and of torture, but it is none the less real. General Lloyd Wheaton, who recently returned after being three years and a half in Luzon, is quoted as saying that "the devastations of war have cost many lives and the loss among the natives has no doubt been large, but when one takes into consideration the hundreds of thousands of lives that have been saved by reason of the sanitary precautions of the American Army and Civil Commission, that loss by war seems infinitesimal." Smallpox, he says, became epidemic soon after our troops entered Manila, and would have caused frightful mortality among the natives but for compulsory vaccination. Later, when bubonic plague appeared, the army medical men stamped it out energetically. Now cholera is there, but it is being gotten well under control and is claiming only a small proportion of the victims it would have had under the former unsanitary régime. "These three dangers," General Wheaton says, "have been met and overcome by the Americans, and it is perhaps no exaggeration to say that half a million lives have been saved by the presence of the Americans in the Philippines."

Gift for Public Baths for New York.

The recent agitation for more ample bathing facilities for New York City is fully justified by the circumstances of the case. American cities have exhibited a surprising indifference to the public bath question, both from its sanitary and moral point of view, and had it not been for the untiring efforts of a small but earnest band of social reformers the situation would have been worse than it is at present.

Even now the municipal authorities of New York City have shown no intelligent generosity in their contributions to provide public city baths. By no stretch of the imagination can $325,000 be considered a munificent sum to supply the teeming population of the second city of the world with adequate opportunities to practice the gospel of cleanliness. When the fact, too, is taken into consideration that a very large number of the inhabitants of New York consist of the poorest and, consequently, the dirtiest of the peoples of Europe, then the importance of inculcating into the minds of these persons the need of decency, and cleanliness must be obvious to everyone.

At any rate Mrs. A. A. Anderson has become impressed with this aspect of the case and has presented a site, on which, by funds provided by her, will be built a large model bath-house for the poor. The building, when finished, will be presented to the Society for Improving the Condition of the Poor and will be modelled after those which the city itself is about to build.

Newsboys and How They Live.

The most prominent feature of life in the United States is the desire, often inordinate, to make money. The love of money pervades all classes from the highest to the lowest. To the rich the old Latin proverb applies more closely than when it was written, "Crescit amor nummi quantum pecunia ipsa crescit," while the poor are imbued with a like spirit of gain.

One of the most distressing forms which this commercial instinct takes in America, is the precocious rapacity of the young. As soon as a boy can walk he endeavors to earn money. Newspaper selling is naturally one of the favorite modes to which resort is had to reach this end, for the reason that it is fairly easy, requires no capital, and is supposed to yield good profits.

In *Charities* of June 7 Mr. Everett W. Goodhue, writing of Boston newsboys, says that, as a rule, boys who sell papers on the street are schoolboys; that is to say, almost all of them are under fourteen and have homes. "There are, perhaps, two important facts which have been instrumental in placing the business in the hands of school boys: (1) The State compels all children under fourteen to attend some accredited school for a definite number of weeks each year, enforcing this through its truant system; (2) As waifs and strays have largely been looked after by various child-saving societies, this class of children has been removed from the streets. The bad effects of newspaper selling by schoolboys are these: it is a check to their school work; schoolmasters complain that the morning brings boys to school tired out and altogether unfitted for work. In answer to a question very recently sent out under the signature of the superintendent of schools in Boston nearly all the schoolmasters united in saying that, from their point of view, the most harmful feature of the business lay in the early morning selling, and the consequent ineffectiveness which it entailed upon the school work. Besides the common dangers which come from a close intimacy with the street and its life, newspaper-selling brings to the boy certain special dangers of its own. A boy with papers to sell has free access to places which should be interdicted to the young, and he is brought into contact with much that is vicious and immoral. The temptation to gamble and the craving for the cheap play are of these special dangers the most obvious and insistent. The Jewish lads, who constitute a great part of the young news vendors, are inveterate gamblers; the love of speculation appears to be in their blood, and this demoralizing influence has spread widely among the ranks of newsboys of all nationalities."

In order to combat the evils which are necessarily associated with the pursuit of news-vending, Mr. Goodhue says that in Boston some of the older boys have formed themselves into a union with the object of protecting the interests of the industry. The idea of this federation is to shut out the small boy from the business by raising the age limit to fourteen years, and thereby to do away with the excessive competition. The law of Boston would, if enforced, meet the exigencies of the case, for under it the small boy would be protected from many of the dangers of newspaper selling.

This licensing law, although not so effective as it should be, owing to the laxity of the city authorities in enforcing it, is nevertheless a useful one, as it keeps the very small boys and girls off the crowded thoroughfares, and away from those corners, where, especially at night, evil works in its worst forms. The mere fact that 3,500 boys in Boston take out licenses is a testimony to the usefulness of the measure.

Every large city might—with great advantage to the whole community and especially to those directly concerned—pass regulations prohibiting the sale of newspapers except by those fitted to undertake the work. It is much better in all ways that children should not be allowed to employ themselves in this manner. Up to the age of fourteen years a boy gets far more good in stocking his brain with useful knowledge than in learning the vices of the streets, although at the same time he may be acquiring a keenness in trading which in after life he can utilize in overreaching his fellowmen.

Tuberculosis of the Intestine.

At the Swiss Medical Congress held at Berne, May 30 and 31, Professor Kocher spoke on the above subject. There were about eighty cases on record. Professor Kocher reported about twenty-nine cases, in twenty-one of which he operated. The fact that primary tuberculosis was so rare spoke in favor of the thesis that Koch supported at the British Congress on Tuberculosis, that the disease was not transmittable from animals and that bovine and human tuberculosis were two different diseases. Secondary tuberculosis was very general; 500 out of Fenwick's 863 cases of consumption had some tuberculous lesions in the intestines. Professor Kocher wished to call his cases localized tuberculosis of the intestines, yet the previous history of the patients was generally doubtful as to freedom from tuberculosis, for they came from a tuberculous stock or had suffered from lengthy bronchitis or even pleurisy, or in infancy from glandular swellings; thus there was a possibility or probability of there being some primary latent tuberculous focus somewhere. In cases of constipation, infection of a slight lesion with tubercle bacilli was possible; generally the ulcers were localized in the cæcum. Ulcerations were followed by stenosis, the multiplicity of the ulcerations excluding the diagnosis of carcinomatous ulceration. For the diagnosis the diazo-reaction was of importance; the symptoms might be very slight; only localized recurrent pain might assist the physician who should do all he could to get the patient into the surgeon's care in the first ulcerative stage where excision could still be performed. Generally the surgeon only saw the patient in the second stenotic stage, suffering from all the symptoms of the chronic form of ileus with intermittent symptoms.

News of the Week.

The Vaccination Law Sustained. A man living in Queens Borough recently applied to the Supreme Court for a mandamus to compel the Board of Education of Queens to admit his son into a public school without requiring him to be vaccinated. The justice in denying the writ said that the State law excluding children from the common schools until they are vaccinated is a health law within the power of the Legislature to pass, and was therefore constitutional and valid.

An Apparent Increase in New York City Death Rate.—The Report of the Registrar of Vital Statistics of the Department of Health for the three months ending June 30 has recently been published. In the three months there were 17,173 deaths in the five boroughs, against 16,615 deaths in the corresponding period last year, an increase of 558 deaths. The increase in the death rate was due to the death of children under five years of age. The report shows an increase in the number of deaths from tuberculosis and a decrease in the number from diphtheria and cancer.

Civil-Service Examinations will be held in the usual places in New York State on July 26, of candidates for the following medical appointments: Assistant in Physiological Chemistry, Pathological Institute, salary, $700; Physician, third grade, regular school, for the State Hospitals, salary, $900 and maintenance; and the same, Homœopathic school, at the same salary.

Dismissal of a Civil-Service Examiner.—One of the medical examiners for the Municipal Civil-Service Commission was dismissed from the service recently on charges preferred by direction of the president, Col. Willis L. Ogden. The charges against him included six specifications, but his dismissal was based upon only four of them. He was accused of examining applicants for positions before they appeared before him in his official capacity, charging a fee for such examination; with improperly conducting the medical examinations; with having treated candidates in a discourteous manner, and so bringing the service into disrepute and occasioning many complaints and appeals from his decision; and, lastly, with rejecting certain candidates without examination, intending to give them further opportunity for preparation.

An Alaska Quarantine Station.—On account of the prevalence of smallpox at Nome, Alaska, and the danger of an epidemic under the rather crowded and unsanitary conditions prevailing in the mining camp, the Government proposes to establish a marine hospital and detention camp at some distance from the town. The Secretary of the Treasury has asked the Interior Department to transfer the jurisdiction of Sledge Island, an island near Nome, from the Interior to the Treasury Department, for use as a quarantine station for smallpox patients. There is already a marine hospital station on the island, and as soon as jurisdiction is transferred temporary pavilions for smallpox cases will be erected.

Typhoid Fever at Chickamauga.—Typhoid fever has again made its appearance at Camp Thomas, Chickamauga Park, Georgia, the first time since the epidemic among the soldiers during the Spanish-American War. The Surgeon-General of the Army has directed an investigation into the causes of the outbreak to be undertaken by Major Jefferson R. Kean, surgeon, and Dr. James Carroll, acting-assistant surgeon.

Dr. Jacques Loeb of the University of Chicago has been invited to go to San Francisco to take charge of the affiliated Colleges of Medicine and Dentistry of the University of California.

Dr. L. Emmett Holt of this city received the degree of LL.D. from the Syracuse University at the commencement on June 18. Dr. Holt was a graduate of the same college in the class of 1875.

A New Element.—Prof. W. Marckwald of the University of Berlin announces the discovery by him of a new radio-active element of great energy. It is separated from polonium, and resembles radium in the rays it emits, except that they are absorbed completely by paper. It exists in very minute proportions, combined with bismuth, in polonium.

Numerous Bequests to Charities.—By the will of Mrs. Mary J. Walker, who died on July 2, many charitable institutions in this city will receive bequests, amounting in the aggregate to half a million dollars. The following are the bequests: The New York Association for Improving the Condition of the Poor of the City of New York, $100,000, and an additional $50,000 to be devoted to the purposes of the Fresh Air Fund. St. Luke's Hospital, $100,000; also $25,000 to be used for indigent Christian females of the City of New York. Society of St. Johnland, of St. Johnland, Long Island, $50,000. Home for Incurables, Fordham, $25,000. Children's Aid Society of the City of New York, $25,000. Orphans' Home and Asylum of the Protestant Episcopal Church of the City of New York, $25,000. The Colored Home and Hospital, $25,000. Home for Old Men and Aged Couples of the City of New York, $25,000. New York Institution for the Blind of the City of New York, $25,000. New York Society for the Relief of the Ruptured and Crippled of the City of New York, $15,000. Samaritan Home for the Aged of the City of New York, $10,000.

The Casualties of the War of the Revolution continue, and each year adds its quota of thousands to the list of those injured and killed in consequence, if not in support of the Declaration of Independence, promulgated 126 years ago. The Chicago *Tribune* publishes annually a partial list of the casualties resulting from our barbarous method of celebrating the Fourth of July. This year, according to the figures collected by that paper, the injured were 2,649 and the killed thirty-one, and the loss of property by fire amounted to over a quarter of a million dollars. Over 500 persons were wounded or killed by bullets, and over 400 by premature powder explosions, while skyrockets were the cause of about one hundred casualties, and other fireworks, including firecrackers, of more than seven hundred.

The Smoke Nuisance.—New York is still suffering from the pall of smoke with which the burners of bituminous coal are enveloping it, but the nuisance is, perhaps, less than it was. The Health Department has done much to abate it, and would do more if the courts would punish the offenders. The Elevated Railroad in Manhattan has been forced to return to the burning of hard coal in its locomotives, and the Sugar Refining Company in Long Island City has been fined $500 for maintaining a nuisance in the burning of soft coal. There are still many offenders, but the number of convictions is growing, and we may hope this will have its effect as a warning to those still unpunished.

A Pioneer Discouraged.—Dr. Mary Conard, one of the women emergency physicians of the staff of the West Philadelphia Hospital for Women, has resigned because she was not allowed an escort when forced to go out on night calls. According to the rules of the hospital the emergency physicians have to go out on all calls, no matter what time of night they come in, and the lack of funds has prevented the appointment of a night watchman, who could act as an escort for any of the young women when summoned after dark.

The International Congress of Madrid.—Dr. J. H. Huddleston, Secretary of the American Committee, sends the following announcement: The Fourteenth International Congress of Medicine will be held in Madrid, Spain, from April 23d to 30th, 1903, under the patronage of their Majesties, the King of Spain and the Queen Mother. The President of the Congress is Professor Julian Calleja y Sanchez, the General Secretary is Dr. Angel Fernández-Caro, and the General Treasurer is Professor José Gómez Ocaña. The preliminary statement of regulations and program has just been issued, and it announces that members of the Congress will be physicians, pharmacists, dentists, veterinary surgeons, and other persons working at branches of medical science, both Spaniards and foreigners, who have entered their names and paid their subscriptions. Other persons who possess scientific or professional titles, and who wish to take part in the work of the Congress, may share in it under the above conditions. The subscription is thirty pesetas, and this sum must be paid, before the opening of the Congress, to the General Secretary, Faculty of Medicine, Madrid. A card of membership will be sent to the subscriber. Until March 20, 1903, subscriptions may be paid to the Secretary of the National Committee of the subscriber, but after that date subscriptions must be paid directly to the General Secretary at Madrid. Members will receive a summary of the proceedings of the Congress, and a full report of the work of the particular section which they join. The official languages of the Congress will be Spanish, French, English, German, and Italian. Papers must be sent to the General Secretary before January 1, 1903, to be certain of a place in the order of business. Papers presented later will be considered after the discussion of those regularly announced. Communications should be accompanied by a short abstract, which will be printed and distributed among the members of the Congress.

A Town without a Doctor.—The Secretary of the Avon Park, Fla., Board of Trade, writes that there is no physician resident in that town. The town is small during the summer, but receives a contingent of winter visitors, and the people who live in the "Flat Woods" around it would be glad of the services of a good physician in case of need. The place would be especially good for one who was interested in planting a citrus grove, or whose health made it necessary for him to seek a mild climate. Any inquiries may be addressed to Mr. E. M. Hyde, Secretary of the Board of Trade, Avon Park, De Soto Co., Fla.

State Board of Medical Examiners of New Jersey.—The annual meeting of the State Board of Medical Examiners of New Jersey was held at Newark, N. J., July 5, and licenses were granted to the candidates who successfully passed the State medical examination at Trenton, on June 17 and 18.

Forty-eight candidates were examined, and of this number forty were licensed, one was expelled, and seven failed to pass, making a rejection of 16.6 per cent. Twelve midwives were examined for a State license, five of whom were licensed and seven rejected, making a rejection of 58 per cent. Examinations were held in materia medica and therapeutics, obstetrics and gynecology, practice of medicine, surgery, anatomy, physiology, chemistry, histology, pathology and bacteriology, hygiene, and medical jurisprudence. Two hours were given to each section, in which ten questions were submitted. A total average of at least 75 per cent., or 675 points out of a possible 900, was required to obtain a State license. The policy of the Board in establishing and maintaining reciprocal relations with other States whose examining and licensing requirements are at least equal to those of New Jersey has met with the approval of the profession. The number of States which have entered into reciprocity of medical license with New Jersey is steadily increasing. The following officers were elected: *President*, Dr. John J. Baumann, Jersey City; *Secretary*, Dr. E. L. B. Godfrey Camden; *Treasurer*, Dr. A. Uebelacker, Morristown. The next examination will be held in September.

National Association of United States Pension Examining Surgeons.—An association with this title was organized in Saratoga during the annual session of the American Medical Association. A number of examining surgeons were present and several interesting papers were read. There are over four thousand pension examining surgeons in the country, and an effort will be made during the coming year to interest all of them in the new society. The officers elected for the ensuing year were: *President*, Wm. A. Howe, Phelps, N. Y.; *Vice-Presidents*, Wm. H. Hall, Saratoga Springs, N. Y.; Cyrus L. Stevens, Athens, Pa.; Charles James Fox, Willimantic, Conn.; G. Law, Greeley, Col.; *Secretary*, Wheelock Rider, Rochester, N. Y.; *Treasurer*, Charles H. Glidden, Little Falls, N. Y. All members of pension examining boards and all expert examiners are eligible for membership, and any such may become a member by sending his name and the dues for one year (one dollar) to the treasurer.

Consolidation of Denver Medical Schools.—A union has been effected of the Denver College of Medicine and the Gross Medical College, the new school being called the Denver and Gross College of Medicine, Medical Department of the University of Denver. The teaching force will embrace the faculty and instructors of both schools, under the management of a board of trustees, selected from each of the schools. The dean of the college is Dr. S. G. Bonney, the secretary, Dr. Robert Levy.

The Hackensack Hospital Training School.—At the commencement exercises of this school, held on June 30, a class of five was graduated. Dr. J. Leonard Corning of New York delivered the address to the graduating class, and Mr. George M. Fairchild, Jr., also delivered an address entitled "Some Advice from a Layman."

Obituary Notes.—Dr. JOHN NEWELL TILDEN died at his home in Peekskill, N. Y., July 10, at the age of sixty years. He was born at Onondaga, N. Y., and was educated at Hamilton College. He studied medicine at the Long Island College Hospital, from which he was graduated in 1862. He served for two years as surgeon in the Northern Army during the Civil War, and soon after the close of the war began practice in Peekskill. After practising for several years he became one of the managers of the Peekskill Military Academy.

Dr. GEORGE EDWARD TYLER died of pneumonia at Denver on July 7. He was a graduate of the Long Island College Hospital in the class of 1896. At the time of his death he was secretary of the Colorado State Board of Health.

Dr. J. C. BATTS of Norfolk, Va., was shot and instantly killed by a negro patient on July 10. The only explanation of the act was that the murderer who had been ill for some time was delirious. Dr. Batts was City Coronor.

Dr. Mary B. Damon of Minneapolis died in Weston, Mass., on July 6, from the result of a wound inflicted by herself during an attack of melancholia. She was born in Concord, Mass., about forty years ago, and was graduated from Vassar College in 1886 and from the Women's Medical College of the New York Infirmary in 1890. She practised medicine at Northampton, Mass., for six years, and then went to Minneapolis.

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 10, 1902

The Basis for the Use of Alcohol in Therapeutics.—Arthur R. Cushny sums up his remarks by saying that alcohol deserves a place in therapeutics as a narcotic, and to a less extent as a stomachic, and in certain conditions as a food. He would not disguise the fact that it has drawbacks, like every other drug, but would plead that we must not allow ourselves to be guided entirely by consideration of any one of its properties, but must estimate in each case whether the sum total of its effects, good and evil, will benefit the condition.

The Nutritive Value of Alcohol.—Francis G. Benedict says that, from a review of the work done up to the present time, it can be seen that it would be manifestly unfair not to accord to alcohol a value as fuel and as a protector of body material—a value that may at times be of incalculable service to the physician, but considers that it would be equally unfair to deny that the latent tonic property of alcohol is such that in many, if not in the the majority of cases in which it is used as a food, such use is irrational. In health the multitude of other materials whose nutritive value is beyond dispute renders the use of alcohol as a food entirely unnecessary. In some pathological conditions, as in acute infectious diseases, the ease of absorption and high calorific value of alcohol probably more than counterbalance the toxic effects.

The Common Use of Alcohol as a Beverage.—Graham Lusk considers that the weight of evidence is in favor of the stimulation of the flow of the digestive juices by alcohol. If, however, too much alcohol be taken, there is too great an irritation to the mucous membrane of the stomach with decreased activity and resulting dyspepsia. Without doubt, alcohol reduces the power to do both physical and mental work. It reduces the power to learn. All the mental work done in experimentation quoted by the author was of the minute, painstaking sort. Dr. Woodworth has suggested that intellectual activity with some swing and freedom about it, and aiming only at broad effects, might be differently influenced, as seems, indeed, to be the case with some orators, musicians, and possibly writers. On the whole, the moderate use of alcohol as a beverage gives additional flavor to the food, and acts as a mild narcotic, often preceded by a period of exhilaration.

Journal of the American Medical Association, July 12, 1902.

Pruritus Ani; Strong Heat Its Best Remedy.—E. Andrews states that this form of therapy was suggested to him by the means employed by many wood-cutters and farmers to cure chilblains. The latter expose the bare skin to the direct heat of a fire, and find not only great relief but, after a few treatments, a permanent cure. Acting on this suggestion, Andrews has devised an apparatus consisting essentially of a rectal cylinder of hard rubber with a diameter of three-quarters of an inch, and passed two inches into the anus. The cylinder is closed at the upper end and has inlet and outlet connections. In this way it is possible to run a stream of hot water through it. The highest heat endurable is about 130°F. A thermometer in the supply bag will indicate the right temperature. The patient may lie on the side with the knees drawn up or sit obliquely on one hip or astride a chair with the hips over the edge. At first the injections may be taken twice daily; then at intervals of several days. Of course, the physician should remove all discoverable causes of the pruritus.

Electrothermic Hæmostasis in Abdominal and Pelvic Surgery.—W. J. Downes details his experience along the line indicated by the title of his paper and figures several instruments employed. His experience leads him to believe that there is less pain after abdominal operations with electrothermic hæmostasis than with the use of ligatures. In certain cases resulting fatally from various causes (not from the hæmostatic agent) he found evidence on post-mortem to indicate that adhesions are much less liable to occur than after ligature operations. The further fact that in a field capable of isolation the work within the abdomen can be quite bloodless is another reason in favor of this method of hæmostasis. Special reasons are advanced with reference to operations for cancer salpingectomy, ovariotomy and appendectomy. In the first, we can obtain not only hæmostasis, but we seal the lymphatics, in the second, we leave a sterile, non-patulous stump; in the third, we ensure the absence of secondary hæmorrhage, and in the fourth, we find electrothermic hæmostasis cleaner and bloodless, more sterile and, with proper technic, there can be no escape from the cæcal or distal end at the line of section. It will thus be possible to obtain an aseptic abdominal closure in all cases of unruptured appendicitis, even if the content of the appendix is pus, thus materially shortening the period of convalescence. The description of the apparatus employed must be read in the original paper.

Medical News, July 12, 1902.

Therapeutic Uses of the Organic Extracts.—O. T. Osborne first discusses thyroid extract. If there are cerebral excitement, palpitation, and progressive loss of weight, thyroid treatment is contraindicted; if the patient is sleepy, apathetic, with but little palpitation, has no headache, and is putting on weight, thyroid treatment will probably benefit the case. This drug is of value in amenorrhœa or scanty menstruation, as it produces a tendency to hemorrhages. Thyroid has been used by some clinicians in carcinoma of the uterus as well as carcinoma elsewhere. Personally, the writer has not seen any benefit from its use. He is inclined to think that it would be wise always to try thyroid treatment in the insanity of the menopause and in puerperal insanity, as there is probably a disturbance of the thyroid at these times. The writer knows of no established therapeutic use of the pituitary substance except in acromegaly. The toxic headache of acromegaly is always relieved by pituitary tablets. The exhibition of pituitary extract is a logical treatment for dwarfs. The writer has had good success in giving the thymus gland in cases of Graves' disease in which feeding of the thyroid gland aggravates all the symptoms. It is also beneficial in the treatment of tuberculosis. Adrenalin should be used in all cases of low vasomotor tension, typically in Addison's disease, and in the anæmias. It should be used with care in persons over fifty years of age. There is much discussion at present about the ovary, but little is known of the internal secretion of this gland. Until careful chemical investigations may reveal some isolated principle, the therapeutic efficiency of mammary extract will remain unsatisfactory.

Tendon Transplantation.—J. Hilton Watterman reviews the history of this subject and quotes the indications given by Vulpius for transplantation: The operation is impracticable only when all the muscles of the limb are paralyzed. If one muscle or group of muscles be still intact, we may think of the possibility of improving the functions of the limb by transplantation and of preventing or removing the secondary contractures or deformities. He shows schematically nine methods by which tendons may be anastomosed. The subject of diagnosis is of the greatest importance in regard to tendon transplantation. It is not justifiable to operate if the diagnosis is not certain. In the great majority of cases the operation of transplantation has been performed for paralytic equinovarus, due to infantile anterior poliomyelitis. In 1895 Goldthwait noticed that the sartorius generally escapes paralysis in those cases of anterior poliomyelitis which involved the thigh. He conceived the idea of making this muscle do the work of the paralyzed quadriceps. Before this all transplantation had been done with muscles having well-formed tendons. The lower extremity of the sartorius was attached to the quadriceps extensor just above the patella. Excellent results have been thus gained, and the flinging gait and rotation have been obviated. Opportunities for ideal grafting are not common, because the necessary proximity of sound and paralyzed muscles may not exist, but it is not indispensable that the two muscles be synergists, for one muscle may be made to do the work of an antagonist or of an indifferent muscle. For instance, an extensor tendon of the finger may be passed through the interosseous space and transplanted into a flexor tendon. In regard to the ultimate results, with especial reference to the wearing of braces, the writer thinks that we should seldom expect to secure by transfer of function alone complete equilibrium between antagonistic muscles. We must be content with a gradual strengthening of those portions of muscles which are compelled to perform new duties. The writer then carefully considers the details of the operation.

New York Medical Journal, July 12, 1902.

Electric Light in Diseases of the Respiratory Organs.—W. Freudenthal details his experience with this agent in tuberculosis and hay asthma. As to the former, he concludes that the electric light can be regarded only as an adjuvant to the host of other remedies at our disposal. At times it is of great assistance. In hay asthma he has applied the remedy to twenty-four patients. Out of these fourteen experienced decided improvement in all respects very soon after the treatment was commenced. In the other ten, results were not decisive. He applied the light directly to the face, letting the rays pass through a blue screen. He follows the same plan as to the chest if there is an indication for its application to this region.

Tetanus.—K. E. Kellogg makes a plea for the injection of carbolic acid in one-half-per-cent-watery solution in a circular manner around the wound. He says, in support of this mode of treatment, that actual figures indicate as many cures from the use of chemical agents as from antitoxin, though the use of phenol does not contraindicate the administration of antitoxin. There are no exact methods of measuring tetanic antitoxin, and inasmuch as the antitoxin is not a stable article, we are not justified in continually saturating the system (which would appear essential) with this agent, of which we know comparatively little. On the other hand, of carbolic acid we know considerable, and we have a definite and reliable method of ascertaining its action and the extent to which it should be used. Investigators have failed to save infected animals, even with the immense doses of the antitoxin. Cases have been treated alternately, first with the antitoxin and then with phenol, with the more satisfactory results during the administration of the latter.

Brief Notes on Mitral Insufficiency.—T. E. Satterthwaite gives a brief description of the disease based on personal clinical experience. He notes that up to the period of failing compensation the three cardinal signs are: (1) A systolic murmur at the apex conveyed to the left; (2) Accentuation of the second pulmonary sound; (3) Increased transverse dulness of the heart. In and after breaking compensation, the diagnosis must be based on the previous history, because the abnormal transverse dulness may be the only one of the three cardinal physical signs left from which to construct a diagnosis. If stenosis coexists, as it does in from 70 to 80 per cent. of the cases, we must expect a systolic thrill around about the apex in from 15 to 60 per cent. and a presystolic murmur in at least from 10 to 30 per cent. In children or young people there may be a bulging of the præcordia. He adds that in instances in which there are merely fresh vegetations on the valves sufficient to cause a very slight insufficiency, no murmur may exist. After all the condition is comparatively easy to determine because the valve is to the left and behind, and as the murmur follows the regurgitant current, which flows more or less backward as it goes upward, it is carried somewhat behind the angle of the scapula and may be heard also in the axilla. If it is heard in both these places, the diagnosis is pretty certain.

American Medicine, July 12, 1902.

The Efficacy of Recent Vaccination.—Wm. M. Welch presents striking evidence of the protective power of vaccination, especially of recent vaccination. He states that during the recent epidemic of smallpox in Philadelphia no person who had been recently successfully vaccinated, was admitted to the hospital with smallpox. He reports many instances of the prophylactic power of recent vaccination. One family of father, mother, and three children were admitted to the hospital. Both father and mother were suffering from varioloid. The oldest child, five years old, showed a good scar, the other two, one ten months and one three years old, were vaccinated a short time before, and presented two vaccine vesicles, that were developing perfectly. These three children remained in the hospital seventeen days under constant exposure without taking smallpox. During the past winter 170 students received instruction in the smallpox wards in the Municipal Hospital of Philadelphia, and not one of them contracted smallpox. In the present epidemic about 125 persons, physicians, nurses, ward maids, cooks, laundresses, etc., have been continuously exposed to the disease and not one has contracted it. All those employed in the smallpox pavilion, except two or three who had the disease at an early period of life, owe their immunity to vaccination.

A New Method of Bone Grafting.—A. W. Morton advocates the transplantation of bone from lower animals to repair bone defects in man. He reports a case, which he states is unquestionably the first successful instance of bone transplanting by vascular attachment from animals to man. The patient was a man of forty-five years. He had fallen and received a compound comminuted fracture of the right tibia and fibula. The fibula united, but the tibia did not. The end of this bone became necrotic, and five inches of the lower end was removed. Improvement followed, and a few days later the periosteum was resected back and the end of the bone was freshened, so there was free hemorrhage. A medium-sized dog was prepared, and the left fore leg amputated just above the tarsus. The ulna was left one inch longer than the radius; the skin and muscles were divided by a longitudinal incision for about four inches and left attached, except about three inches at the lowest end, which was removed to the periosteum. The cut ends of the ulna entered the cavity of the tibia one inch and were united with silver wire to same, the fibula was wired to the end of the tibia. The upper part of the incision in the patient's leg was closed by stitches; this placed the dog's leg nearly on the same plane as the man's leg; the wounds were drained; all the stronger tendons in each leg of the dog were cut by a subcutaneous incision. The other three legs of the dog were encased in plaster-of-Paris separately; the entire dog and the man's leg were encased in a plaster cast extending to the knee of the patient. The patient's condition gradually improved and his temperature and pulse remained about normal after the third day. Five weeks later the man was placed under medullary narcosis, and the dog under ether; the cast was removed, the skin and muscles were separated from the dog's leg, and the two bones were divided near the joint and placed in contact with the astragalus; the skin and deeper structures were united, except at the point of drainage, which slowly closed by granulation. The man now has a very useful leg.

Philadelphia Medical Journal, July 12, 1902.

Intestinal Anastomosis.—John R. Cook reports several cases of this nature. In one case of gunshot wound of the bowels, he removed twenty-eight inches of intestine in one place and two in another, putting in two Murphy buttons. In cutting away the gut he did not remove the V-shaped piece of mesentery, but simply cut enough of it to clear the gut, and with a long ligature tied it off in one continuous gathering mass, and when the gut was brought together, folded the mass of mesentery on itself and stitched the edges together to hasten union and prevent accident by loop of gut slipping through it. The patient entirely recovered. In another case of intestinal obstruction he removed twenty-one inches of the intestine. The patient was well in five weeks. He believes that the shock is lessened in not taking out the V-shaped piece of mesentery.

Some Points in the Treatment of Crushing Injuries Involving the Large Joints.—John Glendon Sheldon describes his method of treating these injuries: The injured tissues are cleaned as thoroughly as possible. After the detached fragments of bone have been either removed or placed in their proper positions, the joint cavity is completely closed by the suturing of ligaments or muscles. The defect in the skin is not closed. Skin incisions, made for the purpose of exposing deep structures, are sutured, but the traumatic wound is not repaired in any part. The reasons for this treatment are: (1) The skin and subcutaneous tissues are subjected to more trauma than are the deeper structures and more unclean material is brought in contact with and is ground into them; (2) Thus the vitality of the skin and underlying tissue is more reduced than is that of the deep tissues, and their cleansing is more difficult and less efficient than that of the deeper structures. Thus the clean-joint cavity is protected from the unclean superficial structures. The superficial tissues are thoroughly drained. Secondary infection of the joint cavity is impossible. The possible disadvantage of the method is that if the deep structures have not been rendered aseptic, secondary drainage becomes necessary. But an opening into the joint cavity can easily be made, and the objection is not serious.

The Lancet, July 5, 1902.

Cases of Gastrotomy for Recent Gastric Ulcer.—The histories of three cases are given in detail by C. W. Mansell Moulin. Two patients recovered and one died. In the first case section did not reveal any perforation of the stomach wall but an ulcer was found and excised. The patient recovered, having had a double parotitis during convalescence. In the second case a similar gastric condition was found and a similar operation performed. Parotitis set in, first on one side and then on the other. Suppuration followed and, though relief ensued when the abscess was opened, the patient died on the ninth day after operation. Autopsy revealed contracted kidneys. The third case was similar to the other two as to nature and operation. The author adds that, so far as hæmatemesis is concerned, it is clear that age and sex make a very material difference. A much greater risk may be run in the case of a woman under thirty years of age than in the case of those over thirty years of age, and especially in the case of men. If there is one single severe hæmorrhage in a case in which the previous history suggests the presence of a chronic gastric ulcer (when the bleeding is probably due to an opening in an artery of some size and is not merely capillary); if in any case there are two separate attacks of severe hæmatemesis at a short interval; or if there are frequent small hæmorrhages, so that the patient is becoming seriously anæmic, he believes that the risk of operation is very decidedly less than is the risk of leaving the patient alone, and that the best interests of the patient would be consulted by giving him or her the chance of operation before the condition becomes desperate.

A Few Observations on the Blood Pressure in Mental Disease.—H. de M. Alexander finds the blood pressure considerably increased in acute passive melancholia, less so in acute demonstrative melancholia, and generally low in chronic melancholia, increasing when the mental symptoms become more acute. In mania the pressure is above normal, though not so marked as in melancholia. General paralysis presents many types of insanity, and consequently the results of examination varied greatly. In the later demented stages the pressure readings were uniformly low. In pure senile mania and melancholia the readings obtained corresponded to those registered in the same affections occurring in an adult or an adolescent; but the blood pressure was, as a rule, much above normal in that variety of senile insanity which is associated with dementia and which is characterized clinically by a constant fidgety motor restlessness; and it is in this form of insanity that drugs of the nitrite class are of most benefit. The blood pressure in mania appears to be considerably modified by the presence of general physical debility, and thus restlessness in the chronic maniac of poor physique is, as a rule, associated with a normal or even low blood pressure, though an elevation may occur with any increase in excitement. Without the presence of any organic disease to account for it, some cases of senile dementia, with constant restlessness as a marked symptom, have a high blood pressure, and these patients are often much benefited by the administration of such a drug as erythrol tetranitrate. As is well known, an attack of mania is usually ushered in by certain premonitory symptoms and one of the commonest of these is mental depression. On the appearance of any of these premonitory symptoms it is often possible to ward off the acute attack by confining the patient to bed amidst quiet surroundings and by keeping him on a low diet—precisely as a case of melancholia may be treated. He has always found the symptoms, mental and physical, antecedent to an attack of mania to be accompanied by a rise in blood pressure.

Difficulties in the Diagnosis of Smallpox.—W. T. Freeman reports the case of a boy of ten years with a rash of a scarlatiniform type. There were the usual febrile symptoms, followed in due time by some peeling but no albuminuria. Ten days later he again became sick with high fever, and nodelike swellings appeared on the front of the tibia and over the forehead and left orbit. There was some swelling in and about the left knee-joint. When seen by the author about a week later, he had still a high temperature and the swellings referred to, were still in evidence, and he had developed additionally a profuse bullous rash; the vesicles or bulæ ran in size from that of a pin's head to near the diameter of a shilling-piece. The bullæ were principally grouped on the legs and buttocks, but some were also present on the arms and lower abdomen. Some of them had an umbilicated appearance and all were hæmorrhagic. They were commencing to dry up, but tests applied as carefully as possible practically proved them to be multilocular. The history of this second rash was that it first appeared as a papular one and subsequently became vesicular and bullous. There was a largish bulla on the left side of the tongue. The boy seemed to be very ill. He had all the appearances of a congenital syphilitic—typical upper incisors, flattened bridge of nose, scars at the angle of the mouth, etc. He had good vaccination marks, but had not been revaccinated. One week later he was much improved, the vesicles and bullæ were dried up into hæmorrhagic scabs, the swellings had nearly disappeared, and the temperature was normal. The patient recovered. The author was in doubt as to the nature of the case, thinking that he had perhaps to do with an anomalous case of variola in a partially protected but specifically unhealthy child. His later judgment, however, led him to the view that the condition was a developmental erythema, an erythema of the nodose type passing on through stages to a bullous type of rheumatic purpura. It is to be added that, as the boy improved, he was vaccinated and a full reaction followed.

The British Medical Journal, July 5, 1902.

The Epidemiology of Smallpox in the Nineteenth Century.—Arthur Newsholme concludes that the chief governing factor in epidemics of smallpox is personal infection; the disease spreads from town to town, and from one country to another, not always affecting different countries in the same year, as it might be expected to do when similar climatic conditions occur in the different countries if climatic conditions had a predominant influence. There is, however, some further factor responsible for the causation of the greater epidemics and pandemics of smallpox, which, for lack of a better term, we must still designate by the term of "epidemic constitution." As the expression of a fact, without being committed to a theory, we may admit with the older epidemiologists that there is a *constitutio epidemica variolosa* What is meant by this is that at certain irregular intervals smallpox, as judged by its wider spread, is more infectious than it is in other years with equal opportunities for its dissemination. There is no regular periodicity for these greater epidemics, but there is a fairly regular periodicity for the minor epidemics, which has become disturbed and the intervals protracted in well-vaccinated communities.

A Century of Vaccination: Smallpox Epidemics and Smallpox Mortality before and since Vaccination Came into Use.—E. J. Edwardes states that for nearly two decades after vaccination began in the nineteenth century smallpox epidemics appeared to be on the point of dying out everywhere. But toward the end of the second decade they began to recur with altered characters. They were not so extensive as before, and they attacked the vaccinated in increasing numbers as the years rolled by. Thus, finally the lesson was learned that protection decreases with time. At the time of the great pandemic of 1870 the average rates in four countries with compulsory vaccination—England, Scotland, Bavaria, and Sweden—were as follows: 361, 314, 346, and 333. The average rates in four countries without compulsory vaccination—Prussia, Austria, Belgium, and the Netherlands—were: 953, 1,360, 1,293, and 958. The latter countries show a mortality more than three times that of the first-named countries. As to the ages of those who died, where compulsory vaccination existed, the chief mortality was borne by the age class above twenty years, but where there was no compulsory vaccination the chief mortality was among children. The results of the revaccination law of 1874, in Germany, were the entire abolition of smallpox epidemics in that country. The rate is almost *nil*. The few deaths which occur are due, chiefly, to importation from Russia and Austria. The German Army had already enjoyed revaccination ever since 1834 with splendid results. But the new law at once made a great difference in the smallpox mortality of the army, for it abolished the mortality altogether. This proves that the protection which an individual acquires by vaccination and revaccination is greatly increased if he is surrounded by an equally protected community. Hence it is the right and duty of the State to insist on universal revaccination.

The Complications of Vaccination.—T. Colcott Fox declares that many of the variations in the development of the vaccine pocks are of comparatively little importance. The incubation period varies. The pocks may develop unequally. The "raspberry sore" is mentioned. This begins as a red elevation at the site of inoculation, quite similar to the papule of true vaccina, but instead of advancing to the vesicular stage, it remains hard, dense, bright red in color, and nodular, looking not unlike a small nævus. It remains, as a rule, for some time, but may be dissipated by a mercury and carbolic-acid plaster. With regard to an excessive degree of local inflammatory reaction, some excess may occur after the use of bovine lymph, and in revaccinations. There are also variations in the healing and formation of scars. Of the eruptions not peculiar to vaccination there is a group embracing all types, from the erythematous to bullous and hemorrhagic; and they may accompany local pocks. Various phases of urticaria are met with in the adult. In addition to the trifling miliaria and sudamina, some papular and vesicular eruptions are occasionally met with, as after the ingestion of drugs, somewhat difficult to classify, but usually of little significance. Purpura is of very rare occurrence. The very rare disseminated gangrenous lesions, the so-called vaccina gangrenosa is to be carefully distinguished from the local gangrene or necrosis which sometimes occurs at the points of inoculation. It is possible that impure lymph-containing organisms, such as staphylococci, or streptococci may contaminate the vaccine lesions from the start, and produce systemic poisoning with generalized rashes, or, perhaps, vesicopustular eruptions. Such results are generally due to improper methods of vaccination, or to secondary contamination of the points of inoculation. Tetanus is rare. Psoriasis, eczema, and strophulus may occur in close association with vaccination. Syphilis, tubercle, and leprosy may possibly be inoculated at the time of vaccination or by subsequent contamination. The event is extremely rare. Many of the bad results of vaccination are due to imperfect sterilization of the skin and want of protection against the invasion of foreign organisms.

Deutsche medicinische Wochenschrift, June 19, 1902.

Typhoid Bacilli in Urine.—Busing calls attention to the length of time that typhoid bacilli may be present in the urine following typhoid fever and the great danger of contamination therefrom. A case is reported in which the bacilli were found in the urine of a patient who had been convalescent from typhoid for four months. Much experience has shown that the administration of urotropin in these cases is promptly followed by a disappearance of the typhoid bacilli from the urine. It is always best to continue this drug for a week to ten days after the organisms have so disappeared.

Artificial Ripening of Cataracts by Förster's Method.—W. Stood reports 130 cases of cataract which were artificially ripened by massage according to Förster's method, and then enucleated. In 120 of these the cataract was thus matured, so that enucleation could be performed in from three to six weeks. In three infection took place and the treatment was necessarily discontinued. The end results and the final vision obtained fully equalled or exceeded those which follow operations upon cataracts which have been allowed to naturally ripen. Nuclear and lamellar cataracts, which occur in people over sixty-five years of age, are not suitable for this treatment, but in all other cases much time may be saved and satisfactory results obtained by its employment.

Angina Diphtheroides (Vincenti).—Lämmerhirt reports a case of this disease which is of interest on account of the unusual tonsillar lesion present. There was no membranous formation, but a sharply-defined, rapidly-growing ulcer presented itself on the left tonsil. Bacteriological examination showed the presence of the bacillus fusiformis, together with numerous spirilli. The constitutional symptoms were slight and lasted only about twenty-four hours. At the expiration of twenty days the ulcer had entirely healed. The treatment consisted of the local applications of a 3 per cent. solution of nitrate of silver, but it cannot be said that any material benefit was obtained thereby.

Berliner klinische Wochenschrift, June 23, 1902.

Virulence of Bacteria.—R. Pfeiffer and E. Friedberger, in an endeavor to elucidate this subject, have undertaken experimental studies with respect to the cholera spirillum. They conclude that the virulence or non-virulence of this organism depends upon the number or degree of affinity of its haptophore groups. In the virulent spirilli this number or degree of affinity is from five to ten times greater than in the avirulent. The degree of immunization produced by the inoculation of cholera spirilli is directly dependent upon the degree of virulence of the inoculated culture. The same holds true for typhoid and pest bacilli.

Complementophile Group of the Amboceptors.—P. Ehrlich and H. T. Marshall, as the result of recent researches, claim that the haptophore group of the amboceptor possesses a number of complementophile groups. These are divided into "dormant" and "non-dominant" groups, according as they show a greater or less attraction to the corresponding groups of the cell to which the amboceptor unites itself. In many cases all of the complementophile groups come into action at the same time, but in others the action of the dominant precedes that of the non-dominant group. In still other cases this is reversed. In all of these instances the specific action is that of the dominant complementophile group.

Münchener medicinische Wochenschrift, June 24, 1902.

Narcolepsy.—L. Loewenfeld reports a case of this interesting disease, which was first described by Gelineau in 1880. In general, the symptomatology was characterized by frequent and brief attacks of sleeping, together with a considerable restriction of the locomotor functions. The chief therapeutic measures were directed along the lines of hypnotic suggestion, and much benefit was derived therefrom. It seems probable that this condition is a disease sui generis, caused by a pathological alteration of the nervous system, which is to be regarded as a neurosis, since marked structural changes are evidently not present.

Röntgen Dermatitis.—Wiesner's patient was a man who had been employed for many months as a subject for the demonstration of the Röntgen apparatus. For eleven months no injurious consequence resulted therefrom. There then appeared on the hands and arms an eruption similar to a chronic dermatitis; this spread to the trunk and face. Suppuration occurred in many locations. The eruption lasted for several months, and did not seem to be influenced by any treatment, although the local use of orthoform relieved the subjective symptoms to a certain degree. The author agrees with Barthelemy in regarding the disease as trophoneurotic in character.

Sequelæ of Infantile Syphilis (Acquired and Hereditary).—Alfred Martin, as the result of statistical research, says that syphilis, if acquired under two years of age, reduces the resistance of the patient, so that the ordinary diseases of childhood are liable to run a very severe or fatal course. If acquired after this age, no such marked influence seems to be exerted. Syphilis hereditaria præcox is attended by a high mortality, since, of ten cases noted, in seven death took place under the age of one and a half years. In syphilis hereditari tarda the prognosis is much better, as of twenty-two cases six died at an average age of fourteen years. Syphilis acquired after two years of age, however, gives a more favorable prognosis than late hereditary syphilis. No special relation seems to exist between hereditary syphilis and the infectious diseases. No special predisposition to diseases of the nerves or vessels could be detected in subjects of infantile syphilis, either acquired or hereditary.

French and Italian Journals.

Fulminating Tropical Hæmaturia.—Marco Levi Bianchini reports the case of a man who had been four years in Africa and had not suffered from malarial fever. He was found to be profoundly anæmic, with a filiform, slow and weak pulse, and suffering from general weakness and lassitude. One evening he complained of slightly chilly sensations, and the next day had fever. Hæmaturia occurred, and in two days he died. The author considers the case to belong to the class described by Marchiafava as "pernicious hæmoglobinuria," or a post-malarial form of spent infection in which the parasites have disappeared. —*Annali di Medicina Navale*, May, 1902.

Actinomycosis.—Latarjet reports a case of this kind that had come under the care of Tixier. The patient was afflicted with actinomycosis of the face following on an injury by a hand-screw. The injury had been violent enough to form a hematoma, and after that had suppurated, yellow grains were found in the pus. These yellow grains were abundant and very characteristic. The diagnosis was established in an absolutely certain manner, but it was difficult to account for the manner of the infection. The patient could not remember seeing a cow with this affection, nor was he in the habit of munching bits of grain.—*Lyon Médical*, June 22, 1902.

Latent Hepatic Steatosis of Alcoholics.—A. Gilbert and P. Lereboullet declare that latent hepatic steatosis has an important place in the pathology of the liver. Its frequency, unsuspected on account of its latency, is considerable, since it is, without doubt, more common than all the varieties of cirrhosis resulting from the action of alcohol on the liver. Its importance depends upon the fact that it constitutes the hidden imperfection in young subjects that makes the prognosis bad of maladies apparently benign. For example, pneumonia, which in the young is apt to run a normal course, since the heart and the vessels are generally healthy, is often fatal when combined with this complication. Traumatic lesions and surgical intervention are to be dreaded with this complication. The writer intends, at a later date, to go more into the details of this subject.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 22, 1902.

Medicated Milk.—O. Macé by this term means milk that is modified by the administration of drugs to the mother, in order to treat a sick child at the breast. Experiments have been made by certain authorities of giving food rich in phosphates to animals giving milk. Sometimes they have mixed phosphate of soda in the drinking water of the animal. The quantity of the phosphates has been thus doubled in the milk. If parallel experiments have been made on nursing women, the results have never been published. As to milk charged with mercury, the passage of the drug is slow and irregular and varies with the individual, with the quantity of the drug absorbed or injected. Too much faith must not be put in this method. Experiments have also been tried with the iodides. The quantity eliminated by the milk is about half of that eliminated by the urine. The whole subject is still in an uncertain state, and even now it is not known what dose will pass on to the infant, so that the treatment is more or less inexact —*Journal des Praticiens*, June 21, 1902.

Peritonitis Following Attempted Abortion.—Varnier reports the case of a woman who confessed that she had tried to commit an abortion upon herself. She had made use of a rubber sound armed with an iron wire. The woman made three different attempts to introduce the sound into the cavity of the uterus. Laparotomy showed the existence of an area in the upper, anterior surface of the uterus, which was surrounded by a liquid suggestive of septic peritonitis. Hysterectomy was performed. The placenta was discovered to have remained in a posterior cavity, which communicated with the rest of the uterus only by a filiform canal. The writer thinks that this woman was able with ease to introduce the sound into her uterine cavity, from what he has learned in this respect from experimental researches.—*La Presse Médicale*, June 21, 1902.

A Case of Syphilitic Hysteria Diagnosed Surgically.—Francesco Camaggio reports the case of a young woman suffering from hysteria of such severity that her physicians, after exhausting all possible treatment, advised sending her to an asylum. Called in consultation, the author happening to ascertain that the girl's mother had been operated on for cancer of the breast twenty years before, and had had no return of the trouble, strongly suspected that the so-called cancer had been a syphilitic lesion, and that the daughter was suffering from hereditary syphilis. At the age of twelve she had had some affection of the eyes and swelling of the knee. The author advised mercurial treatment, but the physicians who had the case in charge refused to believe in the theory of syphilis and continued the injections of morphine, upon which the author retired from the case. The girl's father, however, had been impressed with the possibility of a cure, and unknown to the attending physician, put a mercurial solution in the bottle supposed to contain the solution of morphine. The result was miraculous; after three injections the patient came to her senses and made inquiries as to what had happened since her last recollection of events, months before—after ten injections she was physically cured, and after twenty-four was so changed physically as to be unrecognizable. The attending physicians claimed the credit of having cured her with the morphine, upon which the parents were unable to refrain from a confession of the substitution practised.—*Giornale Internazionale delle Scienze Mediche*, June 15, 1902.

Bulletin of The Johns Hopkins Hospital, June, 1902.

Peripheral Venous Thrombosis in Pneumonia, with Report of Three Cases and a Review of Those Previously Recorded. Abstract.—Walter R. Steiner says that the rarity of thrombosis in pneumonia should be noted. Only thirty-eight cases could be collected. This may seem strange since pneumonia is a disease in which the blood is especially rich in the elements that are necessary for clotting. In twenty-seven out of the thirty-two cases which gave fairly full statistics the thrombosis occurred during convalescence; in one it was on the day of the crisis, and in four during the course of the disease. Thus it must be generally regarded as a sequela and not as a complication of pneumonia. The lower extremities were always involved. The thrombi are mostly found on the left femoral vein. There was one case, Vulpian's, in which there was a clot also formed in the right pulmonary artery. Another case in the Johns Hopkins Hospital, showed a thrombosis of the left jugular vein, but autopsy was not permitted. Of forty-one cases death occurred in nine, while twenty-five recovered. Eight of those who died had autopsies, and in five death was due to pulmonary embolism.

Malarial Fever in Infancy, Probably Maternal in Origin.—Lindsay Peters reports the case of a woman twenty-seven years of age who suffered from malarial paroxysms during her pregnancy. Shortly before the birth of the child she had a severe shaking chill, followed by fever and sweating. The baby was a well-formed boy, weighing seven pounds. Blood specimens taken from his ear on the second and third days after birth were hastily examined and showed no organisms. On the fiftieth day after her confinement examination showed that the child was very anæmic, the skin having a faint, yellowish tint The lower border of the spleen was about 3 cm. below the costal margin Examination of the blood showed it to be very pale and watery, while it coagulated very slowly Three malarial parasites of the tertian variety were found Quinine was given and the anæmia and other symptoms disappeared within a few weeks The mother said that she had noticed that the baby, since the second week after birth, "got cold and had fevers" from time to time From the history and from the high grade of anæmia, it is evident that the infection was not recent, hence it must have been acquired, either in utero or very soon after birth The writer is inclined to think that it was an intrauterine infection.

Acute General Gonorrhœal Peritonitis.—Guy L. Hunner and Norman MacL. Harris, from their observations in a series of cases of general peritonitis due to the gonococcus, are convinced that surgical measures in this affection are of doubtful therapeutic value. But the question of differential diagnosis will always need careful discrimination and in doubtful cases operation should be performed. If the peritoneal cavity is entered, and a dry, plastic peritonitis, characteristic of gonorrhœal infection is discovered, the intestines should be disturbed as little as possible. If the tubes contain pus in appreciable quantities they should be removed. When pus tubes or a pelvic abscess are operated on by puncture *per vaginam*, irrigation should never be used. The symptoms of an acute gonorrhœal peritonitis are similar to the symptoms of other forms of general peritonitis. The clinical history of the disease, is, however, characteristic. The onset is very acute and violent. In a few days the symptoms subside, recovery is rapid, and there generally remains an intraperitoneal exudate, pelvic adhesions or pus tubes. This disease seems to be particularly fatal to children. This is probably due, in great measure, to the fact that children will not remain still. For the treatment of this disease should consist in absolute rest in bed, hot turpentine stupes, alternating every half hour with hot-water stupes, mild catharsis, liquid diet cold sponges for the high temperature, and stimulative treatment, according to the severity of the symptoms.

Russki Arkhiv Patologii, etc., May 31, 1902.

Certain Biological Differences between the Macro- and Microphages.—Sawtchenko demonstrates, by a number of examples, that macrophages contain in their protoplasm a cystase which possesses the property, under certain conditions (notably in the presence of a specific fixative), of easily digesting microbes. He explains the difference in the sensitiveness of micro- and macrophages toward various microbes, by the different composition of the fixative in the protoplasm of the various forms of leucocytes.

The Etiology, Pathogenesis, and Bacteriology of Simple Ulcers in Man, and Their Experimental Reproduction in Animals.—S. Timofeeff says that the microscopical examination of forty-seven cases of simple ulcer has shown that in the granular tissue and in the skin wounds which are transformed into ulcers, an amyloid degeneration occurs, which, however, is absent if ulceration does not take place. Cultures of the pus from these ulcers has shown the staphylococcus, the coli communis, and the pyocyaneus. In rare cases the bacilli lactis ærogenes, pyogenes fetidus, thyphi, subtilis, fluorescens liquefaciens, pneumo-bacillus Friedlander, diplococcus Fraenkel, streptococcus brevis, a bacillus resembling the bac. choleræ galinarum, aspergillus niger, and aspergillus fumigatus, have been found. Living cultures of the staphylococcus albus and bac. coli communis when injected in the subcutaneous tissue of rabbits, reproduced amyloid degeneration.

Subcutaneous Injections of Gelatin in the Treatment of Aneurysm.—N. V. Verchinine concludes from his investigations that this form of treatment has frequently been of the greatest service. The following points are to be borne in mind: (1) Injections of gelatin give positive results in the case of sacculated aneurysm, not complicated by serious alterations or concomitant effections of the vital organs. Otherwise the gelatin may be unable to prevent the development of the morbid process; (2) It follows that gelatin treatment should be initiated as early in the disease as possible; (3) It should be applied in a systematic manner, and, according to the severity of the case, will be suspended and reapplied at intervals; (4) The individual sensitiveness to the concentration and amount of gelatin to be injected should be carefully ascertained; (5) The injection should be made very slowly, and, of course, under antiseptic precautions; (6) A cure is not obtained by means of the destruction of the aneurysmal sac. Gelatin apparently acts by diminishing the volume of the sac and by thickening its walls.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE ILLNESS OF THE KING.

London, July, 1902.

The clinical history of His Majesty's malady is not so very unusual. You have heard that he seemed to have caught a chill and had vague pains attributed to rheumatism which compelled him to rest a little, and with the great ceremonial in front made him cancel some previous engagements. These vague pains recurred and, together with intestinal derangement, suggested graver disturbance. His Majesty was anxiously watched and the least symptom noted. The pains became localized and inflammation of the appendix vermiformis was indicated. This subsided, as it so often does, and it was hoped that the King might be able to carry out his great program. But recurrence took place too soon. It was clear at the consultation that suppuration had occurred, and an abdominal operation the only means of saving the King's life. It is said that, on being told that it was necessary, his Majesty said: "Operation or no operation, I must go to the abbey. I will not disappoint the people." Other sayings are circulated, all founded on the well-known character and cool fortitude of the King, who, when compelled to yield, displayed his usual courage and bowed to the inevitable. This mental attitude and a strong constitution stand him in good stead, and the satisfactory progress since leads us to look with some confidence for His Majesty's restoration.

The bulletins issued the next day were satisfactory, though expressed with caution. There had been a fair amount of sleep. On Thursday morning the news rapidly spread that the King had had a better night, and in the forenoon the bulletin, signed by all five of the medical attendants, confirmed this, spoke of refreshing sleep and said the King had "improved in all respects, his constitutional condition was quite favorable, and the state of the wound also satisfactory." This, after the second night, was all that could be expected. The evening's report by the same five consultants was that the King had passed a good day and taken nourishment well, was less weak, and the temperature normal. Later, at 11 P.M., it was added that he had maintained his strength and there was a returning desire for food. There had been some pain in the wound. In the morning it was stated that the King had had a fair night with some natural sleep. Appetite improving. The wound much more comfortable and, on the whole, the condition attended with less anxiety. In the afternoon the bulletin stated he had passed a comfortable morning and all the symptoms were satisfactory. The temperature still normal.

Our newspapers now contain little which does not, in some way, relate to the one subject of public interest. Estimates of the losses it entails on many and the direct ruin of some; amusing attempts of the versatile reporter to describe perityphlitis and instruct the public how to distinguish it from appendicitis, and even efforts to prognosticate results; full descriptions of crowds around the palace and of watchers pacing the streets to a late hour to see the last bulletin, and of some even watching the place all through the night; the services of intercession at the many places of worship; these all, no doubt, interest their readers and do no harm. But there is one thing to be condemned—the circulation of disquieting rumors for which there is no foundation. Some have not hesitated to repeat the old story that the King had cancer, and add to it that this operation was for that disease. Yet they must know that the Court physicians have over and over again denied it. One paper has even gone so far as to rebuke Sir F. Treves for the assurance he gave the public in a speech last November, and insinuate that he must have foreseen such a result. Of course it is not the high-class papers which are guilty of this, though some that pretend to respectability have erred—perhaps from lack of editorial supervision or calm judgment on so all-absorbing a subject at a time of such excitement.

Summing up the features of the case, the King's temperature has continued normal and he has had good nights. The latest bulletins speak of comfortable days, refreshing sleep at night, improvement of general condition, and less pain in the wound. This is dressed twice a day and the process causes distress, but his Majesty's fortitude never fails, to the delight of the surgeons and others. The drainage tubes have been removed and gauze plugs substituted. The discharge is diminished and quite inodorous, and granulation is proceeding satisfactorily. In fact, both locally and generally, there is promise of uninterrupted recovery.

The honors' list was at first among the things to be postponed, but this intention was altered by the King's own command, and he ordered the name of Sir F. Treves to be added, conferring on him a barouetcy. There are a number of other medical men in the list which has just appeared, but the names are scarcely discussed—all mention of them in conversation leading off to the prospects of the King.

A new "order of merit" is instituted by the King on the most exclusive basis. It is akin to the Prussian order of the same name, and will be conferred only on men of the highest distinction in literature, science, art, or naval and military service to the country. It will carry no title, no precedence, and no letters after the name. Only twelve men are included in the first list of this "most distinguished" order, and among those twelve is Lord Lister.

Surgical Suggestions.

Disinfectant Solutions of proved potency in destroying the plague bacillus are bichloride of mercury (1-1000), chloride of lime (1-100), caustic lime (1-100), carbolic acid (5-100). James Cantlie.

Treatment of Wounds.—Unless you suspect that the wound is not aseptic let it alone, for blood is a better antiseptic than water or blood diluted. Remove all clots and secure all bleeding vessels before closing the wound. For oozing apply hot lint or cotton mops wrung out of sterilized water and maintain pressure for a few moments. H. J. Banker.

Ectopic Gestation.—If called to a patient with a history of possible ectopic pregnancy who has just had severe pain in the pelvis, vomiting, fainting, pallor, with a weak voice and a rapid, feeble pulse, with abdominal tenderness, we should operate without delay.

H. F. Twitchell.

In Tetanus keep the patient in a dark room, where all is quiet and allow no visitors; give morphine and atropine hypodermatically, alteratives and sedatives in combination in large doses. Watch the case. Give chloroform to relieve spasms. E. D. O'Neill.

Articles for Handy Use in Obstetrics.—Hot and cold water, fountain syringe, hot-water bottle, scissors, sterilized sheets and towels, soft-rubber catheter, drinking cup, bed-pan, rubber sheets, antiseptic pads, and solution, plenty of light and pure air, safety pins. These, together with a good nurse and obstetrician, and with some good aseptic lubricant, mixed with the oil of patience and intelligent manipulation and care, will result in much being accomplished in confinement cases.

Willington Johnson.

Modern Method of Vaccination.—The skin is disinfected with warm boracic-acid solution. The lymph is then blown upon the skin, the skin put upon the stretch, and scarification accomplished through the layer of lymph by means of an ordinary triangular-headed surgical needle. In this way the corium is thoroughly opened up and the emulsion brought into direct relation with the cells of the true skin. Copeman.

For Aborting Buboes Christian applies eight parts each of ung. hydrargyri, ung. belladonnæ, ichthyol and lanolin or lint every second day. It is his opinion that at least half of the buboes due to gonorrhœa, herpes, and chancroid can be aborted if treated before suppuration has commenced.

Hydrogen Peroxide by softening the dried blood and serum is excellent for separating adherent dressings.

In Chronic Gonorrhœa, which has resisted all other methods of treatment. H. de Bran has obtained rapid and final cures from injections of picric acid in strengths of 1–200 and 1–100. In acute gonorrhœa one, two, or three injections daily, depending upon the pain experienced, are said to produce a cure in four or five days.

Fissured Nipples are cured by the application of a 3 to 5-per-cent. solution of potassium permanganate. The first applications are painful, but the pain soon disappears.

—Dombrovsky.

Book Reviews.

Acute Dilatation of the Stomach. By H. Campbell Thomson, M.D., M.R.C.P. New York: Wm. Wood & Co., 1902.

In the present monograph Thomson describes four cases of acute dilatation of the stomach. All the patients suffered from vomiting and collapse and did not respond to any medication; they ended fatally a few days after the onset of the disease. At the autopsy no obstruction of the pylorus was found in three of the cases, while it existed in one. In the latter case acute dilatation in consequence of chronic obstruction of the pylorus. As the disease is such an important one, both in its connection with medicine and surgery, this summary of its chief characteristics, together with the collection of recorded cases, will certainly prove useful.

Operations-Vademecum für den praktischen Arzt, von Dr. Edmund Leser, Professor an der Universität Halle, etc. Mit 84 Abbildungen. Zweite Vermehrte und Verbesserte Auflage. Berlin: S. Karger, 1902.

The second edition of this handbook on operative surgery is in some ways an improvement upon the first, though the new photographic illustrations mentioned in the preface with apparent pride are, as a rule, very poor, and have all the faults of such illustrations when poorly executed. The text conforms very closely to that of the first edition, which had considerable merit in its field, and does not, therefore, require extended comment. Descriptions of a number of recent surgical achievements have been added, in order to make the present issue meet present-day requirements.

Reports on Plans for the Extermination of Mosquitos on the North Shore of Long Island. New York: North Shore Improvement Association, 1902.

This volume (125 pages octavo, with large wall-map) is an elaborate and convincing argument for the practical success of anti-mosquito work anywhere along the Atlantic Coast. The North Shore plans originated with Mr. W. J. Matheson's successful work at Cold Spring Harbor in 1900, conducted under the direction of D. L. O. Howard of the N. S. Department of Agriculture. The present book contains reports by Mr. Henry Clay Weeks, Consulting Engineer, on the general problem to be solved, and on the specific steps to be taken with the marshes, salt ponds, lakes, and all the innumerable domestic accommodations of water throughout the territory. Mr. Weeks adds an appendix on the work of last year at Center Island, which was conducted under difficulties, but proved a gratifying success. Entomological reports on the local conditions are furnished by Prof. Chas. B. Davenport and Mr. Frank E. Lutz of the University of Chicago. Prof. N. S. Shaler of Harvard University reports on the marsh areas, and the economic questions concerned in their reclamation. The measures recommended are comparatively simple, and, barring the problems involved in draining large areas, surprisingly inexpensive. Drainage, cleaning of the margins of permanent streams, mill-ponds and lakes, and the destruction or petrolization of domestic accumulations of standing water, are the principal means recommended, with the additional agency of small fish in some instances, to destroy larvæ not destructible by any other means. The success of this work, as a whole, is already assured, and if the same enlightened and practical methods be adopted elsewhere, we may look forward to the time when the mosquito-plague, with torment and disease following in its wake, will be only a matter of history along the Atlantic Coast.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, etc., and F. F. Burghard, M.D., and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London, etc. Volume VI. The treatment of the Surgical Affections of the Tongue and Floor of the Mouth, the Pharynx, Neck, Œsophagus, Stomach and Intestines. Philadelphia and New York: Lea Brothers & Co., 1902.

The contents of this sixth section of Cheyne and Burghard's comprehensive work are pretty well indicated by the title page. As in the earlier sections, the authors have given us satisfactory descriptions and adequate illustrations and have endeavored to keep matters well up in surgical progress. Some of the chapters are very full and may be called excellent, while others leave something to be desired from every point of view. Among the latter we may place that on appendicitis, which does not cover the subject satisfactorily, according to our judgment. On the appearance of the next volume, we may congratulate the authors upon the completion of their task, and ourselves upon the possession of an excellent textbook in the field of surgery.

Sewage and the Bacterial Purification of Sewage. By Samuel Rideal. Second edition. New York: John Wiley & Sons, 1901.

The scope of this book of 300 pages is comprehensive, the arrangement is excellent, and the author speaks with authority on the subject of which he treats. The work is very valuable and should be read by all interested in sanitation and its most difficult problem—the disposal of excreta. The discussion of the development of the bacterial treatment of sewage, presenting, as it does, the most scientific and satisfactory method of sewage disposal, is very complete, and is brought fully up to the most recent advances in our knowledge of this subject.

The Medical Treatment of Gallstones. By J. H. Keay, A.M., M.D. Philadelphia: P. Blakiston Sons & Co., 1902.

The treatment of cholelithiasis, upon a rational clinical basis, has not been advanced by Dr. Keay's contribution. The author errs if he thinks that the surgeon is ready and willing to operate upon all individuals who are thought to have gallstones. On the contrary, such patients are treated medically, until, either from the oft-repeated recurrence of biliary pain and colic, or on account of acute inflammation of the gall-bladder, or from some other complication in the gall-bladder and ducts, an operation becomes indicated.

Of the 100,000 persons in the British Isles afflicted with gallstones (Keay's statistics) it was those with recurrent attacks of acute cholecystitis that constituted the 2,000 who were operated upon within the last ten years. The other 98,000 suffered merely with attacks of biliary colic, which, though intensely painful, is not a cause of death. Why should Dr. Keay be surprised then that the mortality in these 98,000 cases, treated medically, is low. The surgeon has to contend with acute inflammatory lesions attended with sepsis. If his statistics in these cases are compared with those of the internists in similar cases, an astounding difference in his favor would be discovered.

Under empyema of the gall-bladder the author writes as follows: "For the escape of pus nature has provided a method which is often quite as satisfactory as surgical drainage. If the bile ducts be open an escape for the pus is provided; further, an inflow of healthy bile may provide for the destruction or removal of the streptococci." Surely the author cannot seriously entertain the meaning of this statement. If the bile-ducts are open, how can there be an empyema of the gall-bladder? The very first essential for the establishment of an empyema is a closure of the cystic or common ducts. When this closure is spontaneously relieved, the empyema disappears without operation. If the doctor will tell us how to tell positively in which cases this spontaneous relief will occur, the question of when to invoke surgical aid will be very readily solved. But if such a fine prediction, as to what will happen in any one particular case, cannot be made, it is certainly far more rational to incise and drain a large pus sac than to permit a patient to carry around such a sword of Damocles, that threatens to descend upon his bared neck at any moment.

Visual Economics, with Rules for Estimation of the Earning Ability after Injuries to the Eyes. By H. Magnus, Med. Dr. of Breslau, Germany (Professor of Ophthalmology in the University of Breslau, etc.) and H. V. Wurdemann, M.D., of Milwaukee, Wis., U. S. A (Professor of Ophthalmology to the Milwaukee Medical College, etc.). For the use of the Medical and Legal Professions, Business Corporations and Insurance Officials. Milwaukee, Wis.: C. Porth, 1902.

Works devoted to the medicolegal bearing of partial or complete loss of vision from any cause whatsoever have heretofore been meagre and fractional in English ophthalmic literature. With the advent of this work we have presented an elaboration of the work of Prof. Magnus of Breslau, which is a recognized standard reference book in questions of this nature in Germany. Important additions have been made and the whole adapted to the requirements of American law. The volume, which consists of 142 pages with test type and various other plates added, is divided into four parts. Part first is devoted to the consideration of: "The legal status of the physician in relation to accident insurance and indemnity for accidents," etc. Part second takes up the "special consideration of various ocular injuries and visual defects." Part third, "Estimation of the pecuniary loss to the individual by reason of visual imperfections." Part fourth "Tables for estimation of the different forms of damage to the visual earning ability." The work evidences a most careful study of the economics of vision. The estimation of damages is reduced to mathematical formulæ, apparently on a rational, equable basis, sufficiently comprehensive to embrace all cases. The book is authoritative and should be in the library of every ophthalmologist. Physicians, casualty insurance companies, and manufacturers will find it a valuable aid in adjusting claims for injuries affecting vision.

De la Conjonctivite Granuleuse par le Dr. Z. Hourmouziadès, Aide de Clinique Ophthalmologique à l'Hospice National des Quinze-vingts. Avec Preface par le Dr. A. Trousseau, Médecin de la Clinique Nationale Ophthalmologique des Quinze-vingts. Paris: Société d'Éditions Scientifiques et Littéraires, 1902.

The first chapter of this small volume of 190 pages is devoted to a consideration of the anatomy of the conjunctiva. Then follows an historical sketch of granular conjunctivitis: subsequent portions of the text are devoted to the pathology of trachoma, its symptoms, duration, consequences, etiology, treatment, and treatment of the results of the disease. A few illustrations, the greater number of which are from other works, appear in the text. The author presents the current European views of the subject in a systematic and attractive manner. The work will be read with interest by many ophthalmologists.

The Surgery of the Rectum. By Charles B. Kelsey, A.M., M.D., Late Professor of Pelvic and Abdominal Surgery at the New York Post-Graduate Hospital, and Professor of Rectal Surgery in the University of Vermont, etc. Sixth Edition. Illustrated by 215 Engravings. New York: William Wood & Co., 1902.

The fact that this book is in its sixth edition is sufficient evidence of its popularity, and desirable qualities. Its author has long been well known in his specialty, and his opinions will always have weight. The present edition has been largely rewritten, and considerable new matter has been introduced in order to include certain advances and novelties in rectal surgery. The author's personal experience has been largely drawn upon, but the work of other men is by no means excluded, and a number of important chapters on the surgery of regions and organs immediately adjacent to the rectum have been introduced. As in previous editions, there are many useful and well-executed illustrations.

Diseases of the Nose, Pharynx and Ear. By Henry Gradle, M.D., Professor of Ophthalmology and Otology in the Northwestern University Medical School, Chicago. Pp. 547. Philadelphia and London: W. B. Saunders & Co., 1902.

This volume is in essence the record of a busy life of nearly twenty-five years' duration. From the author's long clinical experience, he has endeavored to provide a manual which should answer the many questions presenting themselves to the less experienced clinician, particularly in reference to those points not usually mentioned in the routine textbooks. No claim is made to the literary and historical completeness properly looked for in an encyclopedic treatise. Special attention has been given to topographical anatomy. The therapeutic measures recommended are those that have stood the test of the author's personal experience.

A review of the book convinces us that the goal aimed at has been fairly well attained. Naturally, all such books repeat much that has been already written, but there is in a clinical experience a personality that stamps each publication. The author has produced a work that is most creditable, alike to himself and to American rhinology and otology.

Les Fonctions Hépatiques. Par A. Gilbert et P. Carnot. Paris: C. Naud, 1902.

In man the liver represents the biggest and also most important gland of the system. The present manual deals in detail with all the varied functions of this organ. The liver is imbued with two kinds of secretions, one intern and another extern. The intern secretion of the liver has been discovered by C. Bernard, who proved its glycogenic action. This intern secretion has a bearing on the composition of the blood, its amount of iron, fibrin, and ferments; it also acts on the alimentary substances and arrests toxic products. The book is very well written and is of great interest to the physiologist as well as to the physician.

The Practical Medicine Series of Year Books, comprising ten volumes in the year's progress in medicine and surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. V, Obstetrics, Edited by Reuben Peterson, A.B., M.D., Professor of Obstetrics and Gynecology in the University of Michigan, and Henry F. Lewis, A.B., M D., Instructor in Obstetrics and Gynecology in Rush Medical College. Pp. 233. Chicago: The Year Book Publishers, 1902.

The purpose of this edition, as expressed in the introduction, to present "the digested views of the best writers . . . during the past twelvemonth" is carried out with fair success in this year-book.

Considerable attention is bestowed upon *syncytioma malignum*. It is interesting to note that the subject of placenta prævia has by no means been exhausted, judging by the number of articles that have appeared. Hyperæmesis gravidarum has apparently been of general interest, though it must be confessed that the treatment is quite as unsatisfactory as ever. Eclampsia covers seventeen pages, as its importance deserves; the same comment applies to extrauterine pregnancy, to which twelve are given.

Part II., on Labor and Its Complications, is excellent and contains a great deal of useful information, especially under the paragraphs on asepsis, spinal anæsthesia, dystocia, and malpresentations.

Puerperal infection, the most important section in Part III, covers ten pages, but contains little that is new. Part IV, on Obstetric Surgery, is short, but up to date. Altogether the book is a worthy companion of the rest of the series.

Hernia: Its Ætiology, Symptoms and Treatment. By Wm. McAdam Eccles, M.S., F.R.C.S. Second Edition, 233 pages, profusely illustrated. New York: Wm. Wood & Co., 1902.

Dr. Eccles is again to be congratulated on the appearance of the second edition of his book. Few changes have been made in the text, but new illustrations have been added. The student and the profession at large will gladly receive the work, for the subject of hernia is treated in its every detail, clearly, concisely, and accurately. The numerous excellent illustrations add very much to the value of the book. The publishers are also to be congratulated for their exceptionally fine book making.

Sanatoria for Consumptives. By S. Rufenacht Walters, M.D. Second Edition, pp. 446. $5.00 net. London: Swan Sonnenschein & Co., Lim. New York: E. P. Dutton & Co., 1902.

The sanatorium movement is now engaging the attention of the medical profession in all civilized countries, and any work giving up-to-date information on sanatoria must be a welcome addition to the literature on the subject. Up to page 318 this book is an exact reproduction of the first volume, which appeared in 1899. The chapter on British institutions has been rewritten and must be considered as the best recent account of the sanatorium movement in England. In the appendix of the present edition Dr. Walters summarizes recent changes in foreign countries up to 1902. It is to be regretted, however, that the author has not taken more pains in getting exact information concerning foreign institutions. For example, he describes the Pasteur Sanatorium, near New York, which has been extinct for nearly two years, and he omits to mention the first and one of the most important municipal hospitals for consumptives in America, erected in Cincinnati a number of years ago. The most modern and magnificent German establishment, the Wehrawald Sanatorium, considered a model institution, which was built in 1900 and has been in existence for over a year, does not receive any mention. The chapters on climatology, treatment, management of sanatoria, and prophylaxis are the same as in the first volume. To us it seems a serious omission that in the chapter treating of sputum and disinfection not a word is said in regard to drop-infection, a factor of contagion which must always be considered in institutions where there is an aggregation of consumptives. Taking it all in all, however, we have before us a work which is well worth perusing by all interested in the institutional treatment of consumptives, and the book will certainly help to stimulate the sanatorium movement throughout the civilized world.

The Physiological Pathology of the Circulation in Acute Pneumonia.—A. S. Maschke says that, aside from minor factors, the sum of our knowledge of the state of the circulation in pneumonia is as follows: The deleterious action of pneumonia on the circulation is primarily due to the accompanying toxæmia, not to the fever *per se*, but may possibly be secondarily somewhat influenced by the mechanic obstruction. The toxæmia produces this circulatory depression, not by poisoning the heart or the heart centers, and nerves, but by directly poisoning the vasomotor centers in the prolonged cord, and thus producing a vascular dilatation. The heart is affected only late in pneumonia, and then because of its own deficient coronary circulation brought about by the abnormal distribution of the blood-supply.—*The Cleveland Medical Journal.*

Therapeutic Hints.

Constipation.—

℞	Sulphuris loti	āā ʒi.
	Potass. bitartratis	
	Pulv. sennæ	ʒss.
	Syr. rhei	ʒi.
	Ext. cascaræ sagradæ	ʒii.

M. ft. confectio.
Sig. Tablespoonful at night.

—*St. Louis Clinique.*

Rosacea.—

℞	Sulphur præcip	ʒi.
	Pulv. camphoræ	gr.v.
	Pulv. tragacanth	gr.x.
	Aquæ calcis	
	Aquæ rosæ	āā ℥i.

M. ft. Lotio. Sig. Apply several times daily.

J. Nevins Hyde.

Migraine.—

℞	Sodium bromide	ʒii.
	Tincture of strophanthus	ʒss.
	Cocaine hydrochlorate	gr. iss.
	Orange flower water	℥vi.

M. Sig. Tablespoonful t. i. d. in milk.

M. Kowalesky.

Headache.—

℞	Quinine hydrochlorate	ʒi.
	Capsicum	gr. xii.

M. ft. pill No. xii. Sig. 1 pil. t. i. d.

Indications, used in brow ague and malarial cachexia.

For Pruritis Ani.—

℞	Ac. carbolic	gr. xxx.
	Calomel	ʒi.
	Tar	ʒiss.
	Menthol	gr. xx.
	Zinc oxide	ʒii.
	Simple cerate	℥ii.

Wash the parts with hot water and spread the ointment on a cloth. Apply and fasten with a T-bandage.

Itch.—

℞	Menthol	gr.xl.
	Ichthyol	ʒiv.
	Calcium sulphide	ʒi.
	Sulphur	ʒii.
	Lanolin	
	Olive oil	āā q. s. ad. ℥iii.

M. S. Apply as required.

C. E. Boynton.

Pertussis.—

℞	Pulv. bellad. rad	gr. $\frac{1}{8}$
	Pulv. Doveri	gr. ss.
	Sulph. sublim	
	Sacch. alb	āā gr. viii.

M S. at dose. Repeat from 2–10 times daily p. r. n.

Hyperexcitability of Stomach with Pyloric Spasm, etc.—

℞	Hydrat. chloral	gr. xv.
	Aquæ	℥iss.

From 15-30 drops in water after each meal.

Hydriatic Treatment of Pneumonia.—The best way to combat local congestion of the lungs is to produce a cutaneous hyperæmia of skin of back by prolonged applications of heat to the back, alternating once an hour with cold applications, as this will increase the physiological action of the heart. Apply during the early stages of disease cold or ice compresses to chest, being careful not to chill the tissues. Cold to chest causes contraction of surface vessels and to the pulmonary vessels. Copious draughts of water, enemas, short-sweating packs, and short, hot baths will encourage the illumination of poisons. All hot applications should be supplemented by short cold treatment. The dietary should consist of well-dextrinized cereals and easily-digested fruit rather than fresh foods.

David Paulson.

Burns in Infancy and Childhood.—When more than one-third of cutaneous surface is involved in burns the outlook is unfavorable. Aromatic spirits of ammonia is recommended to meet indications of vital depression. Opium in doses proportionate to age produces quieting effect. Picric acid in 1 per cent. watery solution gives almost immediate relief from pain and healing takes place rapidly. It is best not to remove dressing next to skin, but simply wet and cover with absorbent cotton; this diminishes pain and danger of outside infection. Iodoform is objectionable on account of odor and danger of iodoform dermatitis. Permanent bath is, perhaps, the best means of offering comfort in deeper and more severe burns. Cotton oil is best for soothing. Most important point is to refrain from removal of dressings.

—Allen.

Tabes.—Negro has used santonin in from 5-20 grains every three hours for the relief of the lancinating pains of tabes, with great success.

Pertussis.—J. D. Kelly states that he has witnessed favorable results from the use of calcium sulphide in the treatment of pertussis. He gives one grain every four hours to a child five years of age.

Sciatica.—Kuhn states that deep injections of antipyrin, at a point midway between the great trochanter and the tuberosity of the ischium, will relieve the pain of sciatica.

Decinormal Salt Solution in Cholera.—Salt solution supplies fluid to the anhydræmic blood, it replaces the loss of heat, dilutes the thickened tissue fluids, stimulates the kidneys to action, and aids in eliminating toxic material circulating in the blood and exercising deleterious effects upon the tissues and nervous system.

G. A. Himmelsbach.

The Ocular Expressions of Renal Disease.—Howard McI. Morton says that renal changes, however distinctive, are not of themselves conclusive evidence of Bright's disease. But their value, while not absolute, is great, and in the presence of urinary symptoms of a confirmatory nature, is absolute, and their prognostic importance is then both great and grave. The typical picture of albuminuric retinitis is characterized clinically by hemorrhage in the retina, white spots of degeneration and neuritis, with sclerosis of the fibers of Muller, which give a characteristic stellate arrangement of white spots about the macula. These changes are usually bilateral, symmetrical, and of about equal severity. Uræmic amaurosis may occur in any of the various forms of renal disease in which renal insufficiency permits the accumulation of certain toxic materials. Tirard thinks that the uræmic blindness of acute nephritis is a transient symptom, and its short duration very marked in comparison to prolonged blindness of the uræmia of chronic nephritis. Its occurrence in pregnancy is a grave symptom. The prognosis of retinitis occurring in the albuminuria of pregnancy is far less unfavorable in regard to both vision and life than in the other forms of renal retinitis. The retinal changes of diabetes are rare, and afford nothing distinctive of sugar in the urine. Cataract occurring in these cases is common. Optic atrophy occasionally occurs. It is well known that œdema of the integument of the lower lid takes place in the general œdema of the terminal stages of chronic kidney disease. Œdema of the conjunctiva occurs, but is rare. —*Northwestern Lancet.*

The Surgical Significance of Carbuncle of the Upper Lip and Face.—James E. Moore holds that with our present knowledge of this disease we are warranted in the conclusion that the so-called conservative or expectant treatment is only applicable to those cases in which the disease is so situated and is of so mild a character that the natural tendency is toward recovery. It certainly never is indicated when the disease is on the upper lip and face. When in this location, the disease is accompanied by a mortality of 50 per cent., and is not to be trifled with. It is the physician's imperative duty to urge early operation, then if the patient or his parents refuse consent the responsibility is theirs. The highest success obtainable is secured by very early diagnosis, and prompt treatment, for by this course we save our patient, and the scar is insignificant.—*The St. Paul Medical Journal.*

Society Reports.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-fourth Annual Congress, Held in Boston, Mass., May 26, 27 *and* 28, 1902.

John W. Farlow, M.D., of Boston, President.

First Day—Monday, May 26.

The meeting was called to order by the President, Dr. John W. Farlow of Boston, in the Boston Medical Library.

President's Address.—Dr. Farlow began his address by pointing out the great variety of subjects treated of in the program of this meeting as compared with that of the last meeting held in Boston, ten years ago. This he took to be a fair indication of the widening scope of their specialty. To show what kind of instruction was needed at the present time in this department the speaker described the clinical exercises and lectures which are given in the laryngological department of Harvard. The complaints of their patients could be broadly classed under two headings, viz., (1) Those due to nasal obstruction, and (2) Those dependent upon increased secretion. The feeling of a need of air occurs in anæmia, debility, over-work and in a great variety of other disorders. He felt that the use of cocaine had incited too much unnecessary nasal surgery. Much experience and skill were necessary in order to recognize by digital examination, without an anæsthetic, the existence of adenoid hypertrophy. In his opinion, the relation of the nose and throat to voice production had not received the attention it deserved.

Tumor of the Pharynx; an Accessory Thyroid Gland; Removal Followed by Myxœdema.—Dr. E. L. Shurly of Detroit presented this report. The patient, a girl of sixteen, was apparently well nourished, and examination revealed neither enlargement nor diminution of the thyroid gland. There was a tumor, about the size of a hen's egg, attached at the base of the tongue, a little to the right of the median line and near the epiglottis. His diagnosis was adenoma. The tumor was removed by means of a snare under chloroform anæsthesia, pharyngotomy not being considered desirable because of the resulting scar. The operation was followed by rather persistent hemorrhage. Some time afterward she was brought back to him with well-marked myxœdema. She was then put upon thyroid extract, five grains, three times a day. The speaker said that about twenty-five cases of accessory thyroids of the tongue or pharynx had been reported by American surgeons. In all of these there had been an absence of serious subjective or objective symptoms, and myxœdema had been noted only rarely after removal.

Dr. F. I. Knight of Boston and Dr. W. E. Casselberry of Chicago reported somewhat similar cases.

Subglottic Sarcoma; Removal Endolaryngeally with Galvanocautery Snare.—Dr. J. W. Gleitsmann of New York read this paper, reporting a case (see Medical Record, July 5, 1902, page 12).

Dr. John N. Mackenzie of Baltimore thought the operation through the mouth for laryngeal cancer was unworthy of serious consideration, for it was impossible to map out laryngoscopically the entire extent of the morbid process; this could not be done even after division of the thyroid, or, as he had shown on several occasions, after extirpation of the larynx itself.

Dr. D. Bryson Delavan of New York said he understood the case under discussion was one of sarcoma and not carcinoma; it was well known that carcinoma was not to be treated in this way. He was not so sure as the first speaker regarding the value of the external operation in all cases, and certainly the achievement chronicled in this report was an exceedingly important one and afforded proof that there were still some laryngologists possessed of the old-time skill.

Dr. W. Kelly Simpson of New York said that the tumor had a pedicle and presented all the conditions favorable for an endolaryngeal operation. In cases of extensive malignant disease, the external operation seemed to him preferable, yet the removal of the larynx was so fatal that it was justifiable to attempt to extirpate these tumors by the mouth under favorable conditions.

Dr. Gleitsmann, in closing, said that much of the success of the operation was to be attributed to the tractability of the patient. The latter had been subjected to a course of training, consisting chiefly of breathing exercises, and after the growth had been divided by the snare, the patient was told to inhale deeply. The additional space obtained at this moment was taken advantage of for bringing the tumor upward. He thought the position taken by Dr. Mackenzie was an extreme one; it should not be forgotten that patients had been both relieved and cured by other measures than the radical operation.

A Case of Epithelioma of the Larynx; Thyrotomy; Death in Four Months.—Dr. Charles H. Knight of New York reported this case. The duration of the disease was about three years. Instead of the usual progressive development of the disease, there were periods of marked remission and positive improvement. There was tardy invasion of the lymphatics, but the involvement was speedy after surgical interference. In this case there was much contradictory microscopical testimony, a point of special interest because specimens representing the whole thickness of the growth had been submitted to the pathologists for examination. Careful and prolonged study of all the symptoms, both subjective and objective, were necessary in cases of this kind. A cancer of the larynx, so extensive as to demand complete removal of that organ with the adjacent parts, was not operable. The age, temperament, environment, and general condition of the patient must be taken into consideration, as well as the character of the growth.

Dr. John N. Mackenzie said that he had been severely criticised for making the statement that thyrotomy with curettage or removal of all the visible portions of the neoplasm, was in direct defiance of the rules which should govern us in the treatment of carcinoma, and was a return to a method of treatment that had been abandoned over a century ago.

Dr. H. L. Swain of New Haven said that if a case presented itself, which was limited in extent, and there seemed to be a fair chance for a good result from the simpler methods, he would always feel justified in adopting these before resorting to the terrible surgical operations advised by some. If these cases were to be operated upon at all, however, it was folly to do a thyrotomy and attempt by scraping to get rid of the growth. The removal of the larynx and all of the neighboring glands should be done; if this were denied, then the patient should be left alone.

Dr. W. E. Casselberry of Chicago objected to the statement of the author that a carcinoma, so extensive as to require a complete laryngectomy for its removal, is inoperable, and reported cases in support of his contention. The two cases that had been reported here seemed to him exceptional and calculated to place in a false light the subject of the treatment of malignant disease.

Dr. D. Bryson Delavan commended to the thoughtful attention of all laryngologists a monograph just written by Dr. Frank Hartley of New York. This article demonstrated beyond all question that in certain cases complete laryngectomy is a very valuable resource. Dr. Delavan thought the discussion of two years ago had done harm rather than good, and he was sorry that his friend from Baltimore had not seen the error of his ways. It was time that we should move sharply and clearly differentiate our cases.

Dr. W. Kelly Simpson advised that the operation of removing the larynx should be undertaken only by an experienced general surgeon.

Dr. E. Fletcher Ingals of Chicago concurred with the last speaker He added that, although Dr. N. Senn was known to do a very thorough operation in cases of carcinoma of the larynx, he understood that not a single one of the persons so operated upon by this distinguished surgeon could be found alive after four years.

Dr. J. Payson Clark of Boston referred to a case operated on January 4, 1897. The growth was limited to the left vocal cord, and there was but little infiltration of the muscular tissue on that side of the larynx. A thyrotomy was done and all of the soft structures on the interior of the larynx were removed. The patient had experienced no trouble since the operation and reported that at present his voice was fairly strong.

Dr. C. H. Knight said he believed the operation in his case was an improper one, yet the patient had positively declined more radical measures. His own limited experience with the complete operation had been decidedly discouraging as regards the future of the patient.

The X-Ray in the Treatment of Malignant Disease of the Larynx.—Dr. D. Bryson Delavan of New York was the author of this paper. He said that, so far as he knew, not a single case of carcinoma of the larynx had been reported as cured by the *x*-ray. From the improvement noted in cases of *x*-ray treatment of cancer of the tonsil and pharynx, advanced and extensive cancer of the neck should be given a trial of the *x*-ray treatment. This seemed entirely justifiable when the progress of the case was not very rapid, because the effect of such treatment could usually be determined in two weeks.

Dr. H. L. Swain said that in three cases of inaccessible malignant disease the symptoms had been relieved and the progress of the disease apparently checked by the treatment. Two inoperable cases of carcinoma for adenosarcoma of the nose had exhibited the greatest improvement. In one case, after about fifteen treatments, the growth had been reduced fully one-half and the pain relieved. As the growth was internal, it was reasonable to expect improvement also in laryngeal cancer.

Dr. W. E. Casselberry of Chicago said that in one of Dr. Pusey's cases, one of deeply-situated carcinoma of the larynx, there had been so little improvement after four weeks' treatment that it was discontinued During the next four weeks, however, without any treatment, the case exhibited remarkable improvement. From this experience it seemed probable that two weeks was too short for deciding whether or not the *x*-ray would prove useful in a given case of malignant disease of the larynx.

Dr. J. Payson Clark of Boston reported the case of a man of fifty-nine years with extensive carcinomatous infiltration of one side of the larynx and a well-marked cancerous cachexia. The second and third applications of the *x*-ray relieved the pain, but the patient was too feeble to come for further treatment.

Rapid Dilatation and the Prolonged Use of Intubation Tubes in Cicatricial Occlusion and in Stenosis of the Larynx.—Dr. George A. Leland of Boston spoke of a laryngeal case in which Dr. Francis H. Williams employed the *x*-ray for a long time. For three or four months the results were quite satisfactory, but finally there was a sudden increase of subglottic infiltration, necessitating tracheotomy.

The Development of the Tonsils.—Dr. Charles S. Minot, Professor of Embryology at Harvard University, gave an interesting discourse on this subject, illustrated by models and specimens.

The Growth of the Face, and Especially of the Pharynx.—Dr. Thomas Dwight, Professor of Anatomy at Harvard, made an address on this subject, using models and novel and originally-prepared specimens to elucidate the subject.

Some Remarks on the Anatomy of the Inferior Ethmoidal Turbinate, with Particular Reference to Cell Formation.—Dr. Howard A. Lathrop, Assistant in Surgery at Harvard University, made some remarks on this subject, pointing out the surgical importance of these ethmoidal cells, and showing by lantern slides the important features brought out by his study of one thousand turbinates.

Second Day—Tuesday, May 27.

Discussion on Acute General Infections Originating in the Lymphoid Tissue of the Upper Air Tract.—Dr. J. L. Goodale of Boston opened the discussion by reviewing the pathology of the tonsil. His experiments demonstrated that finely-divided substances in the crypts of the tonsil are capable of entering the tonsils proper through the interfollicular lymph spaces. He had found a complete absence of bacteria in the tonsillar tissue proper, although the crypts might contain large numbers of them. So far as he knew, every textbook on laryngology made the erroneous statement that the leucocytes found in the tonsils are phagocytes. He did not regard the tonsils as protective organs in the sense of themselves producing phagocytic leucocytes, but rather as presenting open channels along which polynuclear leucocytes make their way from the blood vessels along the surface of the mucous membrane. The number of the leucocytes in the crypts depends directly upon the presence of substances with positive chemotaxic properties. Acute infecting bacteria multiply in the tonsillar tissue proper only when penetration has been effected into the centers of the follicles. If the interfollicular abscesses discharge into the veins, the conditions are proper for the development of a general septicæmic infection.

Dr. H. L. Swain of New Haven discussed the symptoms and treatment of tonsillar infection. He called attention to the important fact that this region is an active part of the lymphatic system. The lymph node normally is a place of detention where cells are quarantined and the lymph cleansed. It was not surprising that acute inflammation of this part of the lymphatic system should give rise to such profound constitutional disturbance. The fact that such disturbance orginated chiefly in connection with infection of the faucial or pharynx tonsil was, perhaps, explained by the more direct connection with the lymphatic trunks and their much greater mass. The tonsils were now conceived to be the point of entrance of the germs causing acute articular rheumatism. In one of the writer's cases, acute Hodgkin's disease and lymphadenoma had originated from the tonsil and had terminated fatally. Very young children were, as a rule, affected by purely third tonsil inflammation. In children of from three to six years the results of inflammation of the tonsil were apt to be very lasting. Often such an attack was ushered in with fever and with almost no local signs except, perhaps, a slight stoppage of the nose. After one or more days of fever, headache and foul breath, the attack often passed off, all the examinations of the family physician having proved negative. In a few days, perhaps, the neck would swell, the child would become genuinely ill and the diagnosis then would be lymphadenitis. These cases were especially interesting because of the absence of the marked local manifestations. Even in young children it was usually possible, by spraying out the nose with a weak solution of cocaine to make an inspection of the parts and accurately estimate the size of the third tonsil and the existence of follicular inflammation. Friedlander had recently reported that in 133 autopsies, made at the New York Foundling Hospital, tubercular lymph nodes were found in the chest in every case irrespective of the cause of death. The tubercular infection was believed to have originated in the tonsils, a belief which indicated the vast importance of the subject under discussion. In the opinion of the speaker, the tonsils should be looked upon as just as normal as other lymph nodes in the body, but if they were known to be infected or otherwise abnormal, they should be removed. The instillation of boric acid and suprarenal solution into the nose not only opened up the passages, but cleansed them. A weak solution of peroxide of hydrogen was sometimes beneficial, but its prolonged use was undesirable because of the irritation produced, and in every instance its application should be followed by an alkaline spray or wash.

Dr. E. L. Shurly of Detroit said he believed these lymph nodes, or tonsils, had an important physiological function in assisting the fermentation of food lodged there, and in the destruction of saprophytic organisms falling there.

Dr. R. C. Myles of New York was of the opinion that the normal tonsil represented from thirty to sixty cubic millimeters. Dr. Swain's experience agreed with his own.

Dr. Clarence C. Rice of New York suggested that the physician frequently aided the progress inward of infection by the use of such astringent applications as the nitrate of silver. Soothing disinfectants and relaxing gargles should be used rather than cold astringent applications.

Dr. John O. Roe of Rochester observed that the common opinion that a tonsil, when diseased and requiring removal, must be hypertrophied, was a fallacy.

Dr. George A. Leland of Boston said that, according to his experience, children affected in the way described by Dr. Swain invariably had inflammation of the middle ear.

Dr. W. E. Casselberry said that it was desirable, when treating young children, to substitute a medicine dropper for the spray, as the miniature douche that could be produced by the instantaneous propulsion of a little fluid with a medicine dropper was quite effective and could be more readily used for these patients. For diagnostic purposes he advised using as weak a solution of cocaine as 1–10 per cent.

Dr. Samuel Johnston of Baltimore advised commencing the treatment by a calomel purge, followed by citrate of magnesia. A saltspoonful of a powder, composed of 2½ drachms each of the biborate, bicarbonate and salicylate of soda, four grains of carbolic acid and four minims of oil of cassia, is to be dissolved in a tumbler of hot water and used as a gargle every half hour or hour. Under this treatment a cure was usually effected in a case of acute follicular tonsillitis, in three days.

Dr. W. Kelly Simpson of New York thought this disease was self-limited, and was affected little, if any, by any treatment.

Dr. E. Mayer of New York deplored the use of the finger for curetting or for diagnostic purposes. The presence of adenoid tissue on the posterior pharyngeal wall almost surely pointed to adenoid tissue in the nasopharynx.

Dr. E. Fletcher Ingals of Chicago believed it was possible to abort acute follicular tonsillitis by energetic measures. He now almost invariably applied a 50 per cent. solution of guaiacol and oil. It causes severe burning for about thirty seconds and then usually gives complete relief from pain for many hours. By this treatment three-fourths of the cases could be aborted, and it was worthy of trial even when the disease had existed for three or four days.

Dr. J. H. Bryan of Washington, D. C., remarked that he had suggested having a discussion on this subject, having been convinced that the lymphoid tissue in the post-nasal space is a fruitful source of systemic infections.

Dr. J. L. Goodale said that while he agreed with Dr. Rice about the use of astringents, such applications were of distinct service in the apparently infectious, though secondary, inflammations of the mucous membrane of the soft palate and uvula.

The So-called Immunizing Treatment of Hay Fever.—Dr. E. Fletcher Ingals of Chicago read this paper, detailing his observations. The fluid extracts of the pollen from golden rod and ragweed were combined in equal proportions and given four times a day, beginning with a dose of two minims and gradually increasing up to twenty minims. The patients were instructed to continue the remedy for a week or two and then stop it if there were no symptoms of hay fever. Twelve patients, or 67 per cent., asserted that they were relieved by the internal use of this preparation. In several instances the hay fever returned on stopping the medicine, but disappeared on resuming it. Thirteen believed they were benefited by using it in spray form. Sixty per cent. of the whole number were subject to asthma during the attack, and half of these reported benefit or entire relief from the asthmatic symptoms, as they believed, from the use of this medicine. In two cases it caused disturbance of digestion, and in one it repeatedly gave rise to menorrhagia and had to be discontinued. The dose used of the fluid extract was less than one-fourth that ordinarily recommended, yet an attempt to increase the dose in many instances seemed to disturb digestion. According to the eclectics, ambrosia is a hæmostatic, and this, perhaps, explained the fact that many of the patients spoke of a dryness of the nasal mucous membrane. If this were found to be the uniform action of this remedy it might prove of value. About 25 per cent. of those benefited by this treatment attributed their hay fever to ragweed, and none to golden rod. It should be remembered that these remedies were used very little in medicine; hence it was not improbable that the preparations employed had been long in stock and were of low efficiency. These sources of error would be eliminated during the coming hay-fever season.

Some Clinical Features Regarding Hay Fever, and Its Rational Treatment.—Dr. George B. Hope of New York read this paper. For several years past, the author said, he had studied carefully hypertrophic conditions of the nose. It was pointed out that the pollen theory of the origin of hay fever had received a severe set-back from the occasional occurrence of cases of perennial congestive activity of the nose. In every instance coming under his observation the clinical symptoms of hay fever had been associated with the middle turbinate hypertrophy, and the surgical treatment of this condition had invariably resulted in benefit, though not always in cure. A snare was used for the ablation of the hypertrophied turbinate tissue.

Dr. John O. Roe of Rochester said he still believed that hay fever was a reflex disorder arising from disease in the nose, quite commonly in the middle turbinate.

Dr. J. N. Mackenzie of Baltimore said that if any benefit had occurred in Dr. Ingal's cases it should be attributed to a psychical effect upon a neurotic individual. It were better these experiments had not been made, for they opened the door to much irregular practice.

Dr. F. I. Knight of Boston preferred to speak of "autumnal catarrh" as more specific than the term hay fever. Such catarrh was recognized as having three important etiological factors, viz., (1) local irritation; (2) local disease and (3) a neurotic tendency. He had seen some relieved by attention to local conditions, but very few cured.

Dr. W. E. Casselberry said that the operation on the middle turbinate was neither a painless nor a bloodless operation, and extreme difficulties had arisen at times from hemorrhage and sepsis. Even with the probe he had not always been able to detect the sensitive areas upon which Dr. Roe laid so much stress.

Report of a Case of Stammering.—Dr. G. Hudson Makuen of Philadelphia reported this case and presented the patient, a man of thirty years, who had stammered severely for twenty-eight years. This man had appeared to have no conception of the time element in speech, and spoke with great rapidity. The organs of speech being unable to meet the demands made upon them, inco-ordination resulted, and the ear soon failed to recognize the defect. The ear of the stammerer, therefore, must be trained to recognize normal speech before he can be taught to use it. So important was this element in the treatment of stammering that certain so-called stammering cures depend entirely upon this. The patients are sometimes taught to beat time with the foot, or by nodding the head, or by the use of the swinging pendulum. The speaker thought that in most cases it was better to try and educate the person to recognize the proper time element without such extraneous and artificial devices. In the case under consideration the treatment consisted in rhythmical exercise of the organs of respiration and phonation, making use of the physiological elements of our language. This served the double purpose of familiarizing the patient with correct forms of speech and training the ear with forms and sequences. The patient came to him last January and remained under treatment two weeks. His father and sister were also stammerers. The patient was taught to beat time with his own respiratory organs, counting one, two, three, four, etc., and each time increasing momentarily the size of the abdomen. He was then taught after the same fashion to speak in syllables.

Changes in the Form of the Arytenoid Cartilage Occasionally Seen in Singers and Actors.—Dr. Clarence C. Rice of New York read this paper. He said that when there was a lesion of the larynx existing alone and independently, it might be stated, as a rule, that it resulted from the use of the voice in an extraordinary trying way. A case was cited in which an actress was compelled to shriek loudly at each nightly performance. Examination showed that the convexity of the proximal surfaces of the arytenoids had been hammered flat. Of course the indication was to change the pitch of vocalization. The overuse of certain groups of laryngeal muscles was apt to be associated with too little use of the other muscles. It was not uncommon to observe a remarkable compensatory increase in the size and function of the false vocal bands in cases of impaired action of the true cords. He knew of a lady singer who successfully retained her position in a choir despite the fact that there was paralysis of the left vocal band. Choked voice from over- or impaired use of the voice was most frequently seen in second-rate singers, and was commonly dependent upon an effort to use the voice either above or below its proper range. For this reason the prognosis was not good.

Dr. S. W. Langmaid of Boston said that often the first symptom was the losing of the high notes, because such undue muscular effort was required that the patient shrunk from using such force.

An Epidemic of Non-suppurative Cervical Adenitis.—Dr. Dr. S. W. Langmaid of Boston made this report. Four cases were reported in which there was an initial chill and a sharp rise of temperature, followed by extreme dysphagia and great debility, with moderate swelling in the throat, and subsequently a rather sudden development of a cervical adenitis. There was no involvement of the larynx in these cases, and hence in this respect they were different from a series reported to this Association by Dr. Glasgow in 1890. The speaker suggested the possibility of these cases being dependent upon the absorption of noxious matter in the region of the tonsil.

Drs. H. L. Swain, G. A. Leland, J. L. Goodale, W. K. Simpson, F. C. Cobb, A. Coolidge and J. W. Farlow all reported having seen similar cases.

The Chemical Pathology of the Saliva and Pharyngeal Secretions (Sialo-Semeiology) as a Means of Diagnosis.—Dr. D. Braden Kyle of Philadelphia read a suggestive paper with this title. The author said that he had studied the composition of the saliva since 1895, and had become convinced that such research rendered valuable aid in diagnosis. His investigations included normal saliva as well as hypoacid and hyperacid saliva. It had been found that the saliva was liable to physiological oscillation in constant relation to the fluids and solids of the body. It was a well-known clinical fact that the saliva from certain persons is exceedingly poisonous, and it is quite probable that some of the reflex diseases, as for example, asthma, might be traced to perverted salivary secretions. In answer to questions, Dr. Kyle said he had taken pains to exclude bacterial action. The saliva in the cases referred to as poisonous was essentially poisonous in its chemical composition, irrespective of any bacteria present. The cause of the foul odor he believed to be hyperacidity of the secretions with the presence of ammonium salts, thus leading to the formation of hydrogen sulphide. He had succeeded in curing certain cases of hay fever by attention to the secretions.

Third Day—Wednesday, May 28.

Syphilitic Contraction of the Pharynx.—Dr. George A Leland of Boston presented a patient showing extensive syphilitic disease of the nose with contraction of the pharynx.

A Case of Incised Wound of the Larynx.—Dr F. E Hopkins of Springfield reported this case

A Case of Foreign Body in the Bronchus.—Dr. Hopkins also reported this case. A young girl, while skating, placed a toy balloon, with reed attachment, in her mouth. It was suddenly drawn down through the larynx into the trachea by inspiration while laughing. The girl's condition had appeared desperate on her arrival at the hospital. She took the anæsthetic badly, and it became necessary to do a tracheotomy hurriedly. The body was found in the right bronchus, and was removed with forceps, the patient seeming at the time to be moribund. However, after the removal of the toy, her recovery was uneventful.

Dr. E. Mayer of New York thought the tracheotomy should be done under local anæsthesia, and then, if necessary, a general anæsthetic could be more safely administered and the exploration proceeded with.

Dr. Price Brown of Toronto, Ont., reported a case in which he had done tracheotomy under general anæsthesia, the dyspnœa and cyanosis passing away under the influence of the anæsthetic. The case being obscure, and the child small, the tube was left in for four days. It was then taken out, whereupon the patient had a fit of coughing and expelled a long grain of corn. Although it had remained so long a time in the respiratory passages, there was no evidence of germination.

Dr. H. L. Swain of New Haven referred to a case in which a child of three months swallowed about half a peanut, which became lodged in the respiratory passages, but gave no definite signs of its presence and exact location. Finally, after five months, the intruder was expelled and, strangely enough, showed no distinct softening.

Dr. D. Bryson Delavan of New York was inclined to think the case reported in the paper was unique in that the foreign body was the largest reported to have been inhaled into the trachea. He looked upon a general anæsthetic as exceedingly dangerous in these cases.

Dr. A. Coolidge, Jr., of Boston, said that when he had reported his case at the Chicago meeting he had stated his belief that the possibility of inspecting the trachea and bronchi by direct illumination took away a great deal of the danger of inhaling such bodies. It was much safer to attempt to remove the foreign body than to leave it there, though a waiting policy was certainly preferable to fishing around blindly in the bronchi with long forceps. The bronchi are very tolerant of foreign bodies, and in a self-possessed adult cocaine anæsthesia was all that was required for the performance of tracheotomy.

Dr. W. Kelly Simpson of New York said that if the foreign body were very small and it was making excursions into the trachea, O'Dwyer's cylindrical foreign body tube would be found an excellent means of favoring the expulsion of the body by coughing.

Dr. Hopkins said that the points made against the use of general anæsthesia were certainly well taken, but he had been forced to use such an anæsthetic because the patient was a nervous and excitable girl. She had held the toy in her mouth with the rubber end downward, and this seemed to explain why so large an object had been drawn through the larynx.

Treatment of Empyema of the Sphenoidal Sinus.—Dr. F. Whitehill Hinkel of Buffalo read this paper. It was based upon an experience of twenty cases, in all of which the diagnosis had been confirmed by the operation.

The pain in the head was uniformly severe, but he had been unable to find any distinct localization of this pain. An occasional symptom was pain in the ears and along the temperoparietal region. Eight cases had presented chronic cough with purulent expectoration. Two cases had complained a good deal of pharyngeal catarrh. The only assurance of the existence of a sphenoidal empyema was the discovery of pus welling up from the ostium or from the sinus when irrigated. He had found polypus associated with disease of this sinus in seven cases. There were no characteristic symptoms of disease of the sphenoidal sinus. His experience with irrigation of the sphenoidal sinus through the natural opening had not been satisfactory, as he had not been able in this way to relieve the symptoms and control the empyema, and the irrigation often gave rise to headache. The anterior wall should be broken down with a sharp spoon. The method of approach through the maxillary sinus presented serious difficulties. After a free opening of the anterior wall of the sphenoidal sinus, he had observed one case of severe secondary hemorrhage occurring ten days subsequent to the operation. This hemorrhage he attributed to injury of the sphenopalatine artery at the operation. Comparatively few such cases of hemorrhage had been reported.

Dr. J. H. Bryan of Washington, D. C., commented upon the anatomical variations met with, and declared that no two sphenoids that he had examined were alike. The dangerous character of this region had been alluded to in the paper. The carotid artery runs very near by, and if a larger piece of bone than intended were detached there was great danger of injuring this blood vessel, or of opening the orbital cavity and producing an orbital abscess. The treatment of these cases was difficult.

Dr. E. Mayer said that he thought he had discovered a new factor in the etiology of sinus affections, *i. e.* automobile riding. The rapid motion of the air apparently forces disease germs into the accessory sinuses.

Dr. W. E. Casselberry called attention to the association of syphilis with suppuration in the maxillary, ethmoidal and sphenoidal sinuses.

Dr. J. W. Farlow reported an interesting case of empyema of the sphenoidal sinus. By the use of the Grünwald wedge-shaped hook a large opening could be secured, and the sinus curetted and explored.

Dr. D. Bryson Delavan emphasized the remark made by Dr. Casselberry by stating that he had, in several of his own cases, secured almost perfect results without opertion simply by administering the iodides to combat an underlying syphilitic taint.

Dr. Hinkel said that he had never relieved any of his cases of sinus empyema by antisyphilitic medication. The association of dull pain in the eye with hemicrania was an important point in the symptomatology.

Adenoma of the Nose.—Dr. E. Mayer of New York reported a case of this kind in which he had removed a papillo-adenoma weighing 117 grams. It had caused extensive absorption of bone.

The Use of Rubber Splints in the Treatment of Curvature of the Triangular Cartilage.—Dr. Price Brown of Toronto read this paper. He said that he preferred to have a tight fit, in order that the splint may be kept in place by elastic pressure. As a rule, the splint should not be removed until solid healing had taken place, whether this was two or four weeks. However, the patient should be seen daily at first, and the passages cleansed. This prolonged retention of the rubber splint had not given rise to sepsis. In one case the splint had been worn eleven weeks without untoward result.

Leukoplakia.—Dr. Frederic C. Cobb of Boston presented this paper. He said that by the early writers this condition had been described as ichthyosis. The red vulcanite toothplates seemed to be a cause when associated with an individual predisposition. Out of sixty-eight cases of non-syphilitic leukoplakia 98.4 per cent. occurred in smokers. The greater frequency of the disease in the male sex had been ascribed to smoking, yet the disease had not been seen among Turkish women who are known to be excessive smokers. In a very large proportion of the cases there was a syphilitic history. The usual termination of leukoplakia was in carcinoma. During the last five years there had been ten cases of leukoplakia at the Massachusetts General Hospital. Eight of these were males, all smokers, and the average age was a little over fifty years. In one case the disease had existed for twenty-three years before the development of carcinoma. Only three of the patients admitted syphilitic infection. Four of the cases were on the tongue.

A New Operation for the Restoration of the Nasal Septum.—Dr. John O. Roe of Rochester read this paper. He dissects up sufficient tissue from the under side of the lip to fill the deficiency of the septum. The upper lip is buttonholed and the flap pushed through the buttonhole at the point of insertion of the lower columnar. By pulling this flap inward and stitching the cut surfaces together, and then to the anterior stump of the septum, a very excellent substitute for the original septum is formed. In the case reported no scar was left where the flap was put through the lip.

Officers Elected.—*President*, Dr. J. H Bryan of Washington, D. C.; *First Vice-President*, Dr. George A. Leland of Boston; *Second Vice-President*, Dr. T. Melville Hardie of Chicago; *Secretary and Treasurer*, Dr. J. E. Newcomb of New York; *Member of Council*, Dr. J. W. Farlow of Boston.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held May 6, 1902

Joseph Collins, M.D., President.

A Case of Primary Myopathy.—Dr. J. Ramsey Hunt presented a girl of sixteen having a negative family history. One year and a half ago there was noticed a difficulty in pronouncing words, and also a nasal twang. A few months later there was some regurgitation through the nose, and it was noted that she did not close the eyes completely during sleep. Examination showed marked deficiency of the muscles of the face, on voluntary and emotional innervation. The orbicularis oris and the orbicularis palpebrarum and the zygomatici were chiefly affected. The palatal muscles were motionless. The muscles of the upper arm and shoulder were small. The tendon reflexes were active, but there was no evidence of involvement of the pyramidal tract. The speech mechanism was easily fatigued, articulation becoming less distinct on prolonged effort.

Tumor of the Brain.—Dr. Max Mailhouse of New Haven presented a brain taken from a woman, who had been admitted to the New Haven Hospital on March 13, with a history of severe headaches for a year and a half, and considerable mental disturbance. Speech was incoherent and muttering. There were exaggerated knee-jerks; also ankle clonus and increased plantar reflexes. The optic nerves were atrophied and she could only distinguish light. Twitching of the muscles of the eyebrows was observed the first night, and she was so restless as to require restraint. During the six weeks she was in the hospital there were two or three attacks of vomiting. She complained constantly of headache and thirst. On April 14, when examined by Dr. Mailhouse, there was slight strabismus from weakness of the left internal rectus; the knee-jerks were exaggerated and there was ankle clonus on both sides. There was loss of vision. She was mentally tolerably clear. She became more restless and talkative, and the pulse more rapid and irregular, and two days before death she became unconscious and died in this condition. The autopsy was made on the day after death. It revealed a tumor in the interpeduncular space, and examination of the tumor made it appear that the growth either originated in or soon involved the optic chiasm. The tumor pressed upon the left third nerve and also upon the facial tracts above the pons, causing the spasmodic twitching of the facial muscles. No report of the microscopical examination had yet been received.

Paralysis of the Serratus Magnus.—Drs. Joseph Collins and I. Abrahamson presented a woman of twenty-eight, who had been in fair health up to last November. At this time she had had an attack of suppurative tonsillitis, which was followed by suppuration of the glands at the posterior border of the sternomastoid muscle. These were incised and much pus evacuated. About seven weeks afterward the shoulder was noticed to project upward, and it was the seat of a throbbing pain. When seen, the left scapula presented a winglike appearance, and what appeared to be an isolated paralysis of the serratus magnus muscle. Some of the fibers of the supraspinatus and of the infraspinatus showed slight reaction to the faradic current and some slight atrophy. There was a larger linear post-operative scar along the upper posterior border of the sternomastoid muscle. There was some enlargement of the glands on the left side of the neck. The diagnosis was based upon the position of the scapula while at rest, on the peculiar limitation of movement when the arm was brought forward at a right angle, on the absence of sensory disturbances and of symptoms pointing to spinal origin and to the presence of degeneration reaction. The lesion was evidently a post-infectious neuritis involving the posterior thoracic nerve, probably that portion in the body of the scalenus. The chief features of interest were: its peculiar etiology; its occurrence in a female; the absence of trauma and of any of the ordinary causes; its late recognition; the change in the position of the scapula when at rest; the presence of scoliosis, as had been observed by Stromyer in a few cases.

Dr. W. M. Leszynsky said that most of these cases of serratus magnus paralysis were due to pressure or to progressive dystrophy, but he had shown a case to this society in which it had followed an infection—a pneumonia.

Atypical Syringomyelia.—Dr. Joseph Collins showed a case which he had diagnosticated as one of syringomyelia. The patient was a stationary engineer, fifty-seven years old, who had lived a temperate and healthy life, not exposed to syphilitic or inorganic poisons. Three years ago he noticed, on going downstairs, that he tripped easily, and that he was getting clumsy in the use of his feet. About the same time he remarked that the little and ring fingers of both hands were becoming stiff, as he termed it. He found difficulty in using these fingers dexterously, and in appreciating objects that came in contact with them. Soon these fingers became deformed, a flexor deformity of the second and third phalanges, which was gradually progressive, and which was dependent upon atrophy of the hypothenar muscles and the last interossei. At the same time the loss of sensibility in the ulnar distribution progressed. About a year ago a slight sore developed on the ball of the right foot, now a typical perforating ulcer. The patient presented now the following: (1) Atrophy of the hypothenar and last interossei muscles, and consequent deformity; (2) Glossiness of the skin of the hands; (3) Analgesia and thermoanæsthesia, and partial tactile anæsthesia in the little fingers and the ulnar halves of the ring finger; (4) Thickening of the ulnar nerves, rendering them palpable; (5) Increase of mechanical irritability of the muscles of the upper extremities; (6) Typical perforating ulcer on the ball of the right foot; (7) Analgesia and thermoanæsthesia of the toes and the outer half of both feet; (8) Slight exaggeration of the tendon jerks in the lower extremity; (9) No deformity of the spine and no symptoms referable to the cranial nerves; (10) No disturbance of the sphincters or of the sexual function. Dr. Collins said the case was not a typical one of syringomyelia, but that diagnosis seemed more likely than any other. The condition was a progressive one.

A Case of Raynaud's Disease.—Dr. B. Onuf presented a young man with Raynaud's disease that had existed for about two years. Sensation was normal during the attacks. There was a history of rheumatism of the joints. He was a sailmaker by occupation, and in his work the tool used caused pressure on the right palm. The urine showed an abundant deposit of urates. He had not been improved by any method of treatment so far employed.

Mental Dissociation in Depressive Delusional States.—Dr. Ira Van Gieson was the author of this paper, which, he said, represented some of the work formerly done in the New York Pathological Institute. The subject of the report was a Russian of twenty-six, having a good family history. In February, 1900, he had begun to suffer from insomnia, headaches, and loss of appetite, and had become despondent. The general health had rapidly deteriorated, and a local physician, on examining him, stated that his trouble was largely indigestion, and that there were "lumps" in the bowels. This was the foundation of a delusion which the patient fondly cherished. There was also a belief that there were worms in the intestine, which worked upon the lumps and broke them up into minor lumps, and sent the latter throughout the body. The patient believed that he was rescued from his dire distress by three agencies, viz., the spleen, the soul, and the veins, the soul being the scavenger and the spleen the director. When the attention of the soul was distracted this work was not well done. As might be expected the patient was extremely depressed, and his physical condition suffered. He could speak readily only on the all-pervading subject of his delusion. The loss of attention was marked, except as regards the systematized delusion. No gross motor disturbances were present. The patient reacted slowly to external stimuli. There were no sensory disturbances, no hallucinations, and no tendency to self-destruction. He could fully realize his environment and his relations to space and time. As soon as he passed into hypnotic trance a metamorphosis almost instantly occurred, the patient passing from intense depression to a state of great exaltation. Despite this the focal delusion persisted, and appeared to be far better organized. This clearly pointed to the fact that either the state of depression was one of secondary formation or the delusion, being secondary in its origin, had gained sufficient strength to stand by itself, even after the emotional basis had been withdrawn. The latter alternative seemed to be the more probable. In his trance he could vividly remember all that had taken place in his waking life, and, on the other hand, he could recall fairly well what happened while in the trance. Later on the patient, at one time, passed into a deeper trance, and then passed from a state of inexpressible delight to one of grave composure. In the last trance personality he could remember all the experiences of the other trance personality and of the waking personality. The relation of these three personalities was described diagramatically by three concentric rings. The central one was the melancholic personality, and outside of this were successively the rings representing the first and second trance personalities. Of the three personalities, the waking was pathological. The first trance personality was an exaltant, while the second trance personality approached closely to the patient's healthy condition. The course of these personalities resembled quite closely what was observed in circular insanity. These alternating personalities were, however, ephemeral. Soon the first personality shrunk and finally disappeared altogether. In the course of time the first trance personality disappeared, and never returned. The mood of the second trance personality then lost some of its former seriousness. The tendency was for the intermediate personalities to disappear and the last one to become the dominant one. The process of evolution of species in general was one great illustration of the process just described. Throughout all of these transformations the central delusion remained unshaken. The great assimilating power of this delusion was wonderful. Various suggestions were given to this patient; although they were designed to break up the nucleus of the delusion, they were turned about by the patient and fed into this systematized delusion. It was necessary to follow the patient in his delusion and play into the hands of the latter in order to make the suggestion take root. Direct suggestion during deep hypnosis was the usual method of breaking such a strong delusion, but the objection to this method was that it was apt to be only temporary in its effect. The method of emotional substitution was especially valuable in a case of this kind. Some unimportant sensory changes were first attempted, as for example, the abolition of the unpleasant thermal changes in the "lumps," but they were only partially successful. The effort was then made to fuse the different personalities. During hypnosis dreams were suggested to the patient with the object of effecting changes in the central delusion. For example, in one of these dreams his father told him that these lumps would go away. These dreams impressed him deeply though slowly. When the good dreams had become dominant the spleen and soul began to drop out, and then the galvanic current was substituted for the soul with great benefit. Small spots were next substituted for the large lumps. The spots were gradually confined to certain definite areas instead of being vaguely disseminated. The patient's melancholia disappeared completely, and he had now resumed his original vocation. The case was regarded as a triumph for this mode of treatment, and as a type of many other cases now in the State Hospitals for the Insane.

Dr. Mary Putnam Jacobi asked whether the transition of the two personalities had occurred spontaneously or had been brought about by some special manœuvre.

Dr. Henry Rafel asked if there was any other case on record in which hypochondriasis had been cured in this manner by hypnosis.

Dr. Van Gieson said that the paper had been prepared by his former associates at the State Pathological Institute. The transition of the personalities had occurred spontaneously. He was not sufficiently familiar with the literature to answer positively the second question. If hypnosis had been used in the ordinary way the result would have been only transient benefit; a permanent cure had been effected by a thorough understanding of the whole mechanism of hypnosis. This patient had been cured eighteen months ago.

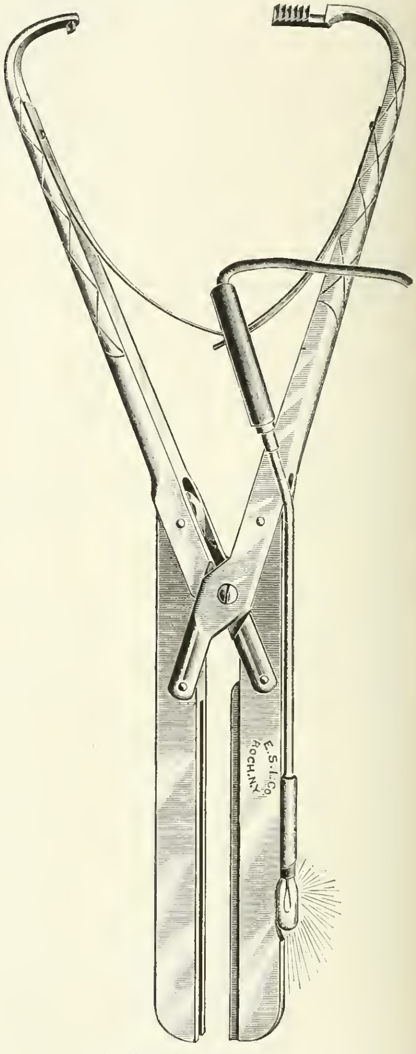
On the Indications for Reduction Cures.—Carl von Noorden says positively that a reduction cure begun on proper indications never deserves the name of a "weakening cure," provided that the choice of procedure, the rapidity with which it is carried out, and the amount of weight lost are arranged to suit each individual case. Before entering into the treatment of an obese patient, it becomes necessary, above all, to decide the question whether an actual reduction cure is indicated, or whether the treatment should be restricted to the prevention of further fat deposit, and to the removal of dangerous and disturbing complications. Above all, we must avoid making an idol of this or that method—so large is the choice of methods at our disposal, both as regards physical aids, and, more especially, dietetic prescriptions, that each individual case can be reckoned with. In many cases it is undoubtedly of no consequence which method is chosen—it can be left to the wishes of the patient and to external conditions. In other cases, however, not only practicability and success, but also health and life, depend upon a proper choice.—*International Medical Magazine.*

New Instruments.

CLAMP FOR ATTRITION OF THE BROAD LIGAMENTS.

By S. H. LINN, M.D.,
ROCHESTER, N. Y.

Dr. E. Doyen of Paris, France, was the first, I believe, to use an angiotribe in hysterectomy, but he acknowledged that with his instrument the crushing must be carefully limited in order to avoid dividing the broad ligament. This disadvantage is completely eliminated in the progressive pressure clamp or angiotribe here illustrated, which, by means of a slot and ridge extending the entire length of the blades, reduces the tissue to a thin cellulo-fibrous layer without rupturing the external tunica.



The clamp is twenty-nine centimeters long, the blades which are non-crossing being twelve centimeters by two and one-half centimeters, and weight only 350 grams. The handles are separated by two springs and are under the control of an automatic rachet. As pressure is exerted on the handles the crushing force is augmented until the maximum point is reached, when the blades separate automatically, the force of the compression being equal throughout their entire length.

This instrument also possesses another novel feature in that it is electrically lighted, enabling the surgeon to positively ascertain the nature of the tissues he is compressing. The attachment for the lamp, which is on the upper edge of one blade, only adds one-fourth of a centimeter to its width. The lamp is of unique design and marks a new era in the electrical lighting of hidden cavities, as it gives a most brilliant white light and is practically cold, it is durable and easily detachable.

The powerful crushing force of this instrument enables one to reduce the tissue of their peritoneal lamina, thus avoiding large ligamentary stumps, the tardy absorption of which sometimes causes infection. The attrition is sufficient for definitive hemostasis, although some prefer to ligate before cutting. In making ligations this previous crushing is advantageous, as it allows the use of very fine silk ligatures, which are non-irritating and prevent the evolution of small purulent or inflammatory foci. It also obviates all danger of the ligature loosening and the infected pedicle mounting higher and causing mortal infectious symptoms.

When it is desired to leave forceps *in situ* this instrument permits the use of a smaller forceps, which is less irritating, and also prevents the danger of secondary hemorrhage. Cicatrization is more rapid and the elimination of mortified parts takes place sooner.

The clamp may be applied upon the broad ligament as soon as it becomes accessible, thus enabling the surgeon to detach it by tearing away from the cervix uteri much higher than formerly.

The Linn clamp is manufactured by The Electro-Surgical Instrument Co., Rochester, N. Y.

Spasmodic Wryneck Appearing in the Course of a Case of Exophthalmic Goiter.—Walter S. Stern reports the case of a girl of fourteen years in whom wryneck had developed during the course of exophthalmic goiter. The youth of the patient is unusual for both affections. Out of thirty-two cases of wryneck Walton reports only two cases under twenty years of age. In the differential diagnosis tubercular spondylitis can be excluded because the chin, though deviating to the right, looks upward. Other symptoms which serve to exclude Pott's disease, are that the pain is not constant nor localized, there is no limitation of motion of atlas or axis, no swelling of the bodies of the vertebræ, no retropharyngeal abscess, etc. From congenital torticollis the history, the symmetry of the head, and the absence of any permanent contractures, as shown under anæsthesia, give the differential diagnosis. From scoliosis or congenital elevation of the shoulders, the presence of the various contracted muscles speak for wryneck. In this case the author would follow out the treatment applicable to exophthalmic goiter.—*The Cleveland Medical Journal.*

The Lingual Tonsil.—Henry B. Lemere says that the trouble resulting from the enlargement of the lingual tonsil is one of adult life, and essentially of neurasthenics and of women. The symptoms are vague, consisting sometimes of weariness of the throat, recurring attacks of laryngitis, a nervous cough, the feeling of a foreign body in the throat, or indefinite pain. It is extremely bad practice to name the complaint globus hystericus, or paresthesia of the pharynx, without examining to see whether there be any lesion of the throat. Treatment consists in removal of the enlarged tonsil. The author finds the lingual tonsillotome the most useful in this operation. The application of cocaine makes it entirely painless.—*Medicine.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 12, 1902:

	Cases.	Deaths.
Measles	230	8
Diphtheria and croup	283	36
Scarlet fever	178	16
Smallpox	28	9
Varicella	21	..
Tuberculosis	245	160
Typhoid fever	64	13
Cerebro-spinal meningitis	..	9

Sciatic Neuritis and Its Treatment.—L. Harrison Mettler says that for the present we may assert that all appearances warrant the conclusion that sciatica is a neuritis of the sciatic nerve, that so-called secondary sciatica is not, in the strict sense, any affection of the nerve at all, and that there is but one positively known form of sciatica, namely, sciatica neuritis. In the treatment, the methods that afford the highest degree of success are more or less identical with those that prove to be most efficacious in the management of neuritis. Counter-irritation and the actual cautery even, the internal administration of vasomotor sedatives, the free use of cathartics, diuretics and diaphoretics, are the chief measures depended upon in the subacute and acute stage. Analgesics, narcotics, and sensory depressants produce less permanent results in sciatica than they do in other forms of neuralgia. In the acute stage, general and absolute rest, even to the point of strapping the limb if necessary, is *sine qua non.* Opium, aconite, belladonna, etc., are all useful. After the trouble has become chronic, the author resorts to the steady use of strychnine, preferably by the subcutaneous method, in doses of from 1-70 to 1-20 grain twice a day. Massage, baths, and the steady use of mild currents of electricity should be applied every day.—*The Therapeutic Gazette.*

The Permeability of the Kidney in Health and Disease.—W. E. Wynter describes the phloridzin test and the methylene blue test for determining the functional activity of the kidney. A more recondite means of estimating renal insufficiency is by determining the freezing point of the blood. Koranyi, the originator of this method, found a lowering of the freezing point of the blood in nephritis, tumor, hydro- and pyonephrosis, and also in animals upon the ligation of both ureters. Of practical significance is the observation that no change of the freezing point of the blood follows when one kidney remains, an observation which harmonizes with clinical experience of the rapidity with which the remaining kidney compensates for the loss of its fellow. For practical purposes it may be concluded that a lowering of the freezing point of the blood to 0.58° C. or beyond, signifies insufficiency of the kidneys, and operative interference should not follow until the freezing point is about 0.56° C. A freezing point of the urine higher than 0.9° C. is an index of insufficiency of the kidneys, but of most significance would be the freezing point of the segregated urines respectively.—*Treatment.*

Idiopathic or Congenital Hereditary and Family Hæmaturia.—Leonard G. Guthrie has knowledge of the existence of idiopathic hæmaturia in twelve persons. The characteristics of the disease may be thus summarized: (1) It is hereditary, familial, and congenital; (2) The hæmaturia may be presistent for many years but vary in extent. In some cases it may cease for a time, but in all it is apt to recur, or to increase, in paroxysmal attacks or in exacerbations. The blood casts show that the hemorrhage is from the substance and not from the pelvis of the kidney. The amount of blood passed during exacerbations is much greater than is ever seen in cases of nephritis; (3) The paroxysmal exacerbations are usually accompanied by slight pyrexia, headache, malaise, vomiting, and slight pains in the back or limbs; (4) Idiopathic hæmaturia is not associated with œdema nor with ascites, nor with the cardiovascular changes following ordinary nephritis; (5) The hemorrhage is not due to the presence of uric acid nor of oxalates; (6) The specific gravity of the urine is not unduly low. It varies from 1015 to 1030. Finally none of the subjects of idiopathic hæmaturia is a "bleeder." The author describes several cases.—*Medical Press and Circular.*

The Indian Method of Using Nux Vomica in Dyspepsia.—Hem Chandra Sen prefers nux vomica in powdered form, as it remains in the alimentary tract for a long time and thus allows gradual absorption of its active principles, and a prolonged, mild, stimulating action on the secreting cells and nervous mechanism of the alimentary tract. One of the best Indian methods of preparing nux vomica in powdered form for medicinal purposes is to boil it in milk or a mixture of equal parts of milk and water. When the seeds become soft from prolonged heating, the cotyledons are scraped apart and the embryo is removed. These scraped cotyledons are then converted into a fine paste. As soon as the cotyledons show a tendency to become hard they are boiled again, to render them soft for easy manipulation. The process of boiling in milk is said to have a mitigating effect on the nux vomica. It is a very important point to remember that the efficacy of nux vomica, like that of arsenic, is enhanced if the patient takes a sufficient quantity of milk, ghee or butter. This preparation of nux vomica can be used with safety for a long time.—*Indian Medical Record.*

Conservatism in the Treatment of Inflammatory Affections of the Uterine Adnexa.—Hugo Ehrenfest makes a plea for conservative surgical methods, not because he fears the operation, but because the remote results of either conservative or radical interference are admittedly excellent, but not wholly satisfactory. He does not feel justified in promising a patient suffering from pus tubes that subsequent to operation she will be positively free from further trouble. Operated patients—just as well as those treated or cured by conservative methods—must face the possibility of trouble due to the residua of repeated attacks of pelvic peritonitis, especially intestinal adhesions. In suppurative cases conservative nonoperative treatment should be given a trial, unless definite symptoms make operation imperative. The results of conservative treatment are better among the well-to-do than among the working class, where, indeed, they are very unsatisfactory. If an operation becomes necessary, radical operation will be the operation of choice, vaginal drainage the method of necessity.—*St. Louis Medical Review.*

Intentional Post-Hemiplegic Tremor.—D. de Concilis concludes from his study of the subject that in cases of intentional tremor or ataxia following hemiplegia of cerebral origin there is a lesion of the motor pyramidal tracts. In cases complicated by choreiform movements this supposition would explain facts which have heretofore not been understood. Even in cases where the tremor and the ataxia do not represent a post-hemiplegic disorder nor a symptom of multiple sclerosis, no other microscopic lesion of the central nervous system is to be found, but there is a constant lesion of the motor pyramidal tract, and we may, therefore, admit that intentional tremor or ataxia are due to a lesion of this tract and to the partial and irregular destruction and stimulation of single fibers of the same.—*Annali di Medicina Navale.*

Two Intestinal Toxins.—From the results of his experimentation, J. Le Calvé concludes that indol and probably skatol cause congestive changes in the nerve centers, leading to hemorrhages, or to œdematous infiltrations, with consequent defective coloration of the neurones and neuroglia. The kidneys are the seat of congestion, the liver, lungs, and spleen of intense hyperæmia. The intestinal toxins also determine peripheral œdemas. The action of the toxin seems to depend upon its influence on the vasomotor centers. Under ordinary conditions indol and skatol appear to act as a physiological rather than toxic agents; cold increases the vasomotor action. Hot baths (113% F.) constitute the best treatment for intoxication by these substances, by stimulating vasomotor action and increasing diuresis and the oxidation of excretory products, thus dissipating intoxication and causing a retrogression of the structural degenerative changes.—*Archives Générales de Médecine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health, and U. S Marine Hospital Service, during the week ended July 12, 1902:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, San Francisco	June 22–29	3	
Stockton	June 1–30	14	
Georgia, Augusta	June 1–30	.	1
Indiana, Evansville	June 28–July 5	2	
Kansas, Wichita	June 28–July 5	2	
Kentucky, Covington	June 28–July 5	5	
Maryland, Cumberland	June 1–30	2	
Massachusetts, Boston	June 28–July 5	6	
Cambridge	June 28–July 5	6	2
Melrose	June 28–July 5	..	1
Somerville	June 28–July 5	2	
Michigan, Detroit	June 28–July 5	3	
Minnesota, Minneapolis	May 17–July 5	17	
Missouri, St. Louis	June 30–July 6	7	
Nebraska, Omaha	June 28–July 5	3	
New Hampshire, Nashua	June 28–July 5	1	
New Jersey, Camden	June 28–July 5	1	
Elizabeth	Mar. 29–June 21	24	3
Hudson County (Jersey City included)	June 22–July 6	30	8
Newark	June 28–July 5	10	5
New York, New York	June 28–July 5	26	11
North Carolina, Beaufort (vicinity of)	May 15–July 4	9	
Ohio, Cincinnati	June 27–July 4	7	
Cleveland	June 28–July 5	27	6
Dayton	June 28–July 5	2	
Youngstown	June 21–28	1	
Oregon, Portland	July 1	26	
Pennsylvania, Erie	June 28–July 5	2	
Johnstown	June 28–July 5	8	
McKeesport	June 28–July 5	3	
Philadelphia	June 28–July 5	7	2
Pittsburg	June 28–July 5	14	2
Tennessee, Memphis	June 28–July 5	2	
Wisconsin, Green Bay	June 29–July 6	2	
Milwaukee	June 28–July 5	4	

SMALLPOX—FOREIGN.

Austria, Prague	June 14–41	3	
Belgium, Antwerp	June 7–21	3	3
Brazil, Pernambuco	May 15–31	..	14
Canada, Winnipeg	June 7–28	3	
China, Hongkong	May 17–24	1	
Colombia, Panama	June 23–30	5	
France, Paris	June 14–21	..	1
St. Etienne	May 15–31	1	
Great Britain, Birmingham	June 14–28	13	
Liverpool	June 14–28	4	1
London	June 14–21	107	24
India, Bombay	June 3–10	..	11
Calcutta	May 31–June 7	..	1
Madras	May 31–June 6	..	1
Italy, Naples	June 7–14	6	
Palermo	June 14–21	11	1
Japan, Yokohama	May 31–June 7	1	
Mexico, City of Mexico	June 22–29	2	1
Vera Cruz	June 21–28	1	2
Netherlands, Rotterdam	June 14–28	1	
Russia, Moscow	May 31–June 4	34	9
Odessa	June 14–21	6	1
St. Petersburg	June 7–21	27	2
Straits Settlements, Singapore	May 10–17	..	1
Switzerland, Geneva	May 31–June 14	2	

YELLOW FEVER.

Brazil, Bahia	June 7–14	2	
Colombia, Panama	June 23–30	6	2
Mexico, Coatzacoalcos	June 14–21	10	5
Vera Cruz	June 21–28	21	10

PLAGUE.

Brazil, Pernambuco	May 15–31	..	13
China, Hongkong	May 17–24	33	3
Macao	June 3	(Present.)	
India, Bombay	June 3–10	..	101
Calcutta	May 31–June 7	..	90
Turkey, Pora	July 1	(Declared.)	

CHOLERA.

China, Hongkong	May 12–24	38	31
India, Bombay	June 3–10	..	2
Calcutta	May 31–June 7	..	51
Japan, Saga Ken	June 16	26	8
Straits Settlements, Singapore	May 10–17	..	92

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Original Articles.

TYPHOID FEVER FROM SOURCES OTHER THAN WATER SUPPLY.*

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THAT typhoid fever is at times waterborne has been demonstrated beyond a reasonable doubt. Indeed the evidence to this effect is so plain that it tends to fill the mind to the exclusion of every other idea on the subject. And so it has come to pass, during the Spanish-American and South African wars, that sanitarians have experienced something very like a rude awakening. The waterborne origin of typhoid fever seemed so complete an explanation, and so well established that it was with evident elation, and almost gayety, that the task of ridding the armies of the scourge was entered upon. A few filters, a little boiling, and here and there a conduit to bring water from sources beyond the possibility of contamination, and the whole difficulty ought to disappear. But instead of disappearing it became absolutely enormous. And then there was talk about raw recruits and American and British soldiers, the most intelligent in the world, were credited with utter lack of common sense, and willingness to obey orders. No longer ago than February of the present year I met with a communication to this effect, published by a medical officer of health in South Africa, in which it was charged that the prevalence of typhoid in the locality was due solely to the ignorance and wilfulness of the soldiers in using bad water in preference to that known to be good. It is conceivable that there might be carelessness on the part of a few individuals even in the presence of an epidemic of hundreds of cases of disease, but that there should be prolonged continuance of such wholesale neglect of ordinary precautions as would be necessary to create an epidemic of such dimensions is inconceivable. Even if the men were heedless their officers surely would have insisted upon observance of the precautions which they understood to be necessary. As a matter of fact, there are plenty of reports of instances in which every possible precaution in reference to water supply was taken, and yet typhoid continued to spread as though nothing had been done. This sort of thing is most apt to occur in camps, typhoid being preeminently the camp fever, but it is met with also in civil life. The question as to typhoid from sources other than water supply concerns those living in cities and villages, as well as in isolated country residences, or camps in the woods.

The history of the typhoid bacillus planted and living in ordinary garden earth is a chapter as yet almost wholly unwritten. Whether it subsists in the soil directly, or finds a host in some worm, or living organism, or in some product of decomposition I do not know, but somehow it survives in the ground just as successfully, or even more so, than it does in water. The evidence of its presence either in soil or water is very much the same. The bacillus itself cannot readily be found in either case, but in each instance there is a history of exposure to contamination that is perfectly definite and tangible, and there follows origination of cases plainly due to such contamination. Such observations as the writer has been able to make lead irresistibly to the conclusion that the burial of typhoid material in the earth, without adequate disinfection, is the surest way of perpetuating the disease in any given locality, keeping it alive from year to year, and causing it to become endemic. This procedure is far more effectual in perpetuating the disease locally than is mixing these excretions with water, which does tend at least to get rid of them from the immediate vicinity by carrying them elsewhere—large cities, for example, freeing themselves at the expense of their neighbors down stream—which ought not to be, and which could be avoided, if only we thought so, and would take the requisite precautions, as will appear in the further course of the discussion.

In the case of the typhoid bacillus planted in the soil, there are not likely to be any sensational developments in neighboring towns such as occur when it is carried by water. Its sphere of activity is more strictly localized, but is none the less serious for those directly concerned. And yet, in almost every town and village, some physician or nurse may be found who insists upon the burial of typhoid excretions as the proper method for their disposal, and this, too, was the army method uniformly practiced not so very long ago. There has long been a vague idea that fresh earth is a disinfectant, just as running water has been supposed to purify itself. But there is good evidence that the typhoid bacillus grows to the surface in a mixture of soil and fecal matter, like a fungus in a hot bed, so that burial is no protection whatever against its spread from the surface in a variety of ways that remain to be explained. It is true that the nitrifying organisms of the soil appear to be able to destroy the typhoid bacillus under the particular set of conditions existing in connection with the process known as intermittent filtration, although even this is not yet quite certain. Under other conditions, however, the typhoid bacillus appears to resist the nitrifying organisms as successfully as does the bacillus of tetanus, whose natural habitat is the soil. Indeed, there is evidence that the typhoid bacillus is made to thrive more luxuriantly in the presence of the decomposition processes which originate nitrites and nitrates in soil and water.

And so it comes to pass that there are localities in which typhoid fever is perpetuated from year to year because of soil contamination primarily. In these cases, if there is any contamination of water supply, or wells, it is secondary to that of the soil, and the disease may be spread from the soil itself without the aid of water in ways that will shortly appear. A notable instance of the kind, which came under the observation of the writer, was in the case of a hamlet having a population of perhaps two hundred persons, among whom there were numerous cases of typhoid fever each year for many years in succession, the disease then suddenly ceasing to occur at all. The question of water supply was carefully considered, but there were scarcely any wells used in common, and none so situated as to be liable even to accidental contamination, to say nothing of contamination capable of originating such a persistent epidemic year after year. Nor did there appear to be any specially unsanitary condition of closets and the like. Through their long experience with sickness, the people had come to be unusually cleanly and careful, and it would be hard to find a village neater than the one in question, and yet they continued to sicken and die. As it turned out, the very thoroughness of their efforts was the means of their undoing. It seems that a physician, who was very popular in the community, having attended a large proportion of them successfully through typhoid fever, was accustomed to regard fresh earth as the best disinfectant, and to insist upon their digging trenches and burying typhoid excretions at a distance, from wells especially. It seemed a very plausible idea, and was acquiesced in by the community generally, and especially by a motherly nurse woman, who had become well nigh a professional attending typhoid cases. Eventually the doctor lost his own life through typhoid fever, and so did the nurse, and her son; her husband also nearly died of the disease, and that ended it. With these deaths the custom of burying typhoid material as a means of disinfection ceased, and the disease took its departure, not more than one or two sporadic cases, evidently imported from out of town and not spreading, having occurred in the ten years or more that have since elapsed.

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*Read before the Syracuse Academy of Medicine.

It was this epidemic, so formidable in proportion to the number of the population, and so extraordinarily persistent, and yet terminating so abruptly, that first suggested to the mind of the writer the desirability of revising, and supplementing existing knowledge in regard to the sanitation of typhoid fever. As it has turned out, instances of the sort just described are very much more common than might be supposed. One recently came under the observation of the writer that is specially instructive. In this instance there were several cases of typhoid in two families that were closely related and constantly visiting each other. The first of these cases was evidently imported from out of town, the others being contracted from it, with great promptitude, in the course of a few days, without the possibility of any interposition of infection of water-supply, the medium of infection in this instance being flies, as will be explained later. Upon the premises occupied by one of these families there was no water-closet whatever, they being accustomed to bury all excretions and refuse in the ground. Nor was there any well on the premises, they getting their water from neighbors, who at no time had the disease. Recognizing the danger of such disposal of typhoid material, a special effort was made to discover and disinfect the parts of the garden where it had been deposited. This proved to be a difficult task, because of promiscuous scattering among bushes and weeds, so that the great liability of missing some of it was commented upon at the time. As the result of these and other precautions, there were no additional cases that year. The next year, however, an individual, who had become an inmate of the household where the excretions were buried in the manner described, contracted the disease, and was the only person so doing in the entire town that year. This person used water for drinking that at no time, either the first or second year, appeared capable of communicating the disease, the source of supply also being such that there could be no contamination secondary to that of the soil. Interpreted in the light of other cases of similar character, encountered during the long epidemic mentioned, and at other times, the conclusion was reached positively that conveyance by water had nothing whatever to do with the origination of this curiously isolated case of typhoid occurring on premises known to have been strongly infected the year before. Infection from the soil may find access to the intestinal tract in many ways other than through the agency of water.

Vegetables that are eaten raw, such as radishes, lettuce and celery, if insufficiently cleansed, will surely convey the bacillus from soil that has been contaminated to the stomach. Garden produce from such sources is to be looked upon with suspicion.

So, too, dust blown by the wind may convey typhoid infection. In the very instance under consideration the soil infected was sandy, so that only a period of drouth and a brisk wind would be required to set it flying over articles of food and drink in the house adjacent. How much dessication the typhoid bacillus will survive I do not think is known, but it would seem to be a subject very much more desirable to experiment with in the laboratory than in kitchen and dining-room.

Still another method of conveyance of such infection is through visitation of flies. The soil of that typhoid bespattered backyard certainly was exceedingly attractive to diptera of various species for some reason. One sultry morning I found them carrying on an investigation, apparently, in reference to the location of certain trenches which I knew to have been there, and, in the midst of their labors, refreshing themselves by frequent visits to a pitcher of milk on the doorstep. If there were pathogenic bacteria growing to the surface anywhere in that garden they would have been in that milk within about thirty seconds.

Growing to the surface is precisely the thing that happens to typhoid bacilli in the soil, even at the end of so long a period as a year, and once at the surface conveyance to the stomach is possible in a great variety of ways.

If typhoid trenches a year old are still dangerous, those that are fresh are still more so. As compared with roundabout processes of conveyance of infection through the intermediary of contamination of soil and water, the carrying of absolutely fresh typhoid material by flies is as deadly as a Gatling gun. Go with me to an ordinary eating-house, where, as it so happens, they have a case of typhoid. Being asked as to the character of the stools, they say that they have saved them all, kept over night without a particle of disinfection, and fairly swarming with flies, within less than a rod of the kitchen door, standing wide open. Is there any wonder that there was a fusilade of typhoid cases among the patrons of that eating-house? The only wonder is that any of them got out of it alive. In like manner in a camp particles of white dust were noticed on some of the food. It proved to be lime brought from the sinks on flies' feet, to which also it was seen sticking fast, thus affording ocular demonstration that they had been walking over fresh excrement and food in the closest possible proximity.

Contamination of food under these conditions is exceedingly rapid and positive. I heard a surgeon in the Spanish-American war narrate his experience in this regard, which had been quite a puzzle to him at the time. In his regiment typhoid fever first appeared in a company composed of the very best and most intelligent men. It seemed strange that those who were most careful should suffer sooner and more severely than others, who took almost no precaution, and yet the explanation was very simple. These kind-hearted and intelligent men did not permit their comrades, on being affected with diarrhœa, to go away to the sinks, which were at a considerable distance. In order to avoid exposure and inconvenience on the part of those who were ill, they provided buckets, which were used in the tents, and emptied at frequent intervals. Thus, unwittingly, instant infection of almost every article of food and drink in and about the tents was made certain through the agency of flies, and the disease gained a tremendous foothold in the very part of the regiment that one would suppose ought to have been most free from it.

Right here attention should be called to a phase of the subject that concerns especially large cities, in these days of trolley lines and one-day excursions and picnics. From the point of view of the present discussion, the closet arrangements at many picnic grounds are little less than murderous. Some time since I learned of a number of cases of typhoid originating at such a place, and had the curiosity to visit it. Fortunately, it was a sultry day, and there were many excursionists from various localities, with their baskets of provisions, enjoying an outing, so that it was possible to see the whole thing in operation. There did not appear to be anything wrong with the water supply, which was from driven wells in a part of the grove remote from any possible contamination. Moreover, many of the excursionists brought with them bottles of cold tea and coffee. And yet of such people, not otherwise associated, and from different towns, there were known to be six who came down with typhoid fever in such manner as to indicate that it was contracted the same day on these grounds. How many there were on other days, and from other places, is unknown, but, even if there were no more, it was sufficiently serious. The explanation of it all proved to be extremely simple. Murderous is just the word to characterize the closet arrangements, they were all open, and right on top of the ground, and in an exceedingly foul condition, without one particle of disinfection, and swarming with flies. The finest part of the grove happened to be in close proximity to these closets, and there were rustic tables, and seats very prettily arranged, and plenty of flies fresh from dabbling in the vilest filth, at the very point at which the excursionists most frequently stopped to eat their lunches. Under such conditions it would require only a case of walking typhoid to start an epidemic, and there was no doubt that such typhoid cases had been on those grounds and used those closets.

Nor is it necessary to go away to camps and picnic grounds in the woods, where arrangements are temporary and imperfect, and where there is no supervision, or inspection by competent authority, in order to secure complete illustration of the points that have been made. In towns and villages of considerable pretensions closets are constructed in haphazard fashion, without any apparent appreciation of the points in reference to which care is most necessary. A closet should not be all open to the light of day, and buzzing, like a beehive, with swarms of flies. Its interior should be dark, and enclosed, so as to be fly-proof, and it should be properly disinfected at frequent intervals. It is improper construction of closets that starts many of the epidemics of typhoid in villages and the suburbs of cities that are commonly ascribed to bad water. It is true that on the introduction of a public system of water supply epidemics of this particular type cease, but this is due to substitution of plumbing for such miserable closet arrangements, rather than to any change in the water.

If contamination of wells does occur, it is secondary to that of the soil, and is much more uncommon than is generally supposed, there being, as we have seen, other ways in which the infection finds access to the body than through the agency of water. Hence, even in the case of a dairy farm, it is wise to consider the question of soil contamination in all its bearings, upon the origination and perpetuation of the disease, although this is one of the instances in which the mode of infection is very liable to be through bad water, employed in washing milkcans, and the like.

The infection of a public system of water supply, on the other hand, is, as a rule, through direct intermixture of fecal matter, usually in the form of sewage, rather than through soil contamination. It may be well to contrast this form of epidemic, particularly with that brought about by the agency of flies. When flies are responsible, there are little neighborhood epidemics, extending in short leaps from house to house without reference to water supply, or anything else in common. But when water is at fault the disease follows its use as a beverage wherever it may go, the only limitations being the resisting power of the individuals using it, and such household measures of boiling and the like as tend to destroy disease germs. Epidemics spread by flies tend to follow the direction of prevailing warm winds as though the fly wandering outdoors after contact with some source of infection had drifted with the wind; but nothing of the sort is perceptible in the case of water-borne typhoid. In villages and camps where shallow, open closets are in use, giving access of flies to the chief source of infection, flies are the chief medium of its conveyance. In cities where underground sewers carry such material beyond the ordinary reach of flies, whose migrations are not extensive, such diseases can become very prevalent only through infection of the source of public water supply. Hence in villages and camps typhoid is usually fly-borne and in cites water-borne. When a source of public water supply has been infected in this manner, cases of the disease occur throughout the year. When the conveyance is by flies the prevalence of the disease will be confined to a particular season exclusively. Thus in cities typhoid prevails at all seasons; in villages it is an autumnal disease. When the weather is dry and sultry flies have their best opportunity to convey the infection, or, in other words, under the very conditions best adapted to prevent its spread if water-borne.

It should, perhaps, be noted also that there may be a spore stage in the development of typhoid bacilli in which they may diffuse after the manner of gaseous emanations, being air-borne in this sense, the same as variola and rubeola, which are spread by particles large enough to affect the sense of smell, but too small to be seen by the aid of the microscope, being, perhaps, of veritable atomic minuteness. If this is the fact at any stage of development of the germ of typhoid, sewer gas emanations especially would then be dangerous, and require to be guarded against. It is a point worthy of further investigation.

But no matter in what manner conveyed, the spread of typhoid fever is absolutely preventible. Instant disinfection of typhoid stools, without a moment's delay on their passage from the bowels, solves the whole problem. This being done, there is nothing left for soil, air, water, or flies to carry. No physician or nurse in a large city should permit typhoid material to enter a sewer without disinfection. There are people down stream to be thought of. But when thousands of cases originate from river pollution, as in the case of the Mohawk and the Hudson some years ago, it is evident that very little if any care is taken. Nor do people in neighboring towns alone suffer the consequences of such neglect. In the very household itself there may be conveyance by flies through neglect of instant disinfection, and such infection of sewage pollutes soil, air, and ice taken from the stream, as well as water, so that the consequences may be far-reaching in many ways in the immediate neighborhood, as well as down stream. As against all this, such instant disinfection is an absolute remedy.

As regards the disinfectant to be chosen, not much needs to be said. For this particular use the sulphate of copper is well adapted, although there are many other disinfectants that may be employed. The difficulty with carbolic acid is that it is volatile, leaving nothing behind on evaporation to prevent reinfection. The sulphate of copper, on the other hand, remains behind on evaporation of its solution, so that its effect is very powerful and lasting, the soil thus impregnated with it also becoming a good disinfectant. For army use it is specially well adapted. The important point in regard to the whole matter is that with adequate disinfection in every case typhoid would become well nigh extinct in a single year. The walking cases would give the most trouble, but even they might be cleaned up if the thing were undertaken in earnest. It is surprising how rapidly even a lively epidemic at the most unfavorable season of the year has been checked by a none too nice application of the methods that have been suggested.

The subject is of exceedingly far-reaching importance. The sanitarian, and not the soldier, or statesman, is most likely to solve the problem of the extension of civilization and colonial expansion. Great armies and crusading hosts entering warm climates melt away, leaving not a trace. There are entire races of mankind who have learned to avoid the effects of soil contamination only by becoming nomads. And so there are vast areas of the earth's surface that are practically desolate, and great cities that have been in ruins for ages, in spite of attempts to reoccupy them again and again. A few points in sanitation would change all this, accomplishing more than all the generals and all the wars.

A Method of Fixing Bacteria without Drying.—Georg von Wendt's method is intended to facilitate the study of the finer details of bacterial structure without the possible damage incident to the usual method of desiccation. A platinum loopful of the culture is added to a drop of water in a watch crystal and stirred. A cover glass or slide is coated with a thin film of Meier's albumin glycerin and a few drops of water are allowed to fall on this portion of the glass. A loop of the diluted culture is then carefully touched to the surface of the water on the slide, when the bacteria will be seen to sink to the bottom in a fine well-defined cloud and the whole is covered with a large well-fitting watch crystal. At the expiration of twenty minutes to half an hour the bacteria will have settled and another drop or two of water is added. The watch crystal is replaced and the slide heated for eight or ten minutes in an incubator raised to a temperature of 75° C. In this way the albumin is coagulated and the bacteria are fixed to the glass without injury. As the preparation cools it is important to guard against the evaporation of the water, after which the usual staining and dehydrating processes may be carried out.—*Centralblatt für Bakteriologie, etc.*

ELECTRICAL REACTIONS OF THE GASTROINTESTINAL MUSCULATURE AND THEIR THERAPEUTIC VALUE.*

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Every question relating to gastric motility is vested with supreme importance to the practical clinician. If the motor energy of the stomach fails, secretion, however perfect in quantity and chemical composition, is practically useless. This is strikingly illustrated in some of Pawlow's experiments, in which, with motor paralysis and perfect secretion, the food next to the stomach wall was found in a state of active digestion, saturated with normal gastric juice, while a short distance away it was free from acid and in a state of rapidly advancing putrefaction. On the other hand, clinical observations furnish frequent proofs that symptomless digestion and adequate nutrition are entirely possible with a gastric secretion very defective in quality, if only motor power of the stomach is ample for the performance of its purely mechanical functions.

This is also largely true of the relative importance of the intestinal secretions and motor power, assuming, of course, the integrity of pancreatic and hepatic secretions. It is, therefore, an obvious proposition that in many, if not most, forms of chronic gastrointestinal disease the paramount problem is the restoration of motor power. The prognosis largely depends upon the possibility of this achievement.

Our means for accomplishing this *sine qua non* are varied in character and effectiveness. Proper nutrition and vascular tonus are, of course, fundamental requirements. Everything that will improve the nutrition of the body in general will, it should constantly be borne in mind, improve the nutrition of the muscular apparatus under consideration, in particular; while, on the other hand, those dietetic fads which are radically defective, either in proper balance or in total amount, must lower the nutritional state of the digestive tube in particular, as they do that of the body in general, and improvement thus obtained is illusive and transient. But assuming a rational view and practice concerning these basal propositions, the clinical problem before us is often difficult, and sometimes impossible of solution. In such cases, and perhaps in a considerably larger group, there are several auxilliaries which we can call to our aid, and it is to one of these, viz., electricity, that I ask your attention.

The obvious and frequently brilliant therapeutic results obtained in neurological cases would lead us, on purely *a priori* grounds, to expect substantial benefits from electrical treatment of muscular weakness of stomach and intestines. Such, indeed, are the claims made by many, though disputed by some, as a result of clinical observations, while experimental research has likewise given conflicting results.

In attemping to review the questions no pretense will be made to completeness of historical résumé, but I will, for the most part, limit myself to a consideration of my own clinical and experimental investigations.

Before dealing with the effect of electrical currents and impulses upon the muscular structure of the digestive tube, which lies sandwiched between mucous and serous membranes, it is necessary to consider the facility, or according to some, even the feasibility, of reaching the structures concerned The obstacle which has been assumed to exist is an extraordinary resistance to the passage of electrical currents on the part of the mucous membrane. I may say at once that I am fully convinced that the electrical resistance of the gastric mucosa is so slightly different, if different at all, from other tissues, as to be an entirely unimportant factor in the problem.

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* Read before the American Gastroenterological Association, May 1, 1902.

This conclusion has been forced upon me by ordinary clinical observations, the phenomena of which appeared to me entirely irreconcilable with any unusually great electrical resistance of the stomach wall. For instance, with Einhorn's, or some other electrode within the stomach, which had previously been filled with water, or better, normal saline solution, and the circuit completed through another electrode applied to the skin, a given electromotive force would produce substantially the same or greater results than when the current was passed through an equal segment of the human body enclosed by skin on both sides instead of skin upon one, and gastric mucosa on the other. These results were determined in the case of the faradic current by the cutaneous sensibility, and, perhaps, the contraction of the skeletal muscles included in the circuit; and by the milliamperemeter in the case of the galvanic current with a given number of cells in which the electromotive force would be practically constant for a brief period of time. I would have, say five milliampers passing through the circuit. If now, the cutaneous electrode remaining stationary, the circuit leading into the stomach is broken, and replaced by another leading to the skin, the current passing through the meter will be inversely proportioned to the resistance. If the resistance is less, the current will be increased; if it is greater, the current will be diminished. This is simply a corollary of Ohm's law, and is incontrovertible.

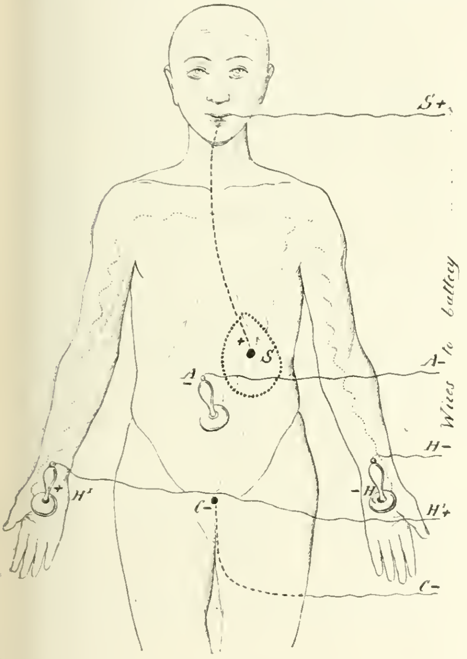

DIAGRAM 1.

Straight dotted lines, in this and subsequent diagrams, indicate the course of electric wires concealed withbin or behind body. "Wavy" dotted lines indicate the "paths" of electric currents.

S—stomach; A—electrode, over skin over stomach; C—interior of colon; S^1, A^1, C^1—wires connecting battery with corresponding electrodes.

The following experiment is one of many:

A piece of dental cable, tipped with a small nickel-plated metal bulb, was passed into the stomach (see diagram 1) of a patient suffering from a mild chronic gastritis, 300 cubic centimeters of normal saline solution having previously been poured into the stomach. An electrode with a surface of fifteen square centimeters, covered with absorbent cotton saturated with normal saline solution, was placed in the palm of one hand, and four volts of electricity passed through the circuit, S to H. This gave a current of 2 m.a., showing a resistance of 2000 ohms; the same electromotive force from stomach to skin (S to A) over epigastrium produced a current of 3 m.a., showing in this circuit a resistance of 1350 ohms; from one hand to the other one, and one-half m.a., or a resistance of over 2600 ohms; a rectal electrode was now introduced, and the circuit completed from thence directly to the stomach with precisely the same voltage (S to C), resulting in a current of 18 m.a., showing a resistance in this circuit of only about 220 ohms.

These figures have only an approximate and relative value. They were rather high because of excessive dryness of skin incidental to a bad nutritional state in those circuits which include the skin. They all include, further, the undetermined resistance of the metallic circuits; while the size and physical conditions of the electrodes, and especially the state of the skin, are variable factors, which rob such measurements of any absolute value. Their relative value, however (and that is quite sufficient for our present purpose), is unimpeachable, and, as a result of numerous experiments, I am able to positively assert that the resistance of the gastric mucosa is vastly less than that of the skin, after the latter has been placed in the most favorable condition. A circuit of the human body included between the cutaneous surfaces will invariably show more ohms of resistance than such a circuit, one end of which is skin and the other end gastric mucous membrane.

It would seem that the last experiment ought to be final, but in thinking over the possible fallacies, I thought that it might be objected that the low resistance of digestive tract was due to the fact that the current flowed the length of the digestive tube through the moisture, and fluid secretions contained therein.

In order to settle this matter, it occurred to me that I might use the skeletal muscles as a physiological indicator or meter for determining the penetration of the faradic current to the structures between the skin and digestive tract under two conditions: First, from stomach to skin; and second, from stomach to colon, the current, of course, remaining constant during both experiments. If the mucous lining of the digestive tube offered the very large resistance to the electric current which has been claimed by some to be the case, then it is perfectly obvious that a current passing from the gastric to the intestinal mucosa would have difficulty in penetrating the intestinal wall and stimulating the voluntary muscular apparatus outside of it.

The experiment was conducted as follows: One electrode, consisting of a plain insulated wire with the end exposed, was passed through the œsophagus of a healthy chloroformed rabbit into the stomach, and another similar electrode into the sigmoid, neither cavity being cleansed; a third large plate electrode of about 50 square c.m., covered with cotton saturated with normal saline solution was placed over the back in the lower dorsal region, the hair having been previously closely shaven. Upon passing a moderately strong faradic current from stomach to colon the entire voluntary muscular apparatus of the animal was thrown into a state of violent tonic contractions, proving conclusively that the current had not only penetrated the wall of the digestive tube, but had freely permeated the spinal cord, as it is only by this means that such extensive phenomena could be evoked.

The conductors were then so changed, without the slightest modification of the battery, as to complete the circuit from stomach to back. Although the path of the circuit lay directly through the spinal cord, the skin well soaked with salt solution, and the electromotive force absolutely the same, only the slightest muscular tremor of trunk and lower extremities resulted. By greatly increasing the current, extensive contractions ensued. These phenomena can only be explained by the undoubted fact of a very low resistance in the wall of the digestive tube.

Dr. Hemmeter relates an experiment in which the faradic current freely penetrated the gastric wall, and admits that under certain conditions this may occur. According to my observations it occurs constantly in health and disease, if there is either plenty of normal saline solution in the stomach in which the electrode is immersed, or a non-insulated electrode in contact with the gastric mucosa.

I have made a number of experiments with the gastric mucosa of rabbits, comparing the electrical resistance with that found in other mucous membranes, especially that of the tongue. In one experiment I passed the same current through six superimposed layers of gastric and lingual mucosa respectively. The conditions were made as nearly identical as possible with absolutely the same electromotive force, and with currents varying from .5 to 5 m. a. the current passing through the layers of gastric mucosa was slightly greater than that passing through the layers of lingual mucosa, thus demonstrating slightly greater resistance in the lingual than in the gastric mucosa, but the difference was altogether too slight to be of any practical moment. Furthermore, in my opinion, it was not really due to any intrinsic difference in electrical resistance, but depended rather upon variations in the contact between the layers, and especially upon the fact that the gastric mucosa was obviously moister than the lingual.

I have several times repeated the experiment made by Dr. S. J. Meltzer of faradizing the tongue of a rabbit, first, directly, and then by the interposition of a segment of gastric mucosa. I can fully corroborate his statement that the faradic response of the lingual muscle is greatly diminished, or even entirely inhibited, according to current strength and other conditions. But the inference that it proves an especially great resistance of the gastric mucosa relatively to other animal structures is, in my opinion, erroneous. If the experimenter had taken a piece of mucosa from another tongue and interposed it instead of the gastric mucosa, he would have found the same difference, either less or more, according to moisture, contact, etc. One of his own experiments with the omentum of the rabbit gives analogous results, but does not appear to lead to similar conclusions.

That there may be slight difference between the electrical resistances of gastric and other mucous membrane, I am not at all prepared either to affirm or deny; but if they exist at all, it is in degrees which could only interest the electro-physicist or electro-physiologist, but cannot possibly concern the practical therapeutist.

The resistance or rather the conductivity of the tissues of the human body, and indeed of any animal body, is for the most part dependent upon the fluids which the tissue contains. Dry tissue of any kind, whether it is mucous membrane, nerve structure, or muscular tissue, is a non-conductor. Water itself, is, indeed, a very poor conductor, but when, as is always true in animal structures, it contains salt in solution, it becomes a relatively good conductor. The electrical resistance of a tissue will depend, therefore, not to any great extent upon its histological structure, *per se*, but upon the amount of fluid which it contains in blood vessels and lymph spaces, and upon the proportion of salts which that fluid contains. The resistance of the same tissue must, therefore, obviously vary from time to time, as will also that of the entire body. For instance, Spehl and Sano (*Journal of Nervous and Mental Diseases*, 1897, p. 369) found the resistance of the body to drop from 1,450 ohms to 1,120 ohms after the ingestion of 4. of sodium chloride, which by its diffusion made the body fluids better conductors. The gastro-therapist has not to deal with any dry mucosa, or if he has, he proceeds to flood it with water before he attempts to penetrate it with an electric current.

But the electric resistance of the gastrointestinal mucosa is only one of the questions to be solved. Dr. Hemmeter correctly, but almost superfluously, remarks that it is not every current which is proven to penetrate the gastric wall that causes a contraction of its muscular layers. Owing to the conflicting results of previous investigators, I have gone over a great deal of the experimental ground myself in order to form an independent judgment. If typical peristaltic contraction could be demonstrated as a result of electrical stimulation of the digestive tube, it would furnish a rational explanation of the undoubtedly good results obtained by electrical treatment, and place the procedure beyond the shafts of therapeutic scepticisms.

Of the several possible methods of electrically stimulating the stomach and intestines, some are only applicable experimentally, and only of value as throwing light upon their physiology. Such, for instance, is the direct application of the electrode to the peritoneal surface, and direct excitation of the peripheral end of the divided vagus.

My own experiments upon animals have been made exclusively with rabbits, and very largely with faradism, as this is the form of electricity from which previous experience and analogy would lead us to expect the most tangible results. The faradic current which I used was furnished by a primary coil containing 100 feet of No. 18 magnet wire, and the secondary of 450 feet of No. 26 magnet wire, and usually about fifty alternations per second. Very slow alternations did not appreciably change results.

My experiments in faradizing the peritoneal surface of the digestive tube gave a constant localized contraction at point of application. This has been pretty uniformly found by other observers, and may be considered as fully established. In the stomach I have never seen the slightest semblance of a general peristaltic wave follow the localized contraction; but in the intestines this happens irregularly. The fact that muscular contraction can be produced so much more readily by stimulating the serous than mucous coat probably finds its explanation at least in part in the circumstance that the nerve filaments supplying the muscular fibers pass through the former, but do not pass through the latter. They are, therefore, more directly stimulated by the peritoneal application.

Faradization of the divided vagus has given no constant results in my hands. Indeed the investigations of Mr. J. N. Langley upon the visceral inhiting fibers of this nerve, if corroborated, would seem to preclude effective motor stimulation of the stomach through this channel. His experiments, which I have not undertaken to repeat, appear to demonstrate that for the cardia, and possibly the entire stomach, the inhibitory fibers in the vagus over balance the motor, or perhaps are more responsive to the forms of stimulation used.

Turning now to more purely clinical aspects of the question, we may proceed according to any of the following methods:

We may pass a current (1) from one area of mucous membrane to another in the same viscus; (2) through the body from skin to skin including any desired viscus between the points of contact; (3) from the mucous lining of the stomach or intestines to the skin; (4) from the mucous membrane of the stomach to that of the intestines, or *vice versa*.

The first method is so obviously unsuited to the stimulation of the muscular tunic that it can be at once dismissed. The gastric mucosa is, relatively to other structures, an excellent conductor of electricity, and the current would be, for the most part, expended there. In accordance with perfectly established laws, the mucous lining would receive all of the current for an undetermined distance from each electrode, beyond which the expanding path of the current would include the muscular wall, but with greatly diminished intensity.

The second, or percutaneous method, is much the simplest, and the least objectionable, so far as its technique is concerned. Its value must hinge very largely upon whether or not the current actually passes through these structures. It has been assumed by some that the therapeutic results were indirectly produced, and that the current passed around the body from one electrode to the other through the intervening structures without penetrating the stomach or intestines at all.

I am able to say that an electric current passed from the skin on one side of the body to the skin on the opposite side, does penetrate the stomach; and to prove it by an absolute demonstration, as is clearly shown in the following:

Experiment.—The stomach of a healthy anæsthetized rabbit was exposed, and completely divided by a transverse section (see Diagram II). In each half was inserted a heavily insulated copper wire with half an inch of the end exposed. The stomach wall was then ligated around each wire. The circuit of the galvanic battery was then completed from the skin covering the spine in the lower dorsal region with a large plate electrode, to the skin over the breast cephalad of the abdominal incision. Ten m. a. were then passed through the circuit. With the battery cells unchanged, and therefore with precisely the same voltage, the ammeter was taken out of the primary circuit and placed in the circuit with the two wires already described as connecting the two halves of the stomach. It registered three m. a. It is prefectly obvious that the only possible route by which the current could reach the ammeter was by traversing the skin and intervening structures and passing through the stomach. It will be observed that the stomach did not lie in the direct line between the electrodes, being prevented from doing so over an intact cutaneous surface, which was a requisite condition, by the abdominal incision. The stomach current would otherwise have been larger. I have no hesitation, therefore, in saying that in the face of this demonstration the penetration of the stomach by electric currents percutaneously applied is no longer a debatable proposition.

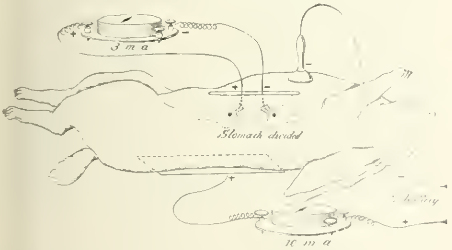

Diagram II.

The question of peristalsis of stomach and intestinal wall need not be considered. Even localized areas of visible contraction, such as are obtained by direct stimultaion of serous or mucous surfaces certainly do not occur by this method.

The third method—mucosa to skin—is correct in principal and practical in character. My experiments, which I have repeated many times, have given results slightly different from those obtained by Meltzer and others. So far as an efficient peristaltic wave of the stomach is concerned, I may as well dispose of that once for all by saying that I have found it absolutely impossible to produce it, or even a semblance of it, by any method which is clinically applicable. I have applied all current strengths, both galvanic and faradic, which come within the therapeutic range, with slow interuptions down to two per second, and so far agree with the investigators referred to in saying that it is quite impossible to produce a peristaltic wave of the stomach by any clinically feasible method of electrical stimulation.

But I must disagree entirely with Meltzer with reference to the production of a localized contraction of the stomach wall by the faradic current from mucosa to skin. If the intragastric electrode is a very small metal tip, and is pressed against the clean moist mucosa, a condition easily fulfilled, clinically, with a large plate electrode (50 to 100 sq. cm.) over the skin, I have regularly obtained a distinct localized persistent wave of contraction in the stomach wall. It was usually about one inch in length by one-fourth of an inch in breadth. This result was obtained with only slight, or sometimes with no contraction of the skeletal muscles.

I am unable to explain the discrepancy, but would call especial attention to two points which may possibly account for it. One is the very large size of the skin electrode, which diffuses, and therefore diminishes the intensity of the current over a relatively very large area of skeletal muscle tissue; the other is the very small size of the intragastric electrode, which limits the current to a very small area with corresponding intensification. It is an absolute law that the relative intensity of an electric current at any two points, or planes of its path, is inversely proportioned to the area of its transverse diffusion. The relative areas of the skin and intragastric electrodes, in my experiments, were more than 200 to 1. This would explain the slight stimulation of subcutaneous, and the intense stimulation of submucous structures. Unless Dr. Meltzer's electrodes were constructed along these lines, our results are not directly comparable.

If the stomach contains fluid through which the current passes no visible contraction can be produced.

If it were practical to move a small metal electrode over the mucous lining of the stomach, or better still a branched electrode, making several pointed applications to successive parts, the nutrition of the stomach wall could be modified and improved, much the same as an involuntary muscle is by such an application. For the present, at least, this is not practical, and would, necessarily, be somewhat haphazard in its application.

In the meantime we may seek for an explanation of the therapeutic results obtained by this method along other lines than those of either peristalsis or an active localized contraction. Putting aside for the present those influences which electricity is believed, and perhaps with good reason, to have directly upon nutritional processes, I have been able to satisfy myself by experimental methods of a phenomenon to which little or no attention has heretofore been given. I refer to a direct, immediate, and palpable increase in the tonus of the stomach wall—a true muscular phenomenon, but neither a peristalsis nor an active contraction limited to a small area. This occurs as a result of intragastric faradization and produces a change in the mass of the stomach which is perceptible to the palpating finger. The increase in intragastric pressure is very slight, amounting to less than one centimeter of a water manometer, but it can usually be demonstrated by the manometer and felt by the finger.

The tonus of a striated muscle is dependent upon a rapid and incessant series of impulses received from higher nerve centers, severance from which, as in a section of the sciatic, produces complete atony of dependent muscles, a condition which is closely simulated in the atonic states of the muscular wall of stomach and intestines in many chronic morbid states. I believe that a series of induction shocks which constitutes the so-called faradic current acting in a somewhat similar manner produce an increase of tonus, which may be more or less persistent, and which may, when sufficiently often repeated, as is necessary with many another effective therapeutic procedure, produce permanent results.

The fourth method, from stomach to colon, while inconvenient, is undoubtedly the most effective. It is perfectly obvious that a current passing through practically all the structures from the upper to the lower plane of the abdominal cavity has a better opportunity to exert its therapeutic influence upon the digestive organs, together with their nervous and vascular mechanism, than by any other method whatever. Practically, all experimenters agree in attributing greater electrical excitability to the muscular tunic of the intestines than to that of the stomach. By the method of application now being considered, I have been able with considerable regularity to incite a true peristalsis of both the large and small intestines after five to twenty seconds of continuous faradization. These movements were unmistakable in character, and efficient in extent. While they cannot be demonstrated clinically, there is every reason to believe that they occur, and I have repeatedly seen clinical results quite in keeping with this assumption in cases of intestinal atony.

These experiments were modified by opening the abdomen under normal saline solutions at body temperature. The intestines remained perfectly quiescent until the faradic current had passed several seconds, when very extensive and long continued movements ensued. They were even stronger and more widely diffused than when the intestines were similarly faradized after exposure to the air.

The experiment demonstrating the penetration of the stomach by the percutaneous method, and the other producing general tetanoid conditions by faradization from stomach to sigmoid, point unmistakably to the free conduction of electrical currents somewhat indifferently through the abdominal contents considered as a mass, the boundary lines of organs not forming insulating barriers to any great extent, if at all. This I believe is strictly in accordance with the established laws of electrophysics. It is the fluids of the tissues that form the conducting media, as all animal tissues without them would offer insurmountable barriers to the passage of currents of any ordinary tension. Now the abdominal viscera are in actual contact by their serous surfaces, which are freely lubricated by a normal saline solution. The fact that it contains viscid constituents is irrelevent to the question of electrical conduction.

In order to more clearly demonstrate the ubiquitous diffusion through the abdominal cavity of electrical currents passing from stomach to intestines, the following experiment was performed. Twenty m. a. were passed through the circuit. The skin of the trunk was then perforated at two different points between the planes of the two electrodes and copper wires (see Diagram III), placed in circuit with an ammeter inserted through the skin into the trunk. As soon as they passed the skin, a slight current was shown by the ammeter to be passing through the circuit, which increased as the wires penetrated more deeply, until, when they had penetrated one inch, three m. a. were shown.

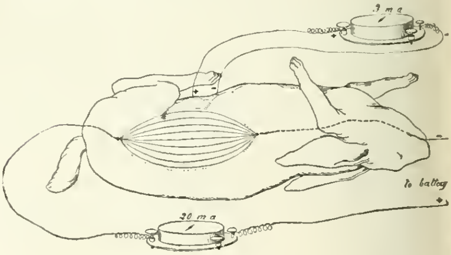

Diagram III.

This demonstrates that the current is widely, and very probably evenly, diffused through the abdominal cavity, somewhat irrespective of the limitations of the contained viscera.

The clinical technique of electrical treatment from stomach to intestines is not difficult. An electrode is passed into the stomach, which should contain fluid, and the patient then lies down upon the operating table and a second electrode is passed into the colon. If the faradic current is used, it is not necessary to have fluid in the bowel; with the galvanic this is advisable, and, with heavy currents, necessary. A current that can be easily tolerated is then passed from one electrode to the other for about ten or fifteen minutes.

As already indicated, the limits of this paper preclude any analysis of the work done by others. Two communications have appeared during the last year, both in the Ann. d'Electrobiology of Paris. The first, by Laguerrier and Delhern, attribute to galvanism effects which are so diametrically opposed to all established principles of electro-physiology as to challenge complete incredulity. They claim, for instance, stronger contractions at the positive than negative pole, which is entirely contrary to the well-known phenomena of electrotonus; also continuous contractions during the passage of the current, which is certainly unheard of in the electro-physiology of striated muscles and their nerves. Possibly we cannot compare the phenomena in the two neuro muscular systems, but it is difficult to believe that they could be so completely opposed.

However, so far as the therapeutics of the muscular tunic of the digestive tube is concerned, and the present inquiry has been limited to this phase of the question, faradism is apparently all that need be considered. It is quite possible that analagous results could be obtained by interruptions of the galvanic current, but that is less convenient, and it remains to be shown that it is even equally efficient.

That faradism can be used as a powerful auxiliary in the treatment of atony of the gastrointestinal muscles is a fact which I believe has been fully established by both clinical and experimental methods. Thus empiricism and science again salute each other, after many similar experiences, the latter illuminating the path which the former has blazoned through the wilderness of unguided human experiences.

I wish to express my indebtedness to Mr. Arthur Hadley, electrician, and my clinical assistant, Dr. B. W. Rhamy, for valuable aid in the experimental work.

Conclusions.—1. Electricity is a very valuable auxiliary in the treatment of muscular atony of the stomach and intestines, although adequate and properly balanced nutrition is an absolutely essential requisite.

2. Faradism is the preferable form of electric treatment, the effect of galvanism being problematical and not so well adapted to the purposes of muscular stimulation.

3. The resistance of the mucous lining of the disgestive tube offers no extraordinaryobstacle to the passage of either current.

4. Electric currents, when applied either percutaneously or with one or both electrodes in mucous lined cavities, pass directly through the abdominal cavity and the walls or parenchyma of the contained viscera, thus following the lines of least resistance.

5. It is impossible to produce a physiological peristaltic wave of the stomach by any method of electrical stimulation either experimentally or clinically.

6. Intragastric faradization, and possibly the percutaneous application, produce an obvious increase of tonicity of stomach wall, with palpable change of stomach, and slight, but measurable, shrinkage in volume.

7. Intracolonic faradization, and especially if the opposite pole is in the stomach, if continued several seconds, produces active intestinal peristalsis.

8. Localized contraction of both the intestinal and gastric musculature can be produced by local application of a concentrated current upon the mucosa; if continued, it will incite peristalsis in the intestines, but not in the stomach.

Loomis Sanitarium.—Dr. Herbert M. King of Grand Rapids, Mich., has been appointed Physician in Charge of the Loomis Sanitarium at Liberty. Dr. King is very favorably known to the profession for his researches in pulmonary tuberculosis, and brings to his appointment the skill and experience of an expert.

PENETRATING INJURIES OF THE EYE WITH OR WITHOUT THE PRESENCE OF A FOREIGN BODY IN THE ORGAN, AND THEIR TREATMENT.*

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A more fitting subject could not have been selected for consideration this evening than that with which your most worthy president has honored me. Injuries to the anterior segment of the eyeball and foreign bodies within the eye are most often seen by the general practitioner at the time of their inception. Upon his judgment often rests the responsibility of the future usefulness, not only of the injured organ, but also of its fellow. Made up as this society is of general practitioners as well as specialists in all departments of our works, questions which admit of discussion by all must prove of mutual benefit.

The subject has been so often and so well presented to the profession that I can hardly expect to offer anything new, but its great importance justifies the hope that its free ventilation will lead to more prompt action in the treatment of extensive wounds involving the so-called dangerous region of the eye, especially when such wounds are accompanied by the retention of foreign particles.

Injuries of the eye offer for solution questions different from those presented by injuries of other organs. Whether to sacrifice or attempt to save the damaged organ is of serious moment, and a decision vexes the most experienced.

The general surgeon has no more important question to test his surgical acumen and knowledge: even where life itself is involved. To many it appears an easy question to decide. When an injured eye is blind, remove it they say, and thereby stop all possibility of future trouble to the fellow eye and responsibility in the case ends. But the conservative surgeon, on the other hand, will assume the responsibility, and often, by judicious care, a useful organ is obtained that works with the fellow in performing its functions.

The present seems to be an opportune time for the summing up of our knowledge of eye injuries and their treatment. The more thorough application of the principles of antisepsis in dealing with such injuries, and the more widespread use of the electro-magnet in removing magnetizable particles from the eye, have induced a conservatism in dealing with wounds and foreign bodies, the wisdom of which can only be proven by a close clinical study of cases.

No department of surgical work has been more thoroughly impressed by the adoption of the principles of antisepsis and nowhere have their beneficent effects been more apparent than in the treatment of eye injuries.

A well known English authority in a recent discussion remarked that, "since the antiseptic treatment of wounds of the eyeball, combined with the removal of all tags of tissue, suturing all wounds, and covering them with conjunctiva, had become more general, the necessity for excising the eye was not so great."

Schirmer, the author of the classic study of "Sympathetic Ophthalmia," in the new edition of Graefe and Saemisch, has recently asserted that the internal administration of mercury to the point of tolerance is the surest safeguard against future trouble in dealing with infected perforating wounds of the globe. In an experience extending over six years and including sixty-two cases of infected wounds of the eye, he met with no case of sympathetic trouble developing and in only 31 per cent. of the cases was enucleation eventually required.

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* Read by invitation before the Medical Society of the County of New York, April 28, 1902.

Wounds of the eyeball are of serious import, according as they are located in or near the ciliary body, and the danger is greater or less in proportion to the amount of injury sustained by the structures of or in close relationship with this part of the organ.

In dealing with eye injuries the questions demanding prompt consideration can be classed as follows:

1. In penetrating injuries of the eyeball how shall we manage the wound, and what shall be done with the structures so often found protruding?

2. If the presence of a foreign body is suspected, what is its character, and what steps are necessary for its removal?

3. What are the dangers of sympathetic involvement, and what are the best means of prophylaxis?

4. If the injuries to the tissues and integrity of the organ are beyond repair, shall enucleation be performed at once or later?

If the injury is a large penetrating one, the structures found protruding will depend upon what part of the eye is the seat of the wound.

If it is corneal and extends backward to the plane of the iris, the structures found in the gap are always iris and possibly portions of the lens and its capsule.

If the line of incision is in the region just external to the sclero-corneal margin, the protruding tissues may be iris, cilliary body, lens or vitreous.

If the penetration is far back vitreous, choroid and retina may protrude from the gaping scleral wound.

If the wound contains only the iris within its grasp and is seen within a few hours of its reception, a replacement may be attempted, provided that the parts have first been thoroughly cleansed. This should be brought about by careful scrubbing of the regions in proximity to the eye. The edges of the lids, cilia and caruncle, especially cleaned by friction with an alkaline solution. The conjunctiva should be flooded with a bi-chloride solution of 1–5000, especial care being given to the cul-de-sac, but under no circumstances should the chemicals be allowed to enter the eye.

With a delicate spatula the iris is gently disengaged from the angles of the wound and pushed into its proper place. If the anterior chamber contains much blood or foreign material carried into it by the penetrating object this can be removed by allowing a gentle stream of warmed normal salt solution to flush the anterior chamber.

If the patient is an adult local anæsthesia by a sterile 4 per cent. solution of cocain or 1 per cent. holocain may be produced. In children a general anæsthetic should always be employed.

If the iris is lacerated and hangs in shreds from the lips of the wound it should be excised, the very greatest care being necessary to disengage the columns from the angles and from the lips of the wound.

If the wound is of many hours duration lymph so binds the iris that perfect separation is impossible. The lips of the wound should be coapted and a binocular bandage applied. In twenty-four hours, when the anterior chamber has begun to reform, a solution of atropine, 1 per cent. should be instilled into the eye. No drug in my experience has had any influence in dilating or contracting the iris so long as the aqueous has not been partially reformed and no dependence can be placed either on mydriatics or myotics in disengaging the iris from the wound.

Many of the penetrating wounds involving the cornea and extending into the ciliary region are made by blunt objects and therefore the wound is often found to be irregular and extending in different directions. In such cases it is frequently impossible to properly approximate the lips of the wound, and thereby the danger of infection and violent secondary reaction is increased.

If an effort is to be made to save such eyes something must be done to bring the lips of the wound together, in order to protect it, during the healing process, from the invasion of infectious organisms. Here a pressure bandage to produce immobility of both eyes is of great value, for as the aqueous humor reforms the corneal flaps may fall into proper position and the wound unite kindly. If, however, this does not appear possible a suture may be employed. The method adapted by Kalt after cataract operation may be tried: a very sharp curved needle with a fine silk suture is passed into but not through the cornea on each side of the wound and then the lips are brought into apposition.

When the wound involves the sclera overlying the ciliary body the necessity for excising the protruding tissue is far greater than when the iris is involved, for so long as tissue is left in the line of separation no complete closure will be affected.

After incision the wound can, in my experience, be most easily closed by a silk suture passed well into the episcleral tissue and conjunctiva. Sutures that penetrate the sclera are a source of irritation, and catgut has not proved reliable.

My personal experience leads me to the opinion that we do not attach the proper amount of importance to the grave possibilities of an incarcerated iris, especially when found at the sclero-corneal margin with a protrusion forming a cystoid cicatrix. To me it presents a constant menace to the eye. Within the past few years I have seen four eyes presenting this character of injury go to destruction from a purulent infection starting at the point of incarceration. Two of these were eyes that had been successfully operated upon for cataract and were useful seeing eyes. One was a case in which, as a result of the ravages of a gonorrheal infection one eye had been lost and the other perforated by a marginal ulcer that had healed with a large mass of iris incorporated in the cicatrix with but little protrusion.

In the fourth the iris and possibly the ends of the ciliary process were incorporated in the wound. In each case as a result of a slight trauma the thin layer of epithelium covering the iris was destroyed and infectious organisms gained entrance, producing a destructive purulent irido-cyclitis.

Recently Berry has advocated treatment in such cases, maintaining that a cystoid cicatrix should never be left as the risk of infection is very great. He claims the best method in dealing with cystoid swellings is the use of the galvano-cautery.

De Gama Pinto has recommended that the cicatrix be exsected thoroughly and that a piece of conjunctiva, obtained by transplantation from a distant point, be implanted.

A more rational method appears to be that advocated by Pagenstecher and more recently recommended by Snellen and De Wecker. It consists in covering the incision with conjunctiva. If the wound is near the sclero-corneal margin and not too extensive a narrow band of conjunctiva is dissected up external to the seat of the line of separation transplanted over the wound and stitched into this position. Or, as De Wecker claims, the entire conjunctiva around the sclero-corneal margin may be loosened up and brought over the cornea in purse string fashion. As soon as the conjunctiva becomes adherent to the line of former separation the stitches are removed and the remainder of the membrane retracts to its normal position. The part adhering to the wound effectually closes it and protects any iris or ciliary body that may be caught in the wound, from future danger of infection.

I have recently observed the value of this method. A colored man, in attempting to drive a nail, hit it a glancing blow so that the nail flew from the hammer and struck him on the lower inner corneal segment with much force. When I saw him a few hours later there was found a large rectangular wound starting near the pupillary margin of the cornea and extending about 3 m.m. to the opaque limbus, then 2.5 m.m. along the limbus upward. The iris protruded from the wound, while the edge of the lens and the vitreous protected by the zonule were in contact with the incision. The anterior chamber contained a quantity of blood, and only light projection and perception were good. The surroundings were carefully cleansed and the conjunctival sac thoroughly irrigated with a boric acid solution. The protruding iris was excised and with a spatula the lips of the wound were cleared. It was found impossible to coapt the triangular piece of cornea that formed the flap so that it would stay in position, and there was danger of the lens being forced into the wound. To protect the line of injury, I dissected up a strip of the conjunctiva corresponding with the scleral edge of the wound, loosening it thoroughly, then made a slit in the conjunctiva at the limbus above and stitched the conjunctiva across, covering more than half of the cornea and the wound. I am convinced that this saved the eye from complete destruction, as the gaping wound would have become infected and the eye lost. The eye showed but little reaction and in a few days the conjunctiva was firmly adherent to the line of the corneal wound and the anterior chamber reformed. When last seen he could count fingers. The pupil was drawn toward the wound, and the cornea, for about 2 m.m. of its inner lower segment, was covered with conjunctiva very suggestive of a pterygium.

Gifford has recently recommended a similar method in protecting the remnants of the cornea in atrophied eyes when the wearing of an artificial eye has become painful.

It is a common observation that when the injury is confined to the ciliary zone extending from 2-6 m.m. back from the sclero-corneal line and the solution of the tissue not great, it constitutes the most dangerous of any to which the eye is subjected. Such wounds are most often made by small sharp, penetrating objects such as a thorn, the blade of a knife or scissors, or the tine of a fork. The penetration is usually deep, the wound is small and closes quickly, thus preventing the outflow of blood and intraocular fluids that would tend to wash out the septic material carried in by the instrument with which the wound is made. Under such conditions the vitreous contains large quantities of blood and furnishes an ideal culture medium for the propagation of the septic germs that were carried into the eye.

Randolph suggests that in large wounds, where the lens is injured, it should be removed, since the swelling that takes place in the lens material produces pressure on the ciliary body, fills the wound with escaping lens substance, prevents approximation and thus favors inflammatory reaction.

The best local application to limit reaction is cold: iced cloths will be found valuable in controlling inflammation and allaying pain. When, however, infection has occurred and panophthalmitis is pending, heat is pleasant, hastens liquefaction and shortens the active inflammatory stage.

If the presence of a foreign body is suspected in the eye, what is its character and what steps are necessary for its removal?

In penetrating wounds where the presence of a foreign body is suspected, the question of diagnosis is of the very greatest importance, and an early decision of the matter of the greatest moment. A history of the manner in which the injury was received with the local appearance of the organ, and the presence of tenderness or a pricking sensation on pressure, immediately after the inception of the injury, will be found of value in making this decision.

The injury resulting from particles flying from two pieces of metal coming forcibly in contact with each other and the eye containing a quantity of blood are strong evidences of the presence of a foreign body. If the injury is from shot and the wound is jagged and lacerated, the indications are that the shot is either in the eye or has traversed the organ and found lodgement in the orbit.

The personal history, as furnished by the patient, is always of some value, but it will often mislead. Positive evidence is now fortunately at our command by the use of the *x*-ray. The localizing method of Sweet in this country, or that of Mackenzie Davidson to be seen at Moorfield's, not only furnishes evidence of the presence of a foreign body in the eye, but its exact location in the organ.

The different substances which pass through the ocular tunics and find lodgement in the eye are of a variety of material, such as stone, glass, copper, shot and iron. Fortunately, the larger number of such cases occur in manufacturing centers where iron or steel is the offending particle. In my experience the most dangerous has been stone. Every eye that has come under my observation containing particles of stone has been lost, either by the severity of the original wound or by infection later from noxious particles carried in by the foreign body.

Leber has drawn attention to the chemical changes excited by the presence of a piece of copper as, for instance, particles of percussion cap lodged in the eye, and the very great danger of their exciting destructive changes in the organ, distinct from the mere influence of the traumatism.

In considering the method of dealing with these cases and the prognosis, we must take into consideration what part of the organ has been injured and in what portion of the eye the foreign body has found lodgement. It may be, (1) in the anterior chamber or iris; (2) in the crystalline lens; (3) loose in the vitreous; (4) lodged in the ocular tunics in the posterior segment of the organ.

The most hopeful of eye injuries with a foreign body present are those in which the particle has penetrated the cornea and remained in the aqueous chamber or found a point of fixture in the iris. Such foreign bodies can often be easily removed by a corneal section and properly constructed forceps. The precaution, however, must be taken to have the patient in the horizontal position, lest when the aqueous humor escapes the particle should become dislodged and drop down behind the opaque limbus where it would be lost to observation and difficult to remove.

When the foreign body has penetrated the deeper structures the danger will depend most upon the nature of the material of which it is composed.

Only in cases when the object is of a magnetizable nature can any assurance of a preservation of the organ be offered. Before the use of the large magnet a scleral incision was necessary and recovery from the result of the trauma was exceptional.

The practical application of the large electromagnet for the removal of particles of iron or steel from the interior of the eye marks a triumph in modern ophthalmology. As Barkan remarks, "Nothing can be more brilliant than to watch the exit of the offending particles from the tissues of the eye and, following the force of the wonderful power, fly to the instrument."

My experience with the use of the magnet is limited. Within the last two years I have seen six cases of steel in the eye where the magnet was used for its removal. In one of these cases the penetration was corneal and the particle of metal was lodged in the iris. After corneal section the particle quickly flew to the instrument. The operation was done within a few hours after the injury and a perfect eye resulted.

In another case the injury was of a similar nature yet the foreign body penetrated partly into the lens. It was easily removed by a corneal section. Traumatic cataract developed; after the absorption of the lens 20-30 vision with proper correction was obtained.

The third case seen in consultation, was one where a serrated sliver of steel entered through the ciliary region and buried itself in the lens. The magnetic force could be seen to make the lens come forward, but the object was so firmly impacted that it could not be gotten from its bed. The lens became opaque and later was removed along with the foreign body.

Three cases were seen where the particle penetrated the vitreous. In one the foreign body entered through the sclero-corneal limbus making a wound about 3 m.m. long. The case was not seen until the following day when a spongy exudate in the pupil and lymph in the anterior chamber indicated an infection already well advanced. When the eye was brought to the magnet, pain denoted the presence of a foreign body. In a few seconds the bulging of the iris indicated that the foreign body had passed through the suspensory ligament, into the posterior chamber and, coming from behind the iris through the pupil, it was easily removed by enlarging the wound of entrance. The infection present at the time of removal ran a mild course, and while the eye is useless as far as seeing is concerned, it has for eighteen months remained free of irritation and with good tension.

In another case a meridional incision was necessary to remove the foreign body which had entered through the ciliary region and found lodgement deep in the vitreous, which at the time of removal showed evidences of purulent infection, and later enucleation of the eye was found necessary.

In still another, seen some days after the reception of the injury, both the *x*-ray and the electro-magnet proved of no value and when the eye was enucleated a long, slender particle of steel was found firmly imbedded in the sclera near the posterior pole.

I believe in magnet operations that the sooner it is resorted to after the reception of the injury the greater will be the chances of getting out the foreign body and the less the chance of infection. After the metal has been allowed to remain for forty-eight hours or longer it becomes firmly imbedded in the lymph which has been deposited and the force exerted by the magnet on small particles is so slight that the foreign body cannot be extricated from its surroundings. Further, the oxidation going on exerts a chemical irritating effect that lessens the resisting power of the tissues and tends to increase the danger of infection.

The advantage of a quick extraction far outweighs in importance the knowledge of the exact location of the foreign body. The use of the *x*-ray is always a source of delay. However, when the offending particle is other than a magnetizable metal, the *x*-ray localization is of great value as an aid to any form of instrumental removal.

The statement made by Knapp years ago, namely, "that the cases of successful or partially successful removal of foreign bodies from the vitreous chamber and its surrounding walls are so rare that they may be considered almost as an exception," is now refuted by Knapp's own report of his results in such cases.

In any consideration of injuries of the anterior segment of the eye with or without the presence in the organ of foreign material the question of sympathetic ophthalmia necessarily presents itself. Since Mackenzie called attention to the fact that in individuals who had lost one eye as the result of an injury the other eye is not infrequently attacked by inflammation and becomes blind, the question of sympathetic diseases of the eye has been one of ever increasing interest. In no other part of the body have we an analagous condition.

It is scarcely in order for me to take up a discussion of the question as to whether the occurrence of sympathetic ophthalmia is due to impressions transmitted along nerve channels or to infecting particles carried by the blood, or lymph spaces. Much has been written and much is yet to be found out. Clinically we are familiar with its results, yet the picture is not always a typical one. The most frequently observed form is a plastic inflammation of the uveal tract, characterized by ciliary injection, punctate deposits on Decemet's membrane, fine dust-like opacities in the vitreous and, if seen early enough, usually changes of an inflammatory nature in the optic nerve head. Later, posterior adhesions to the lens capsule and fibrinous exudates extending over the lens and ciliary body occur. These lead sooner or later to loss of vision. This clinical picture results from almost identical changes going on simultaneously in the injured eye. The shortest time after the receipt of injury in which this process has been noted has been fourteen days, yet it may be delayed for as many years. Children seem to be slightly more liable to its ravages, and eyes that have been the subject of former inflammation are peculiarly prone to its development. In fifteen years experience I have seen it develop under observation only once. The eye sympathetically affected was the seat of corneal opacities from an old phlyctenular disease and was defective in seeing as a result therefrom. This defect led the family and surgeon to postpone preventive enucleation with the hope that the injured eye might eventually become the better.

In addition to the well-defined symptoms of inflammation as just noted, frequently a purely functional neurotic condition known as sympathetic irritation shows itself, characterized by clouding of vision, disturbance of the light sense, lachrymation and numerous subjective sensations. This condition lasts often for a long time without producing functional changes. Again it may be the forerunner of a violent and destructive inflammation.

Sympathetic eye diseases do not occur as often as might be inferred by a casual glance at the literature on the subject. Fuchs quotes Cohn as estimating that 10 per cent. of the blindness throughout the world results from injuries of the eye. Of these, one half, or 5 per cent., of all blindness is due to sympathetic diseases. The percentage given by Magnus and the report of the Ophthalmological Society of the United Kingdom is only slightly less than that estimated by Cohn, 4.5 per cent. Among two hundred children in the Kentucky State Blind Institute I found 3 per cent. blind as the result of sympathetic ophthalmia following injuries. Ohlman found in five hundred and fifty-six severe injuries that sympathetic ophthalmia occurred only twice.

A great many loose diagnoses of sympathetic irritation and even sympathetic inflammation have been made. We must bear in mind that when the eye has been the seat of inflammatory action whether traumatic or idiopathic the fellow eye cannot perform its accustomed duties. The irritation we often see in one eye, the fellow being the seat of a relapsing irido-cyclitis, due to a discrasia, should not be classed as sympathetic but as a result of the diathetic condition.

In making a proper decision as to whether an eye should be enucleated or not a number of important questions offer themselves for solution. First and foremost is the danger of sympathetic ophthalmia. Seldom is the primary injury sufficient to destroy the ability to perceive light and as sympathetic ophthalmia does not develop until sometime later an opportunity should be given for repair in the wound, guarding carefully against the danger of infection by strict aseptic detail. If proper surgical knowledge is used in clearing the wound and it heals kindly without septic infection, the danger of the fellow eye becoming involved is not great, and the eye may eventually become of value. If the eye contains a foreign body that cannot be removed, if the wound fails to heal kindly, or if after healing the scar becomes depressed and the globe tender on pressure and with diminished tension, it should be removed without delay. The presence of an infectious inflammation involving all the ocular and orbital tissues constituting a panophthalmitis, is cause for delay unless the violence of the inflammatory action should appear to influence the general condition.

Harmless blind eyes are better than glass ones, and usually they offer a good foundation for the prosthesis. At the present time patients demand some consideration from a cosmetic standpoint, especially in early life. The lack of symmetry in the development of the two sides of the face when one eye has been removed in childhood is a fact of importance, nevertheless the contrary is held by many. Gordon Byers, in the measurement of ten adult orbits from which the eyeball had been removed in childhood found no difference between the two sides. Congenital anophthalmos shows a decided deficiency in orbital development. In my experience, when the eye has been removed in childhood and an artificial one has been constantly worn both the orbit and the facial muscles on the side of the absent eyeball show tardy development.

Ernest Thompson has recently proven that in animals this deficiency amounts to from 10 to 15 per cent. and involves all the bones entering into the formation of the orbital cavity.

In adults, especially mechanics, the loss of an eye or the removal of a defective eye detracts seriously from their ability to obtain employment and at the same time lessens their earning capacity. Magnus and Würdeman estimate that this loss amounts to from 27 to 30 per cent. for the first year after the accident and from 18 to 20 per cent. after this time.

Without a desire to minimize the danger to which certain eyes are exposed by the fact of the mate being damaged, I would urge a wise conservatism in dealing with injured eyes that have a chance for sight and are not the seat of an inflammation, for, if no infection occurs, they may eventually be of service.

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QUANTITATIVE CHANGES IN THE BLOOD IN PULMONARY TUBERCULOSIS.

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It will be impossible to treat exhaustively every phase of this subject within the limits necessarily placed upon a paper of this kind. In consequence some things that are really important will be omitted or receive only brief mention. For the same reason I will omit references to many of the contributions on this subject. Blood work has received much attention in the past few years, and blood conditions in tuberculosis have been looked into by a large number of careful investigators. By these investigators the facts in regard to some matters have been well established, and in regard to others strikingly different conclusions have been arrived at.

Perhaps in no other diseases are the clinical pictures presented by the patient himself, and by a drop of his blood so paradoxical as in the one under consideration. In but few diseases are the external signs of anæmia more clearly stamped upon the individual. The extreme pallor, the blue-white sclerotics and the transparent ears, lead us to expect blood conditions which the laboratory findings do not verify; while the blood itself, on examination, presents to us values that almost make us doubt the accuracy of our methods. This is illustrated by taking the figures representing the average values found in the examinations of one hundred cases of pulmonary tuberculosis, which I select from data of examinations personally made as representing all stages of the disease. These averages show:

For Males—red cells, 5,039,000; white cells, 14,060; hæmoglobin, 76.7; worth, .76; specific gravity, 1056.

For females—red cells, 4,373,000; white cells, 12,666; hæmoglobin, 72; worth, .73⅔; specific gravity, 1054⅔.

In view of the fact that these examinations were made at an elevation of some 2,300 feet above sea-level, and cannot on that account be compared with those made elsewhere, without taking into consideration the modifying effect of altitude, I insert here the average values found in examining at the same level the blood of a limited number of healthy persons. These averages show:

For males—5,912,000 red cells, and 101 per cent. hæmoglobin.

For females—4,745,000 red cells, and 91 per cent. hæmoglobin.

But one cannot speak in general terms of the blood in tuberculosis, because of the variation in the quantity of its various elements in the different stages of the disease, and even among different cases in the same stage.

Red Cells.—The number of erythrocytes in the first stage of the disease is usually quite suggestive of one or the other of the two distinct types that are generally characterized as first-stage cases. In one of these types is usually found infiltration of a part of one or both upper lobes, without open lesions, and extreme paleness, with or without emaciation. The number of red cells corresponds well with the external evidence of anæmia, as in the case of Miss W., aged eighteen years, blonde, of fairly good physique, but very pale; temperature, 97° to 99.4°; has infiltration of both apices; red cells 3,742,000 per cmm.

In the other type with a circumscribed region of infiltration, occurring in persons apparently in perfect health, with no loss of flesh and with no external evidence of anæmia, one finds usually a normal red blood count. These cases are seldom seen during the closed stage of the disease, as there is nothing to call their attention to the disease at this time. A case will illustrate:

Mr. T., aged thirty-nine years; weight, 162½ pounds; of excellent physique and color, has had no sickness in twenty years. Consulted a physician two weeks before on account of a slight cold, attended with cough. A tinge of blood in the expectoration led to a microscopical examination of the sputum, and the detection of Koch's bacilli. Temperature 98° to 99°. An examination of his blood showed 5,448,000 erythrocytes per cmm.

The former of these types includes the greater number of those cases which run a rapid course with fatal termination. It is probable that in at least some of them the anæmia antedates the tuberculosis, thereby lessening the resisting power of the system against infection and against the progress of the disease after infection has taken place.

In the chronic cases that have little or no fever, and that have no active destructive lesions, one meets the most striking blood conditions. These cases, almost without exception, show extreme pallor and more or less emaciation, and yet their blood count differs but little or not at all from the normal. The average for this class has been 5,329,000 for males, and 4,458,000 for females, while the highest count was 6,288,000, and the lowest 3,680,000.

In those cases with destructive processes in progress, accompanied by an intermittent or remittent fever, such as is usually designated hectic or septic and which we are accustomed to ascribe to a secondary infection with pyogenic organisms, as distinguished from the slight variation in temperature, found in the class last mentioned, there is frequently seen a temporary increase in the number of red cells, amounting in exceptional cases to 7,000,000, this increase being followed, if the fever is long continued, by a lessening of their number, which lessening progresses with the continuance of the septic fever.

In the more advanced cases of the same class, with further evidence of sepsis, profuse sweats, profuse discharge from open surfaces in lungs, both of which, together with the temperature, would be expected to concentrate the blood and give us higher values of the various elements, the blood condition is even poorer than in the same class that do not lose the liquids from the body in this way. The erythrocytes are diminished in number, sometimes as much as a third or a half. However, of the extreme cases of this kind I have but little data, as I have refrained from exposing very sick persons to the little pain incident to getting the specimen without an apparently beneficent motive.

In acute pulmonary tuberculosis, accompanied by high fever and rapid disintegration of the lung, there is a marked decline in the number of cells.

Among the complications that modify the number of the erythrocytes hemorrhage, of course, must be given first place, the number of cells diminishing in proportion to the quantity of blood lost. The rapidity with which blood regeneration takes place depends upon the physical condition of the patient, and upon the ability of the digestive organs to digest and assimilate food. Seldom is the previous count regained under a month after a hemorrhage of any size. After repeated small hemorrhages, cell regeneration may take place even more slowly.

In amyloid degeneration the erythrocytes run progressively low.

Diabetes is said to produce blood concentration in those cases complicated by it. Only two cases of this kind have come under my observation. These gave counts of 5,700,000, and 4,600,000 respectively, which do not differ essentially from those of cases without this complication. Conclusions, however, cannot be drawn from so small a number of cases.

Summarizing, we find a lowered red count in the acute cases, in a part of the anæmic incipient cases, and in a part of the septic cases, while in the chronic second-stage cases, representing a great majority of consumptives, we find, in spite of their pallor, in spite of their cavities, and in many cases in spite of their temperature, a normal number of red cells. This paradox is only explained when we consider the quantity of their blood. Every one who observes carefully, must be impressed with the unusual smallness of the superficial veins in the consumptive, whose capacity for carrying blood is thereby much lessened, and at the autopsies one notes that the diminution in the volume of blood corresponds with the shrunken appearance of the superficial vessels. So that, although we have as yet no means of accurately determining the quantity of blood in the living body, it is at once apparent that in tuberculosis we have, as Grawitz[1] says, a true oligæmia; that is, a lessening of the entire blood mass, though a given quantity of it may contain a normal number of erythrocytes.

One of the reasons given for the blood concentration in tuberculosis is the profuse sweating, the profuse bronchial secretion, and in some cases the diarrhœa. Theoretically, this looks all right, but it does not accord with clinical experience. Those cases in which the secretions are greatest—that is, in which there is the greatest evidence of sepsis—show less blood concentration than was found in the same cases before the secretions became so profuse, and the highest counts are obtained in those cases in which these so-called blood-concentrating causes do not exist. Therefore, if sweats, diarrhœa, etc., are a factor in bringing about blood concentration, this effect is overbalanced by the destruction of blood resulting from the attendant septicæmia. This blood destruction is, as various investigators have shown, in some cases quite rapid. I have seen the number of erythrocytes drop 700,000 in less than five weeks in the presence of conditions such as are supposed to cause concentration, namely, sweats, expectoration and diarrhœa.

The experiments of Gärtner and Römer[2], and of Grawitz[3], a decade ago, have also been made the basis of an explanation of the high blood count found in these cases. These observers found that injections of caseous tubercle, tuberculin and allied products cause a disturbance of balance between the fluids within the blood vessels and in the tissues of the body outside of them, resulting in an excessive flow from the former to the latter, with consequent blood concentration. But these experiments, suggestive as they are, cannot in themselves be accepted as conclusively explaining the blood conditions of phthisis. Tubercle bacilli products do not react in the same manner on the tuberculous and the non-tuberculous. Furthermore, the system rapidly becomes tolerant to their influence, reacting much less to large doses after a time than to small ones at first, so that until their effect is observed under circumstances such as obtain in cases of tuberculosis, where the products of tubercle bacilli metabolism are liberated in the system slowly and in gradually increasing amount, and where there is tuberculous tissue present to modify their physiological effect, this matter will have to remain *sub judice*.

Hæmoglobin.—The hæmoglobin value of the blood in all stages of the disease is low as compared with the number of red corpuscles. This is true even in those cases in which its amount, according to Fleischl, is 100 per cent. or more, as well as in those in which it does not reach half that figure. The worth of the corpuscle varying usually between 50 and 90, and averaging for males 76 per cent. and for females 73⅜ per cent. The complications, hemorrhage, sepsis, malassimilation of food, etc., influence it in much the same way, but in greater degree than they influence the number of erythrocytes.

It was Laache[4] who first called attention to the discrepancy between the blood count and the appearance of the patient, and who after the examination of a small number of cases, in which the red cells were nearly normal in number, decided that phthisis does not of itself tend to the production of anæmia. This opinion has been sanctioned by practically every later contributor to the subject, though all have recognized the presence of a certain number of anæmic cases. Cabot[5], the pioneer of blood work in America, to whom we owe so much, says, that "pure tubercular disease, whatever its seat, has little or no effect upon the blood," and ascribes blood changes, when present, to the concurrent sepsis. Lazarus[6] speaks of the disease as one which can progress until productive of considerable emaciation and still show normal hæmoglobin and corpuscle count. And in the authoritative works, which have come out in the last year, Ewing[7] notes the presence of anæmia in many cases, yet finds that "normal blood is found in many phthisical patients who do not sweat or suffer from diarrhœa, Dacosta[8] introduces his chapter on tuberculosis with the statement that "a pure infection with Koch's bacillus of tuberculosis is capable of producing comparatively slight alteration in the composition of the blood," and ascribes such changes as may be associated with tuberculous processes to secondary infection and not to the disease *per se*. He also states that[9] "in a large proportion of tuberculous patients, neither the hæmoglobin nor the erythrocytes fall below the normal standard, this being the rule both in incipient cases and in those which, although of greater chronicity, have escaped mixed infection, or have successfully withstood the ill effects of the constitutional drain." The examinations which I have made lead me to a somewhat different conclusion. If we understand anæmia to be a "deficiency in corpuscle substance; that is, in red cells, in hæmoglobin, or in both" then I have found anæmia present in all stages of the disease, and independent of complications, the anæmia being characterized by deficiency of hæmoglobin without necessary change in the number or size of the erythrocytes, and therein differing from chlorotic anæmia, to which it bears resemblance. This anæmia may be, and in some cases no doubt is, a preexistent condition, which continues after the development of the tuberculosis, but it can hardly be so in all the cases not complicated by a secondary infection. The exceptional cases in which the blood worth reaches 100 have not in my examinations occurred sufficiently often to invalidate the fact that anæmia is a characteristic of the blood in phthisis. The hæmoglobin has reached 95 in but 4 per cent. of the cases, and this at an altitude that should give us high blood values. On the other hand, it has been below 60 in but 8 per cent. of the cases. These figures, as well as some others presented herein, are not in full accord with those recently given by Appelbaum[10]. He reports the average hæmoglobin in the second stage of the disease to be as high as 90 to 95 per cent., and, like others, puts night sweats and diarrhœa in causal relation thereto, and to the normal count also found in this stage. The facts which I have already set forth concerning the relation of these causes to the number of erythrocytes apply in even greater measure to their relation to the amount of hæmoglobin.

Specific Gravity.—The specific gravity in many cases of phthisis is below that of normal blood. As compared with the amount of hæmoglobin present, however, it is in most cases a little higher than either the table of Hammerschlag or Schmaltz would indicate. This relatively high specific gravity is more marked in those cases in which the blood worth is low. This, however, we should expect. And this fact only illustrates the defect in the method of estimating the hæmoglobin from the specific gravity, without taking into consideration the number of red cells.

Leucocytes.—The number of leucocytes varies between quite wide limits, and a knowledge of the number in each and every case is a matter of great clinical importance, confirming or denying the conclusions arrived at by physical examination, and making clear the condition in many doubtful cases, and giving us data, which, if considered along with that to be obtained by other methods of examination, will aid materially in prognosis.

In the acute miliary form of the disease, which runs its course without suppurative process, in the first stage of chronic pulmonary tuberculosis before pyogenic infection has taken place, and in fibroid phthisis, there is found a normal number of leucocytes, or, if the number of erythrocytes is diminished the number of white cells may also be correspondingly reduced. In tubercular pneumonia there is always present a marked leucocytosis, which, however, is not usually so great as in the pneumonia due to the presence of the pneumococcus. Deaver[11] has called attention to the fact that after excluding pneumonia, leukæmia, etc., we can from a marked leucocytosis always safely infer the presence of pus or its consequences. This finds abundant verification in the blood examinations of phthisis. Moreover, the extent of the leucocytosis bears some relation to the acuteness and extent of the destructive process, being greatest during abscess formation, and lessening but not disappearing after rupture of the same, and during the sloughing process, or the granulation process which follows.

A notable exception to the rule above stated is found in a few of the septic cases, in which, with gradually increasing sepsis, we find a low or lessening leucocyte count. In tuberculosis, as in other diseases, complicated by pyogenic infection, this condition indicates feeble resisting power on the part of the system, and is of greatest prognostic import. The few cases of this kind which I have seen have promptly died. A high leucocyte count under the same conditions is a better omen.

After pulmonary hemorrhage there should be a leucocytosis of from 10,000 to 20,000, dependent partly upon the amount of blood lost, and partly upon the recuperative power of the system, a high count indicating greater reserve power than a low one under the same circumstances. This increase in the number of white cells does not begin as quickly as is the case after traumatic hemorrhage, but is frequently delayed as much as twelve hours, and continues from one to four or more days.

Dry cavities in arrested or cured cases do not in themselves occasion any increase in the number of white cells.

Marked elevation of temperature in phthisis is usually attended by an increase in the number of white cells, but this increase is dependent upon the lung condition (pneumonic or septic), and bears no direct relation to the temperature itself.

Summary.—The number of erythrocytes is usually higher than the appearance of the patient would suggest, amounting in many cases to a normal count.

A low count, when present, is suggestive of low resisting power, or an unfavorable complication.

The usual explanation as to the cause of blood concentration is not fully confirmed by facts.

There is a true oligæmia in the majority of the cases.

The hæmoglobin and the corpuscle worth are so uniformly subnormal as to justify the conclusion that anæmia is a characteristic of pulmonary tuberculosis.

The specific gravity is low, but a little higher than corresponds with the hæmoglobin.

The number of leucocytes varies from one-half to four or more times the normal number dependent upon the stage of the disease, the character of the infection, the resisting power of the individual, and the presence of complications.

In any given case their number may have both diagnostic and prognostic import.

ASHEVILLE, June, 1902.

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A CLASSICAL EXAMPLE OF LANDRY'S PARALYSIS.

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TYPICAL examples of Landry's paralysis are rare. The anomalous is the rule. Of six instances in which the diagnosis was tenable, which number constitutes the entire personal experience of the writer during fourteen years of special work, in one only were the symptom picture and collateral history classically exact. These facts are assumed to be of sufficient interest and importance to warrant a record of the following case: On Tuesday, August 27, 1901, I was asked by Drs. Townsend and Coonley of Staten Island to see W. M. L., male, aged twenty years, suffering from a paralysis of somewhat abrupt onset. The patient, a young man of excellent family and personal history, of good habits and vigorous, athletic physique, had been ill in bed for three days only, although for more than a week he had complained of excessive lassitude and general weakness. On the 17th, while out sailing in an open boat, dressed only in a bathing suit, he had gotten thoroughly wet in a sudden shower. He allowed his wet clothing to dry on his person and the temperature dropping considerably after the shower, he became quite chilled. The only ill effect, however, noticed for several days afterwards, was the general malaise mentioned. On Saturday, the 24th, he came home from business in a state of marked physical prostration following a severe chill. He complained of severe backache and registered a temperature of 101°–102°. Throughout Sunday his condition remained much the same, the temperature continuing with but little variation. The following morning the muscles of the left foot and ankle were found to be paralysed, a few hours later the other foot and both legs became affected and by night the paralysis had extended upwards, implicating successively the abdominal and thoracic muscles and finally the arms, shoulders and neck. The urine could not be voided, catheterization becoming necessary. After the onset of paralysis all subjective pain ceased. On Tuesday when the man was seen by me, the condition was as above described. the paralysis being complete and of the flaccid type. The only motion possible in any of the extremities was slight flexion of the fingers and of the second toe of the right foot. All reflexe—splantar, knee jerks, cremasteric and abdominal—were absolutely abolished. All forms of common sensibility appeared normal except a diminished pain sense when tested with a deep pin prick. Respiratory function was markedly affected and seemed to depend upon the abdominal and throat muscles, there being only faintly perceptible movement of the intercostals. Deglutition was well nigh impossible and the voice was much weakened. Each cranial nerve was, on careful examination, found to be quite normal, although the ciliospinal pupillary reflex was sluggish and the right pupil larger than the left. On exposure, the patient's entire body became covered with a mottled blush, indicating vaso-motor paresis. All mental functions and faculties were perfectly normal, the patient remaining acutely and pathetically conscious of his condition. An absolute insomnia had persisted for seventy-two hours. The pulse was weak, thready and rapid—110 to 130—but without intermission. Continuous hot saline irrigation with active mercurial inunctions were suggested and employed, but without the slightest perceptible effect, the patient dying from paralysis of the pneumogastric the following night. Autopsy was refused.

105 WEST 73D STREET.

The Shape of the Tuberculous Chest.—Woods Hutchinson holds that the tuberculous chest, instead of being flat, is round—that the anteroposterior diameter, instead of being diminished relatively to the transverse, is actually increased. In the normal chest the posterior surface of the chest wall is sufficiently flat to allow the inner surface of the scapulæ to rest comfortably upon it, and the shoulders fall back easily and remain naturally in the erect or military position. In the rounded chest of the child, or of the consumptive, the scapulæ, having no flat surface on which to rest roll forward in the direction of least resistance, and come to rest, almost on the anterior wall of the chest. So that flatness of the chest is merely an index of the position of the shoulders. Almost incredible as it may seem, he contends, the healthy vigorous human chest is of the broad, flat, well-expanded, low-indexed type. The author says that he is aware that his two hundred measurements are not sufficient to prove his theory, and hopes that other physicians will collaborate with him in ascertaining the facts in the case.—*The Medical Examiner and Practitioner.*

Bilious Remittent Estivoautumnal Fever.—Ira B. Bartle reports sixty-two cases treated the past year. In eighteen the attack was aborted, making the duration from three days to a week. To abort the fever he has used but two methods—one the use of Warburg's tincture, and the other ten-grain doses of quinine at 6, 8, 10 and 12 A.M. The former was used in twelve out of the eighteen cases, with calomel two grains every two hours until four doses were taken, then twenty to thirty grains of sodium phosphate three times a day, together with a tablespoon of Warburg's tincture at 7 and 10 A.M. Eight of the cases of fever showed decided typhoid symptoms. Quinine was here of little value, but merely increased the nervous symptoms. Out of the sixty-two cases mentioned, one died of hemorrhage, and the other probably from perforation.—*Oklahoma Medical-News Journal.*

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THE PHYSICAL BASIS OF HEREDITY.

PROFESSOR Carl H. Eigenmann of Indiana University contributes, in a recent issue of the *Popular Science Monthly*, a well-considered article on the above theme. The transmission of mental traits has always been a subject of peculiar concern to scientists, as well as of serious disputation. Some contend that mental peculiarities are always handed down to an individual's descendants, to a greater or less extent, others hold that these gifts or faults of the mind are only sometimes transmitted, and yet another contingent perseveres in the belief that such occurrences are merely accidental.

Professor Eigenmann steers a middle course and states as his opinion that mental peculiarities are transmissible. Sometimes one mental trait of the parents is transmitted to one child, while others are transmitted to another. However, allowance is made for the effect of environment, especially of education, overcoming hereditary tendencies.

Galton has determined just how much, on an average, each ancestor contributes to the peculiarities of an individual. The parents together contribute one-half of the total heritage, the four grandparents together one-fourth, the eight great-grandparents one-eighth, the sixteen great-great-grandparents one-sixteenth, and all the remainder of the ancestry one-sixteenth.

Referring to this, Dr. Eigenmann says: "This law explains another—that the offspring of exceptional parents are, on an average, less exceptional than their parents Supposing that the average height of two parents exceeds the average height of the race by three inches. The average of the grand parents and remoter ancestors will differ from the average height of the race by much less than this. Since the ancestors beyond the parents contribute one-half the entire heritage of the individual, they will act as a drag to pull the individual toward mediocrity, in the present case by one inch. This law acts impartially, so that the offspring of the extremely good and the extremely bad are both saved from the fate of their parents. This regression toward mediocrity may readily be overcome by selective breeding. In race-horse breeding, if the ancestry has been good for three or four generations, the rest are not considered.

Mediocre parentage has little or no influence on the talents of offspring. "Among mankind we trust largely for our exceptional men to extreme variations occurring among the commonplace." Men of genius are necessarily isolated, in that they possess but few relations exceptionally gifted.

As to the physical basis of heredity, Dr. Eigenmann discusses the matter from a broad standpoint, and points out that each method of forming new individuals is restricted to some limited group of species. In the great majority of animals sexual reproduction is the only means of transmitting characters to a new generation. This, of course, is usually produced by the fusion of two cells.

With regard to the advantages of the production of a new individual by the union of two cells, the writer says: "That on the part of some it is looked upon as the union of two hereditary tendencies, which eliminates extreme badness, or what amounts to the same thing, extreme goodness that may be inherent in one of these tendencies, and at the same time insures new combinations of characters from which nature may select the fit. On the part of others it is looked upon as a means of rejuvenescence or union of energies to insure the continuance of life for another span.

Loeb has found that an egg that will under all normal conditions develop only after a male cell has entered it, may be caused to develop without the male cell by placing it for a short time in a solution of higher osmotic pressure than that in which it is normally found. It is thus seen that one function of the male cell is to supply stimulation to the egg to cause it to develop, to regain the lost power of dividing, to rejuvenate it or to act as a catalyzer. But it has long been known that the child may inherit from the father. Indeed, Boveri has shown that the male cell can also develop alone into a new individual, if it is supplied with a proper medium of sufficient size."

Boveri further shows not only that hereditary qualities are compressed into two cells, one just large enough to be seen with the unaided eye and the other far to small to be seen without the microscope, but he has demonstrated that the hereditary plasma is restricted even to certain parts only of these cells. From a series of experiments it was concluded that the nucleus of a cell contains the physical basis of heredity.

Again the character of any cell is controlled by the nucleus it contains, and, since it has been shown that the nucleus contains two different groups of chromosomes, one group containing the peculiarities of the father and the other the peculiarities of the mother, the cause of the blending—says Dr. Eigenmann—of the two sets of characters in the offspring becomes apparent and the greater resemblance in some characters to one parent and in other characters to the other parent may be readily inferred.

These explanations of how mental traits may be, and probably are, transmitted are worthy of close attention, although, perhaps, too much stress is laid upon hereditary transmission of mental peculiarities. Nevertheless, when it is considered that the possession of inherited traits is by Dr. Eigenmann taken for granted, and that the paper was written with the object of showing the manner in which this result is brought to pass, no objection can be made to the trend of the argument. There is no doubt that mental peculiarities are transmitted, but not to the extent believed by some. A tendency to do right or to do wrong is more often the outcome of environment, bringing up and education than of heredity.

A young child is naturally imitative to a degree, and is strongly influenced by those around him, and his character is mainly formed in youth.

At the same time it cannot be denied that mental traits may be transmitted, and there would seem to be no inherent reason why they should not be inherited on a physical basis.

THE PATIENT AND THE FEE QUESTION.

Not many months ago an eminent surgeon of this city charged a very large fee for the performance of an ordinary operation on a man of great wealth, and was forced to be satisfied with one-fifth of the amount named. The outcome of the settlement was not what was expected, and from many points of view the operator was placed in the embarrassing position of virtually acknowledging that not only was the gross sum an extravagant one, but all in excess of the demand took the aspect of a swindle. Such, at least, was the legitimate assumption of the client in view of the acquiescence of the professional gentleman to the bargain of the large reduction of the figures. There was no excuse for the latter on the score of the inability of the patient to pay any reasonable fee. Nor can it be claimed that the services rendered were not of incalculable value to the patient, whose life might otherwise have been forfeited.

The whole question narrowed itself down to the matter of alleged excessive charge, and the surgeon implicitly confessed to the truth of the indictment. It is just such transactions as these that lower the proper estimate which should be placed upon skilled professional services. There is just as much a mistake in placing the fee too high as too low. In other words, a maximum fee should be properly considered and then adhered to at all hazards. The charge should be right in the first place, and when the patient is able to pay there should be no compromise on the mere basis of actual value of the services to the recipient. All other modifying circumstances may be taken into account save those which refer to the abstract justice of the pecuniary part in the transaction. The mistake made by the surgeon in question was the virtual acknowledgement that one-fifth of the fee was, after all, a satisfactory amount.

As a vindication of principle, it would have been much better either to have trusted to the uncertain outcome of a jury trial than to have given the patient the right to decide the question in his own favor.

Whatever the legal verdict might have been under the circumstances, the surgeon could then have had the satisfaction, even under an adverse judgment, of maintaining that he was right notwithstanding. As it is, the patient quietly chuckles over an opportunity of placing his own value on the service, and of reporting his triumph to his wide and influential circle of acquaintances. It would appear better, rather than submit to such a condition, to run the risk of losing the fee altogether and saying in the end that the charge was right, no matter what the patient might believe.

Although a medical fee for special services is always sufficiently expansive, in view of special circumstances making it so, the patient has a right to believe that it is ultimately fixed on the arbitrary standard of a purely commercial transaction. The physician or surgeon must not be in doubt on this point any more than he is in giving his other doses to his patient. This is the only basis of mutual responsibility in discharging reasonable obligations. So long as there is a pecuniary element in the transaction, it is evident that such obligation should be measured by a monetary standard. The price should be fair and the sum should be fixed. This gives due dignity to the service and proper satisfaction on the *quid pro quo* standard. There is no reason for varying this rule, save in the exceptional instances when the patient is absolutely unable to meet the demands. Then the compromise is a concession to his poverty rather than a virtual admission that the bill is excessive.

While extraordinary services may command special prices, it is nevertheless just and right that the every-day visits should be fixed by an absolute charge previously understood by the patient. All these points are so self-evident that it seems hardly necessary to refer to them save in connection with the subject of the editorial text.

QUACKS IN AUSTRALIA.

Medical men in the United States frequently—and with justice—complain of the unfair competition to which they are exposed at the hands of Christian Scientists, Faith Healers, Osteopaths, and various other members of the quack fraternity.

But the lot of the medical practitioner in this country is blissful compared to that of his fellow practitioner in Australia.

In no part of the world is the unqualified, ignorant medical pretender given so great license as in the aforenamed British colony. There is no proper medical law there, nor is any restriction placed on the doings of the quack; on the contrary, the duly qualified medical man is unjustly discriminated against and every facility is afforded the illegitimate practitioner to gull the public and incidentally to fill his pockets.

The New York *Evening Post* of June 8 quotes from an article on the subject which recently appeared in the London *Daily Mail*, written by an individual who is apparently well acquainted with the facts of the case.

In part this writer says as follows: Statistics prove that each legitimately qualified practitioner living in Australia strives for his bread in competition with three quacks, but if the law does not protect the qualified man, and despises the health of the community thus impiously exposed to the ravages of impostors, the charlatan himself it takes to its heart and nourishes as though he were a precious jewel.

Thus, if a man suffer from the negligence or malpractice of a qualified surgeon or physician and can prove his case, the law gives heavy damages to the injured one. But if a like injury be suffered at the hands of a quack, the law non-suits the plaintiff, remarking, with a wag of its asinine head, "My dear sir, you have no case! If you employ a quack to attend you, you do so at your own risk. You have no legal redress!" Strange but true! What wonder then that Australia is the happy hunting-ground for quacks.

Again, restrained by the absurd chains of custom and rigid, iron-bound etiquette, a properly qualified medico dare not advertise. He may be a gold-medallist, an F.R.C.P., an F.R.C.S.; he may possess the talents of a Treves, a Gull, or a MacCormac; but if he so much as insert a card in a newspaper he is cut thenceforth and for all time by his professional brethren. He is, therefore, obliged to spend the best years of his life waiting idly behind his door-plate, often vainly, for the public, to discover his abilities. The quack, on the other hand, suffer no bushel to hide his light. No etiquette fetters his movements. He covers the advertising pages of all the afternoon city dailies and the country weeklies with the announcement of his fictitious qualifications, with perjurious statutory declarations concerning the marvellous cures he has effected, and with glowing accounts of his heaven-inspired genius."

This is a realistic word picture of the difficulties with which the medical man has to contend in Australia, withal it is convincing and conveys a true impression to the mind of the state of affairs medical in a country where there are no protective laws either for the physician or the public. New countries have the idea that they must cast off all old-world trammels and prejudices, that such are hurtful to freedom, and they always end by rushing into excess, to their own detriment.

It is obvious to every reasonable and sane person that laws which do not permit an incompetent individual to practise medicine—who holds, as it were, in his hands the balance between life and death—is to the advantage of everyone concerned—indeed, is of supreme importance to the community at large. When it is said that one man, a herbalist, and prince of Australian quacks, pays income tax on an annual revenue of $150,000, that he can just write his own name and read large print, and that there is no legally qualified surgeon or medical practitioner in Australia who earns more than $30,000—one may draw his own conclusions.

As to the remarks of the writer in the London *Mail* with regard to the foolishness of the etiquette which prevents a qualified medical man from advertising in the slightest degree the ethics of the profession rightly demand that this unwritten law be strictly observed.

It is sufficient protection to their own interests and to the welfare of the general public if the law will insist that no person who has not gone through a proper medical course, and passed the required examinations, shall be allowed to practise on equal terms with those who have done so.

MAGNESIUM DIOXIDE.

A discovery has been made recently which is claimed to be a remarkable achievement in chemistry and of considerable therapeutic value. Dr. Friedrich Elias, a Berlin scientist, has succeeded in evolving by a chemical process of his own devising, a magnesium dioxide (MgO_2) which he asserts is capable of emitting a large amount of diffusible oxygen throughout the system. This preparation, which is not a synthetic product, occurs as an impalpable white powder, tasteless, colorless, odorless, non-astringent, non-irritant, non-toxic and insoluble in water. Dr. Henry Leffman, Professor of Chemistry in the Woman's Medical College, Philadelphia, and Vice-President of the British Society of Public Analyses, has analyzed magnesium dioxide and makes the statement with regard to its composition that it contains no barium, strontium or calcium compounds. It is free from sodium dioxide and caustic potash, therefore possesses no caustic properties. It is also declared to be capable of exuding large quantities of diffusible assimilable oxygen. It is claimed that this preparation exerts beneficial effects in the treatment of diseases arising from deficient oxidation. If magnesium dioxide be as easily absorbed by the capillaries as is stated to be the case by those who have tested it clinically, it should prove a therapeutic remedy of much value.

ARSENIC AND FOOD.

In the *London Polyclinic* there have appeared of late articles on the relation of arsenic to food and incidentally as a cause of cancer. It would appear to be an undoubted fact that arsenic is contained in many more articles of food than is generally supposed. All beer made from malt dried over coke is liable to contain arsenic, and when, as in Manchester and district some months ago, the amount of the drug which is present in the beer is excessive the results are disastrous to health and life. Again long continued taking of the mineral in small quantities will give rise to a number of nervous affections.

On the other hand, as an editorial in the *Polyclinic* (June) points out, there is a bright side to the shield. Arsenic in medicinal doses possesses most remarkable powers in the control of many very serious diseases, and in the much smaller doses in which beer-drinkers usually receive it, it is simply a very efficient tonic, and that thus, although some may have suffered from arsenical beer, a large majority have been benefited. Nevertheless, while it may be freely conceded that arsenic in infinitesimal doses, such as beer should contain, is beneficial to health, yet the statement is just as indisputable that the continued ingestion of arsenic in moderate or even medicinal doses is usually followed by unpleasant if not dangerous symptoms. The amount of arsenic contained in any article of diet should be, therefore, rigidly restricted well within the limits of safety.

THE CHANCES OF LONG LIFE.

In the MEDICAL RECORD, some time ago, the subject of longevity was touched upon, and several instances were cited in which individuals were shown to have reached a span of life far beyond the ordinary limit. Most of these examples, however, occurred many years ago, and their authenticity is not wholly beyond doubt.

M. Jean Finot is quoted in the *Literary Digest* (May 31) as bringing forward instances of longevity which quite put to the blush any cases mentioned in the RECORD. He refers to a resident of Genoa who is said to have reached his four hundredth year in the enjoyment of all his intellectual faculties; a Scotchman who lived to be over 200 years old, and various monks of Mont Athos who have reached 150 years. He asserts that Servian statistics for 1897 show three persons between 135 and 140 years old, 18 from 126 to 135, 123 from 115 to 125, and 290 from 105 to 115. In 1890, there were, he says, in the United States 3,981 persons over 100 years of age old and 21 in London.

The most satisfactory feature with regard to M. Finot's views is that he does not believe that the average length of human life has been reduced. On the contrary, he believes that it is constantly increasing, owing to the progress of hygiene.

In answer to the question why do we die at all the writer answers, "For three reasons: First, want of physical exercise in the open air; second, poisoning by microbes which the phagocytes have not succeeded in destroying; third, fear of death." Nevertheless, comforting though M. Finot's optimistic ideas as to longevity in the present time may be, there are other philosophers who by no means agree with his conclusions. M. Henri de Barigny on the contrary thinks that some two thousand years ago a man of 68 or thereabouts was likely to live longer than a modern Englishman of the same age. His reasons for thinking thus are as follows:

"Evidently there was among the Egyptians a natural selection, resulting from environment that does not take place to-day, at least to the same degree, among civilized people. The Egyptians who reached the age of 68 years had robust constitutions, and therefore their chances of longevity were exceptional. Mortality was higher among the children and the adults, and there was a kind of selection by death. The man of to-day is not stronger; he is possibly weaker. But the majority of the people live under conditions more favorable to longevity, because we know what conditions to promote. In other words, the greater expectation of average life is the result of the progress of sanitary science in the fullest sense, and not the result of increase of vitality. It is the consequence of the evolution of man's intellect rather than of the evolution of his body." It is for these reasons that M. de Varigny asserts that although the chances of life have increased for infancy, youth, and the prime of life, they have not increased for old age.

M. de Varigny, in fact, is merely one of the numerous band of exponents of the survival of the fittest theory. Human life in general is prolonged to an extent not dreamt of in the days of the ancient Egyptians, when weakly children would probably have been promptly killed, and when only the constitutionally strong had a chance to survive. It is still a debatable point as to which custom is the best for the race at large.

DIET.

There has been recently issued a flood of literature bearing upon "what we should eat and what we should drink," some of which is illuminating and instructive, while some is sublime nonsense.

Sir Henry Thompson, who has been for long an accepted authority on the diet question, has just issued a small book which he informs us, in the preface, is the same as that first published in 1866, when he was sixty-five years of age, with the addition now that he has reached eighty-two, of about an equal amount of material verifying his earlier experience and observations, and an appendix on sugar. Sir Henry Thompson is continually being brought forward by rabid vegetarians as one of the foremost exponents and advocates of a wholly vegetable diet. On the contrary, he declares that while "sympathizing to a large extent myself with the practice of what is called 'vegetarianism' in diet, and knowing how valuable the exclusive, or almost exclusive use of the products of the vegetable kingdom may be for a considerable number of the adult population of our own and of other countries, in the temperate zones, and for most of that which inhabits the torrid zone, I object strongly to a dogmatic assertion that such limitation of their food is desirable for any class or body of persons whatever."

Another useful book on dietetics has been written by Dr. W. Gilman Thompson. This is a work of ambitious scope and contains a mass of information on all points bearing upon diet. Dr. Joseph E. Winter of New York has written a monograph on the food factor as a cause of health and disease during childhood, a pamphlet which will be of much value especially during the hot season. But of all the literature which has been contributed on the matter of eating, that being published in the *Lancet* at present is perhaps on the whole, the best.

Dr. Harry Campbell, physician to the Northwest London Hospital, is writing for the *Lancet* a series of articles, which he terms "Observations on Diet." Referring to the manner of food most suitable to man the writer says: "But while man is carnivorous he is also herbivorous, *i. e.* he is by nature omnivorous, a mixed feeder. Some races subsist wholly on animal, others solely on vegetable, food, but taking the whole world over it is found that man thrives best on a mixed diet. *i. e.* experience, which is, in the last resort, the only reliable test, confirms the conclusion derived from ancestral and anatomical considerations, and the accumulated experience of many countries through many ages goes to show that man thrives best on a dietary in which proteids, fats, and saccharides bear a certain proportion to one another. Now this proportion cannot be obtained on a purely animal diet or on a purely vegetable one. In the former case a quantity of proteid greatly in excess of his requirements has to be consumed in order to secure the necessary quantity of carbon, and in the latter the needful quantity of nitrogen can only be obtained by consuming an excess of saccharides and cumbering the alimentary tract with a large mass of food, which is objectionable not only for mere mechanical reasons but on account of the enormous demands it makes upon the digestive system, to which it diverts a large amount of blood and energy which might be employed elsewhere. These difficulties are got rid of by combining animal and vegetable food so as to secure a proper proportion of the various nutritive ingredients, that proportion being obtained by taking about one of the former to two of the latter. If the diet be too much animal or too much vegetable certain evils result."

Treatment of Chronic Suppuration in the Frontal Sinus.—H Lambert Lack sums up the treatment for this condition as follows: (1) In all cases of suspected suppuration in the frontal sinus intranasal treatment should be tried in the first instance. This consists in securing free access to the lower end of the infundibulum by removing the anterior end of the middle turbinate, part of the uncinate process, and opening up the anterior ethmoidal cells, at the same time removing any polypi or other obstruction that may be present, followed by simple nasal irrigations for a few weeks. In favorable circumstances this may be followed by cautious attempts to wash out the sinus through its natural opening, but on no account should an attempt be made to forcibly enter it from the nose; (2) If this method fails and serious symptoms are present, the frontal sinus should be opened externally, and should be obliterated when it is not very large; when the posterior wall is carious or perforated; when cerebral symptoms are present; and even when the sinus is large if the patient does not object to the risk of deformity; (3) In all other cases a free opening should be made into the nose, and free drainage maintained until all suppuration has ceased. Operations providing external drainage only are insufficient, and operations allowing of intranasal drainage for a limited time only are both inefficient and dangerous. —*Edinburgh Medical Journal.*

News of the Week.

The Next Surgeon-General of the Army.—It is announced that the President has designated Col. R. M. O'Reilly to be surgeon-general of the army to succeed General Forwood, who will retire on September 7 next. Colonel O'Reilly will have until January, 1909, to serve as surgeon-general. He was appointed from Pennsylvania as a medical cadet in 1864. He is a graduate of the medical department of the University of Pennsylvania.

Sanitary Matters in Cuba.—The Cuban Government has appointed Dr. Charles Finlay as Chief Health Officer for the island of Cuba. This is an excellent appointment, and one that augurs well for the continuation of the high sanitary standards which have been established in the island. The Chief Quarantine Officer is Dr. Eduardo F. Nuñez, a graduate of the University of Pennsylvania. He practised for several years in Philadelphia, was acting assistant surgeon in the U. S. Army during the Spanish War, and since that time has been engaged in sanitary work in Havana and other cities of the island. The U. S. Marine-Hospital Service has transferred to the Cuban Government five completely equipped quarantine stations, and fourteen minor stations. At a dinner given in Havana in honor of Dr. Gorgas and the unexampled success of his sanitary labors in that city, Dr. J. Santos Fernández paid a graceful tribute to him and his work. In expressing his pleasure that Dr. Gorgas was to remain in Havana in order to ensure a permanency of the results already obtained, he added that his words were more significant because he had never been a partisan of the revolution, and had not believed the Americans would act in the way they did. But now he acknowledged his mistake and was glad to do so, and he hoped he might always be mistaken in the same way if it would be to the advantage of his country.

Money for Isolation Hospitals.—The Board of Estimate and Apportionment in this city has appropriated for the year 1902 the sum of $37,000 "for the purpose of defraying expenses required for the preservation of the public health, and the care and maintenance of patients suffering from contagious diseases." It is understood that the particular object which the health authorities had in view in asking for this appropriation was the renovation of some of the structures which are now used as smallpox hospitals on North Brother Island.

The Purity of Bottled Table Waters.—The Board of Health has adopted an amendment to the sanitary code, looking to a standard of purity for artificial and bottled table waters. Every manufacturer and importer or other persons who manufacture or import mineral spring or other drinking water will be required to file under oath with the Health Department the name of such water, the exact location from which the water is obtained, together with a chemical and bacteriological analysis thereof, also stating when the water was manufactured, the exact formula used in its production, giving qualitatively and quantitatively each and every item entering into its composition. Any one failing to comply with these requirements will be refused a permit.

Medical Scorchers in Buffalo.—Three physicians in Buffalo were recently arrested for speeding their automobiles, their excuse being that they were out on hurry calls. An appeal was thereupon made to the Superintendent of Police to allow physicians to exceed the legal speed when necessary, but the request was denied, the official remarking that "these physicians would say every call was a matter of life or death. The result would be that we would have a lot of doctors racing around town in automobiles and killing more people than they saved."

The Coronation Honor List.—The following are the medical men knighted and honored in other ways in celebration of the postponed coronation of Edward VII: Lord Lister has been made a Privy Councillor; Sir Francis Laking and Sir Frederick Treves have had baronetcies conferred upon them; knighthood has been conferred upon Dr. W. J. Collins, Mr. Alfred Cooper, Dr. J. Halliday Croom, Dr. Conan Doyle, Dr. Thomas Fraser, Mr. Victor Horsley, Mr. H. G. Howse, Mr. H. B. Longhurst, Professor William Macewen, Dr. Isambard Owen, and Professor Rücker; Sir William Church and Professor William Ramsay have been made Knights Commanders, and Major Ronald Ross and Dr. Whitelegge, Companions of the Order of the Bath; Lord Lister has also been appointed to the new "Order of Merit."

The Sloane Maternity Milk Set.—The name of the writer of the description of this apparatus in the Medical Record of July 5 was inadvertently omitted. The author was Dr. E. B. Cragin, 62 West 50th Street, New York.

Dr. Boleslaw Lapowski has been appointed attending Surgeon to the Skin Department of the Good Samaritan Dispensary in this city.

American Medical Association.—The date for the fifty-fourth annual meeting of this association at New Orleans has been set for May 5–8, 1903.

A Murderous Assault at the Foundling Asylum.—A man who was left in his infancy at St. Joseph's Foundling Asylum in this city and was brought up by the institution, has recently made much trouble by insisting upon being told his parentage. This being refused him, he went there a few days ago and shot two of the sisters—one, Sister Angela, slightly, but the other, Sister Cyrilla, very seriously. The latter was shot in the chest, but it is not known whether the lung was wounded or whether the ball is lodged in the muscles of the back.

The Late Dr. George F. Carey.—At a meeting of the Medical Board of the New York Foundling Hospital, held June 30, 1902, it was ordered that the following minute be inscribed upon the Hospital record: "The Medical Board of the New York Foundling Hospital regret the death of their colleague, Dr. George F. Carey. During his service of nearly thirty years as attending physician he was most regular in his attention, always showing the greatest interest in the children and in the affairs of the hospital. So far as it concerned himself, he was entirely disinterested. Active and energetic, he was successful as a physician, a careful and painstaking surgeon; a good teacher; of excellent attainments and of courtly manner. His daily life was that of a Christian, and he died as he had lived, with an unfaltering trust and hope of immortality, and this minute is placed on record, not because of duty and established custom, but because his gifts and qualities brought him the love and respect of those around him, and his death comes as a personal loss."

Thomas Darlington M.D.,
President.

T. Halstead Myers, M.D.,
Secretary.

Obituary Notes.—Dr. William Oliver of Penn Yan, N. Y., died suddenly at his home on July 10, of cerebral apoplexy. He was a graduate of the Geneva Medical College in the class of 1846 and had practised in Penn Yan continuously for over half a century.

Dr. John Reinoehl of Lebanon, Pa., was killed on June 11 by the running away of a horse he was driving. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1882. Dr. E. P. Marshall of Annville, who was with Dr. Reinoehl in the carriage, was seriously injured.

Dr. Charles A. Von Urff of Brooklyn died at his home in that borough on July 16, in his thirty-fifth year. He was a graduate of the Long Island College Hospital in the class of 1890.

Dr. Emmet F. Enos died at Elgin, Ill., on July 17, at the age of thirty-eight years. He was a graduate of Rush Medical College, Chicago, in the class of 1892. Dr. Enos was on the medical staff of the Kankakee Insane Hospital for five years prior to his resignation last February, when he felt his mind giving away. He diagnosed his own case and hoped by leading a quiet life his faculties would be restored. He engaged in medical practice in Herscher, but did not improve in health, and was soon forced to abandon it. The cause of the fatal illness was said to be a physical injury received many years ago.

Dr. James Elliott Dwinelle of Baltimore died suddenly on July 18. He was born in Cazenovia, N. Y., in 1830, and was graduated from the Jefferson Medical College in 1854.

Dr. Thomas Henry Hoskins died in Newport, Vt., on July 18 at the age of seventy-four years. He was born in Gardiner, Me. He was graduated from the Medical Department of the University of Louisville in 1853, and practised medicine in that city until 1861, when he removed to Boston. He retired from practice many years ago and devoted himself to agriculture, founding the *Vermont Farmer* in 1870.

Dr. Edward L. Parker, for four years one of the physicians of the Long Island State Hospital in Brooklyn, was drowned at Sea Gate on July 17. He was twenty-six years old.

Dr. Frederick B. White of this city died on July 18, aged thirty-one years. He was a graduate of the Medical Department of Cornell University in 1896.

Therapeutic Value of Work in Hysteria and Neurasthenia.—Sidney I. Schwab says that the work cure can be tried with the hope of success in that class of neurasthenic and hysterical subjects where there exists an average amount of potential physical vigor, where there is no organic nervous or other disease, and where, above all, there is found the requisite amount of intelligence and mental training to enable them to appreciate and understand the purpose and the meaning of the efforts made to hold them. In the author's experience he has found very few who might not have been treated in the manner indicated if the patient's circumstances and the patience of the physician had been used to their utmost. Monnier, from an experience of thirty-four cases, concludes that by means of useful manual work, hysteria and neurasthenia, in the narrowest sense of the term, can often be made to completely disappear. In cases of mental enfeeblement, psycopaths, alcoholics, according to the time of their existence, the influence of work is often very remarkable. Hypochondriacs and paranoiacs are not especially benefited. Schwab reports the case of a woman of intelligence, but suffering from aggravated hysteria, which it seemed impossible to overcome. Book-binding, which requires the closest attention and the greatest care in the matter of detail, and which is distinctly a fine art, was tried, and has proved to be the needed remedy. There is little doubt that in less than a year the previously hysterical invalid will be able to set up her own shop and lead a useful and active life.—*Interstate Medical Journal.*

Book Reviews.

A Manual of Toxicology. By Albert H. Brundage, A.M., M.D. New York: Henry Harrison Co., 1901.

The author has here given us a very convenient and handy little manual for either the pocket or the library table. He includes several hundred crude substances and their preparations that from time to time have produced symptoms of either acute or chronic poisoning. It is not, of course, a systematic treatise on toxicology, but just a little reference book that may never be needed, or, on the other hand, may prove just what is wanted in an emergency.

Quain's Dictionary of Medicine. Third Edition. Edited by H. Montague Murray, M.D., F.R.C.P., Lecturer on Medicine, Charing Cross Medical School, Assisted by John Harold, M.D., B.Ch.B.A.O., and W. Cecil Bosanquet, M.A., M.D., M.R.C.P. New York: D. Appleton & Co, 1902.

The third edition of this work is issued in a single large volume instead of two as formerly, and has been, in certain respects, abridged and condensed to suit the present conditions. In a general sense, this is an improvement, inasmuch as certain irrelevant material has been omitted and extra space given to more strictly medical subjects. This does not interfere with the general plan of the work, which is enclyclopedic in all essential particulars, and admirably well arranged for its purposes. A large number of new articles, bearing on special topics, have been added, and several graphic page plates have been inserted, which give a peculiar value to the work as a whole. An examination of the subject matter in detail shows commendable efforts on the part of the various contributors to keep apace with all the recent advances in pathology and practice which have characterized the period from the time that the previous editions were published. Leading features of the work are its admirable condensation of material, its systematic arrangement of subjects, and its judicious cross references admitting of such ready and satisfactory consultation. In these respects it is of special value to the practitioner and student, focussing an immense amount of accurate and practical information into a comparatively small focus.

Compend of General Pathology. By Alfred Edward Thayer, M.D., Assistant Professor in Gross Pathology, Cornell Medical College. Philadelphia: P. Blakiston's Son & Co., 1902.

This is an admirable compend of general pathology, and is thoroughly adapted to the practical needs of the student and general practitioner. The arrangement of subjects is systematic and natural and takes the reader from the general to the special forms of diseased action, explaining in due course the gross and minute pathology of each. More than this the explanations and descriptions are models of clearness, precision, and practical application.

Diseases of the Intestines. By John C. Hemmeter. Vol. II. Philadelphia: P. Blakiston's Son & Co., 1902.

We have not long ago reviewed and praised the first part of Hemmeter's work on the Intestines, and we can justly apply the same remarks to this volume. It is extensive, complete, and well written. Hemmeter advocates intestinal puncture in occlusion of the bowel, and gives his own experience with the following words: "My first experience with intestinal puncture occurred in connection with severe volvulus of the sigmoid flexure in a negro, aged forty-two years, and living in the mountains of western Maryland. The usual non-surgical means of replacing failed. I had used one-quarter grain of morphine subcutaneously with but transient relief, the meteorism was enormous. The only instrument I had with me was a hypodermic syringe, with the needle of which I punctured the most distended loop, after washing the patient's skin with soap and hot water. Gases escaped in large quantities; at the end of five minutes the intestine had not yet completely emptied itself. On the following day, when I arrived to give a large enema of warm salt water, every symptom of obstruction had disappeared and the man said he was well. Since then I have been compelled to employ the method in four other cases, partly because other therapeutic measures had been exhausted, operation refused, or because no other instrument but a hypodermic needle was at hand. Three of these four cases were types of sigmoid volvulus, the fourth an ileocæcal intussusception. I had every reason to believe that the puncture aided in restoring the bowel to its normal state. Whilst I am fully aware of the dangers of the procedure, and far from advising its application to every case, I can see no reasonable objection to it when performed by experienced hands in the first stage of intestinal occlusion, before intestinal paralysis has set in, and when peristaltic movements of the intestines may be plainly seen and felt through the abdominal walls, after the use of opium has been stopped for some time."

Health, Speech, and Song: A Practical Guide to Voice Production. By Jutta Bell-Ranske. London: Swan Sonnenschein & Co. New York: E. P. Dutton & Co., 1902.

It is a useless task to attempt to reconcile the various conflicting views put forth by singing teachers as to correct vocal methods. Each is, in the opinion of its advocates, entirely right and every other theory is entirely wrong. The author of the present work offers the familiar tale of long groping in the dark with unsatisfactory results and final emergence to the light (of her own views) which have effected a revolution in her teaching and in the results attained by her pupils. The book is crudely written and is extremely loose in its use of anatomical terms. To some of its statements positive objection can be made. Yet the author has apparently studied hard, and is to be especially commended for her recognition of the importance of the nasal mucosa with reference to proper breathing. In our opinion the greater number of vocal defects attributed to wrong vocal methods is due to the fact that the larynx of singers is usually a very much overworked organ. While ordinary conversation can be carried on indefinitely, constant singing cannot. More rest and less exercise will often be the best and quickest method of cure.

Progress of Medical Science.

The Boston Medical and Surgical Journal, July 17, 1902.

Empyema in Children.—F. J. Cotton, among other conclusions drawn from the data, says that the infection is usually with the pneumococcus. Spontaneous cure, even when aided by tapping, is rare. Operation should not be delayed, as time lost is strength lost, and the issue is largely one of nutrition. The best form of operation is, in general, the subperiosteal resection of an inch of the eighth or ninth rib in the posterior axillary line, the evacuation of pus and fibrin masses, and tube drainage. Irrigation is not usually advisable. The routine after-treatment in fresh cases should be tube drainage, the tube being progressively shortened, and removed when the cavity is nearly healed. Where failure to heal seems to depend on failure of the lung to re-expand, treatment by valve or suction apparatus is indicated. The great majority of the cases heal even when the healing is delayed for several months. The closure of the cavity depends mainly on nutrition and on adequate drainage.

The Influence of Alcohol upon Infection and Its Use in the Treatment of Acute Infectious Diseases.—S. J. Meltzer says that his defense for the use of alcohol in infectious diseases is that alcohol stimulates the patient by effecting a favorable distribution of the blood within his sick body, and protects him from harmful excitations by stimulating some of the normal inhibitory mechanism of the body. It is a noteworthy fact that among the opponents of alcohol there is not a single clinical man of note who has come out unqualifiedly against the use of alcohol based simply upon unfavorable clinical results gathered at the bedside. On the contrary, clinicians ranking high in the profession and thoroughly familiar with the pharmacology of the drug are unwilling to be deprived of its aid in dealing with diseases like typhoid fever or pneumonia. Personally, the author is willing to be responsible for the two following statements: Alcohol in health is often a curse; alcohol in disease is mostly a blessing.

A Report of Two cases of Typhoid Spine.—George Wilton Moorehouse reports two cases of this rare complication of typhoid, the literature of which, so far as he has been able to collect it, consisting of but fifteen articles describing twenty-one cases. He calls attention particularly to the occurrence of deformity and to the frequent association of fever with the affection. The prognosis of painful affections of the spine, so far as recovery is concerned, is excellent. The writer holds that the true type of the "typhoid spine" is a symptom complex due to an inflammatory process, and that pain in the back following typhoid fever, but due to other conditions, should not be confused with it. In the treatment relief from pain is the first requirement. This end may be obtained in some cases by rest in the recumbent position, or by mechanical devices, extension, or a jacket. Antirheumatic, sedative and hypnotic remedies may be employed, but unless the suffering is mild, opiates will be found necessary from time to time. Other medication seems not to be of any great value.

Journal of the American Medical Association, July 19, 1902.

The Treatment of Yellow Fever. After an historical review, James Carroll considers this question in the light of our present knowledge. He believes that in previously healthy subjects, free from organic lesions, the mortality can be practically reduced to zero. The primary indication is to remove the toxin. This is best done through the kidneys, aided by a moderately free action of the skin and moderate depletion by saline cathartics. Hot mustard foot-baths, sinapisms to the stomach, cold cloths to the head, saline enemas with sodium sulphate solution, are all indicated. For the first three days only milk with vichy or lime water should be given. Iced champagne is permissible. Other treatment follows along symptomatic lines. The author suggests that urea taken by the mouth or injected under the skin may serve as a valuable diuretic.

The So-called "Spotted Fever" of the Rocky Mountains. In a preliminary report to the Montana State Board of Health, L. B. Wilson and W. M. Chowning state that they could find in this disease no bacterium standing in a positive etiological relation. Staphylococci of different varieties were found in the skin, and B. coli communis in cultures from the spleen. The latter organ showed in one case a special anærobic putrefactive bacillus. So also several protozoa were present, some of which apparently found their habitat in the red blood cells. The prevailing protozoon resembled the pyrosoma bigeminum of Texas fever. Apparently, spotted fever belongs rather to the latter type of disease than to the malaria group. The most probable theory as to the mode of infection ascribes the latter to tick-bites. The extreme isolation of cases of spotted fever, their occasional development in localities removed many miles from the site of any previous case, and the long period existing between the death or convalescence of the last case of any one year before the development of the first case in the following year, would point to the possibility of the red blood cells of some one of the lower, warm-blooded animals being the normal habitat of the parasitic protozoon in that stage of its life cycle not passed within the body of some arachnid. Of the animals within the infected region, the common gray gopher would probably best fulfill the conditions of such a parasitism.

Ulcer of the Bladder.—L. E. Schmidt would classify these ulcers in a general way, as follows: (1) Gonorrhœal (the most common); (2) Traumatic; (3) Those following a non-gonorrhœal cystitis; (4) Tuberculous; (5) Those following necrosis of malignant tumors; (6) Solitary; (7) Perforating, and (8) Syphilitic. The traumatic variety arises from a calculus or foreign body, possibly from instrumentation. Cystoscopy alone enables an accurate diagnosis to be made. Treatment by irrigation is ineffective. It is absolutely necessary to curette, to remove the coating and the granulations on the base. It is highly desirable at the same time to apply the thermocautery over the curetted area—partly to stop any hemorrhage, which, however, is usually of a light character, and also to cover the curetted field with a protective eschar. In the course of generalized ulceration of the bladder of non-gonorrhœal cystitis, this method of treatment is worthless. In these cases the only thing to do is to open the bladder and curette the entire affected mucosa. In this way all the diseased tissue is removed by the curette and the bladder is put to rest by the temporary drainage. The infiltrated walls thus become less swollen and lose their œdematous condition, without being irritated from distension. If the condition which is called cystitis dolorosa has set in, the parts must be thoroughly curetted and the bladder completely tamponed. The tamponade must be kept up until the walls of the bladder have lost their sensitiveness, for if it is stopped previously to this, the affected areas will come in contact with each other and the entire process be repeated. In cases of solitary tuberculous ulcerations and infiltrations (nodules) it is possible to get perfect results with the use of the cystoscope. These ulcerations and infiltrations can be completely and thoroughly curetted and then cauterized. If the infection of the bladder arises from a tuberculous kidney it naturally follows that previous to any endovesical procedure it is necessary to remove the source of infection by a preliminary operation on the kidney or ureters or both.

New York Medical Journal, July 19, 1902.

The Early Diagnosis of Uterine Cancer; Operative Limitations. J. O. Polak says that the early diagnosis of uterine cancer is possible. The earliest symptoms differ, depending upon whether the disease begins during menstrual life or after the menopause. During menstrual life every bleeding should be compared with the ordinary menses in the same woman, and the physician should be suspicious of intermenstrual spotting and serous discharge.

After the menopause any serous or sanguineous discharge is significant. Every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhœa should be examined. Radical operations should be limited to those cases in which the disease is confined to the uterine tissues.

On the Contraction of the Ilio-Psoas Muscle as an Aid in the Diagnosis of the Contents of the Iliac Fossa.—The ways in which elevation of this muscle during its contraction may aid in diagnosticating the contents of the iliac fossa are, according to S. J. Meltzer, the following: (1) It can be used as a landmark. It is often very helpful to know whether a certain painful spot or a palpable resistance is located on the psoas or on its lateral or its median side; (2) The elevation brings the viscera above it nearer the surface and nearer the palpating fingers. By this aid the outlines of the viscera are often much more distinctly ascertainable than under the usual palpation; furthermore, the usual resistance of the contracting abdominal muscles is often considerably lessened while the thigh is moderately flexed; (3) The outlines of the viscera are more easily palpable when they are moved under the fingers while riding on the elevated back of the psoas than when they are flatly stretched on the even surface of the iliac fossa; (4) By repeatedly increasing and decreasing the flexion of the thigh the viscera move to and from our fingers and sometimes render to palpation an assistance similar to that which it derives from the respiratory movements; (5) When the active flexion approaches a right angle, the viscera can often be felt moving perceptibly headward on the steep slope of the psoas elevation. The movement is absent when the viscus is adherent; (6) By alternate abduction and adduction of the thigh while in a flexed condition the psoas elevation moves from side to side and assists the palpation in many ways.

The Histrionic Element of Mental Disease.—In this paper T. H. Kellogg refers to those patients who imagine themselves to be various great personages, either real or imaginary. The disturbance may take the form of some single passion, love, jealousy, erotomania, etc., or may show itself in disjointed bits of theatrical behavior. The clinical facts and conclusions of the paper may be presented as follows: The histrionic element in mental disease is the direct outcome at times of irresistible impulses and outbursts of emotions. It results at other times from terrific delusions and hallucinations, which impel the sufferer to tragic acts. It proceeds in some cases from a central and organized false belief, which leads to sensational monomaniacal rôles. Again the theatrical phases develop from morbid love, jealousy, or other overwhelming passion, or from actual changes of personality peculiar to insanity. The histrionic element taking the form of caricatures and mimicry is an aberrant manifestation of the law of imitation, which is so fundamental in all formative mental processes. As a matter of clinical fact, the histrionic performances are spontaneous and involuntary in some patients, attended by slight deliberation and self-control in others, and in a few cases directed by the most perverse wilful intent and insane cunning. The recognition of this histrionic element as an integral part of mental disease throws light on some obscure phases of mental pathology, clears up the puzzling nature of cases seemingly mixed of sham and reality, and also has practical bearing in the prognosis and treatment of mental maladies.

Medical News, July 19, 1902.

Hepatic Gout and Its Treatment.—J. Leffingwell Hatch says that there is a certain form of hepatitis due to excess of uric acid in the blood; this is the result of defective metabolism, and, when a certain limit is reached, toxæmia results. After this follows a nervous explosion with symptoms of headache, vertigo, vomiting, wandering pains, cramps, trembling of the limbs, fever, etc., which fully justify us in classifying it among the rheumatic manifestations under the name of hepatic gout; this is amenable, like other manifestations of this class, to treatment by administration of colchicine and salicylic acid, and complete removal of the symptoms may be effected if this be persistently carried out.

The Non-Heredity of Acquired Characters.—Lawrence Irwell states that we do not know how congenital variations originate. There is no more knowledge as to what the first case of alcoholic susceptibility was due than there is of the origin of supernumerary fingers. Both are undeniably hereditary. The man born with the alcoholic diathesis becomes a drunkard, unless withheld by moral or other deterrents. But the acquired taste for alcohol is not passed on to the next generation. The vast majority of drunkards are persons who were born with a brain and a nervous system of poor quality, and narcomania in any form is merely the outward manifestation of the disease. As to pseudoheredity, a typical case is the following: A parasitic larva, living upon a tree with few leaves, develops into a small and stunted imago. It has not inherited its abnormality from the tree, nor could it inherit anything from the larva, for it is the same insect in a different stage. The problems of heredity are very intricate and cannot be summarily dismissed, because, upon superficial examination, certain conditions seem absurd to those whose knowledge of biology is limited. A parent transmits not himself and all his acquired modifications, eccentricities, and tendencies, but merely the representative constituents of which he is both a product and a custodian. His influence over his reproductive elements is little greater than is that of the host over the parasite. According to Galton, "acquired modifications are rarely, if at all, inherited in the correct sense of the term."

Is Vivisection a Benefit to Animals and Man and Justifiable?—E. Stuver reviews the beneficent results which have come from scientifically applied experimental investigations on living animals. As to those who depict the sufferings in experiments on animals, more real knowledge and less sentiment would be an inestimable gain to both themselves and to humanity. For example, since the motor region of the brain is insensitive, the operations on these parts of the brain substance do not cause any pain whatever. The writer admires the zeal and enthusiasm of the antivivisectionists, but it is strange that they should so bitterly oppose those agencies which have done so much to make the world brighter and better, while they allow much greater evils to go on unheeded. For example, if the useless slaughter of birds which are used for the ornamenting of bonnets could be stopped, more suffering would be prevented than is inflicted by all the scientific experiments in existence. There are thousands of animals that are yearly wounded and mutilated for the recreation and amusement of the leisure class. Another method of alleviating suffering would be to stop the chase where defenseless creatures are run down by horse and hounds, simply in the name of sport. Still further, there are thousands of women and children who are dying of slow starvation in our cities who should be rescued. If attention were turned into all these channels, much good would be done, while the welfare of humanity, as well as the best interests of the lower animals, would be protected and advanced by physicians and scientists, as they always have been in the years gone by.

American Medicine, June 19, 1902.

A Rare Fracture.—The case here reported by Angus McLean was that of a man aged thirty-six years. While walking on an icy street, he slipped. He did not fall, but felt something about his thigh snap. He was treated by his physician for rheumatism. He had been able to walk after the accident, although he felt some pain in the upper, internal femoral region when moving the leg in certain directions, and some soreness of the muscles. About six months after the injury, a swelling developed in the upper inner surface of the thigh, with some fever. This swelling was opened and a piece of bone 1½ inches long was extracted. It was discovered that the pubic arch was not intact. The bone was a piece of the descending ramus of the pubis and ramus of the ischium. The fracture was due to the action of the adductor muscles.

A Case of Severe Anæmia Caused by the Uncinaria Duodenalis.—A. B. Herrick has followed up the history of this case. The patient was born in Germany. The present illness began with an attack of diarrhœa. The case bore a marked resemblance to pernicious anæmia in the peculiar pallor manifested, the retention of the adipose tissue, and the remarkably low blood count with leukopenia. The eosinophiles amounted to 26.8 per cent. An examination of the stools cleared up the case, for numerous typical ova of antkylostoma were present. After thymol was given about sixty adult worms were found. They were the old-world hookworm. There were no nucleated red cells in the blood, and that and less marked poikilocytosis and the presence of eosinophilia were the points in the blood examination showing the difference from pernicious anæmia. The patient was rapidly improving at the time the report was made.

Ankylostomiasis in an Individual Presenting All of the Typical Symptoms of Pellagra.—H. F. Harris reports this interesting case. The patient, a man of twenty-nine years, lives in Georgia. He has been brought up in great poverty. His bread has always been prepared from Indian corn, which has formed the greater part of his diet. The first symptoms usually begin in the spring with loss of appetite, thirst, and a feeling of malaise. He suffers from melancholia. His legs become extremely weak, and sensation to pain is far below normal. In the spring his hands, arms, and the dorsal surfaces of his feet become greatly inflamed. Blisters form, followed by scabs.

He suffers from constipation, and has a great distaste for food, especially for Indian-corn bread. During these periods he has constant pain in the neck and tenderness and pain in the gastric region. He vomits frequently. He begins to improve after May or June and by July or August is generally well again. The patient has all of the typical symptoms of pellagra. If this is a genuine example of the disease, it is the first case of the kind that has been reported in the United States. In the man's fæces, numerous eggs of the ankylostoma have been found, and it seems not unlikely that the pathologic condition is in large measure due to this cause, but on the other hand there are certain features that are not consistent with this explanation, such as the strange tendency of the disease to manifest itself only in the spring and early summer, and the fact that it has existed for fourteen years. These parasites are said not to live in the body for more than five or eight years at the very outside, and unless the patient has been repeatedly reinfected, the presence of these parasites cannot entirely explain the long duration of the disease. Thymol was recently given to the patient, and not less than 600 worms passed from the bowels. No eggs of the ankylostoma were found four weeks after the treatment. The patient, however, is now feeling no better than before. If he has pellagra, the disease is so far advanced that nothing probably could be done for him. He has been advised to go to a cooler climate and to be careful not to eat decomposed Indian corn. It should be noted that the blood examination showed the hæmoglobin to be only 20 per cent., the red cells, 1,760,000, and the white cells, 4,020; there was decided poikilocytosis.

The Philadelphia Medical Journal, July 19, 1902.

Hemorrhagic Infarction of the Kidney, with Report of a Case.—George P. Dale states that in this affection the patient will usually give a history of previous heart disease, and the symptoms on the part of the kidney are ushered in by a sudden severe pain in the lumbar region, with possibly a chill, followed by a dimunition in the amount of urine. The urine soon contains blood, varying in amount with the extent of renal disturbance. The patient whose case is reported was an Irish girl of twenty-one years. She was suffering, when seen, from shortness of breath and pain in the right lumbar region and back. The pulse was very irregular, weak, and of low tension. The heart showed such irregularity of action that it was difficult to distinguish the rhythm of the murmur. The apex beat was forcible in the sixth interspace, outside of nipple line, and the impulse was diffused over considerable area. Palpation in the right lumbar region caused much pain. The patient was put to bed and at first given salts. This was followed by diuretics. About six months later, after having gone away from and returned to the hospital several times, the patient's condition was fairly good. Examination of the urine at the time of admission to the hospital showed a large amount of albumin, blood cells, pus cells, and granular and epithelial casts. This case shows how severely the heart and kidneys may be disturbed and the patient still continue to live and even work.

Recent Progress in Prostatic Surgery.—G. Frank Lydston gives the following points which he says ought to be impressed upon the prostatic: (1) If palliative measures, instituted at a relatively early period, do not inhibit the development of prostatic overgrowth, a slow but sure increase of the enlargement is inevitable and a change in the conformation of the prostatic urethra, with obstruction of the urinary way, is almost certain; (2) The time will inevitably arrive when he will be compelled to take his choice between the habitual use of the catheter, which will almost of necessity shorten his days, and a radical operation for the relief of the prostatic obstruction; (3) Early operation, before the occurrence of septic and obstructive changes in the urinary way, which always develop sooner or later, is comparatively safe, the reverse being true when he is faced with an operation of necessity. The guiding principle in prostatic surgery should be: Early diagnosis, followed in some cases by judicious means of palliation or of prophylaxis of permanent change of the prostate, and, failing of success with these measures, a radical operation—prostatectomy. The suprapubic method was until recently the most popular form of operation. The author likes, however, in suitable cases, the perineal method of prostatectomy, the principle of which is the same as that of the old perineal prostatectomy of Dittel. The Bottini operation, modified as the author suggested, by operating through a perineal incision, is a more rational procedure than the Bottini operation proper. The rational surgery of the prostate demands an early radical removal of the tissue overgrowth, which is the essence of the disease.

The Lancet, July 12, 1902.

Sodium Cinnamate in the Treatment of Tuberculosis.—O Ambein gives his results with this remedy, for the years 1899-1901. It acts by the induction of leucocytosis, thereby leading to an encapsulation and final cicatrization of tuberculous foci. Ambein has never observed any harmful effects following its use, though cutaneous pruritus followed in one case after every injection. The initial dose is one millegram (0.001). Injections are made every third day in increasing dosage. The maximal quantity being twenty-five millegrams. The author is frank enough to say that he has never seen any positively good effect which he could not satisfactorily (to himself) account for by the accompanying climatological, hygienic, and dietetic treatment.

The Subcutaneous Injection of Cinnamate of Sodium.—Lovell Drage calls attention to the fact that injections of cinnamate of sodium into the veins produces a general leucocytosis, by stimulating the simpler leucocytes to transformation into polymorphonuclear cells and intermediate forms. He has employed it in 10 per cent. solution in glycerin in pulmonary tuberculosis, cancer of the pancreas, inflammatory trouble about the middle ear, and tuberculous laryngitis. Injections have not exceeded thirty minims in amount. The results of the treatment he considers most promising. There may be many other substances capable of producing like effects. He feels some degree of assurance that the lines upon which diseases, such as cancer and tuberculosis, can be treated successfully are those based upon the principal of administering drugs which by their action on the white cells will assist repair in the cells damaged. In a note by G. T. Morgan is given a full description of the proper method of preparing the solution.

An Explanation of the Cause of Inequality of Pupils in Cases of Thoracic Aneurysm.—This question has been studied by R. C. B. Wall and E. W. W. Walker, whose conclusion is that the pupillary inequality observed in thoracic aneurysm is usually due to inequality of the blood pressure in the ophthalmic arteries, resulting from abnormal vascular conditions. A general summary of their line of argument is as follows: *A.*—The explanation which ascribes the anisocoria at times occurring in cases of thoracic aneurysm to interference with the sympathetic is unsatisfactory. 1. On anatomical grounds: (*a*) because in the majority of cases there is no evidence of implication of that portion of the sympathetic nerve trunk containing pupil dilator fibers; and (*b*) because it is not established that sympathetic filaments supply the sac wall of an aneurysm. 2. On physiological grounds: (*a*) because the explanation supposes that the same conditions may produce sometimes irritation and sometimes paralysis of the nerve; (*b*) because cases are rare in which there is any evidence apart from the pupillary change that the sympathetic is involved; and (*c*) because the pupillary changes are not those met with in cases where the sympathetic is involved. *B.*—1. Alterations in vascular conditions may be associated with alterations in the size of the pupils. (*a*) High arterial tension is associated with small pupils; and (*b*) low arterial tension is associated with large pupils. 2. The physical explanation of this phenomenon is probably to be found in the spiral structure of the vessels of the iris. *C.*—Local inequalities of blood pressure may therefore be associated with inequalities of the pupils. (*a*) Clinical evidence: 1. Enlargement of pupils is frequently associated with diminution of the temporal and radial pulses on the same side of the body. 2. Obstruction of the carotid artery on one side of the neck is associated with enlargement of the pupil upon the same side. (*b*) Experimental evidence: 1. Obstruction of the carotid in rabbits is associated with enlargement of the pupils on both sides, owing to the freedom of circulation at the base of the brain. 2. Injection of water into a carotid artery of a dead rabbit causes narrowing of the pupil upon the same side. 3. Digital compression of the carotid artery in the human subject is associated with enlargement of the pupil upon the same side.

British Medical Journal, July 12, 1902.

On Some Results Obtained by Disinfection and Isolation against Cholera.—Marc Armand Ruffer and C. Zachariades Bey describe the method of caring for the pilgrims at Tor. All pilgrims are quarantined for fifteen days at Tor. They are landed in batches of about forty. All articles requiring disinfection are immediately removed. The pilgrim himself is washed with warm sea-water. Any one with a pulse of over eighty is stopped and his temperature taken. The cholera patients are placed in wooden barracks containing two patients each, and so arranged that any side can be opened at will. The linen from the cholera section of the hospital is always steamed before being washed. The disease did not extend to any of the hospital staff or the cordon of soldiers, and no cases occurred on board ship after leaving Tor. All ships were thoroughly disinfected at Tor. There was a plague of flies at the time, but in spite of this the disease did not spread in the camp. This fact has raised a doubt as to the supposed rôle played by these insects in carrying cholera.

An Epidemic of Dengue Fever.—F. O. Stedman makes the interesting observation that although dengue is undoubtedly highly infectious, still there have occurred many instances in which there was only one case in a house in which there were many residents. The onset is quite sudden. Pains in the joints, with shivering and fever, often usher in the disease. Sometimes there is vomiting. An initial rash appears in some cases. There is then a certain amount of œdema of the skin. On the fourth or fifth day from the onset the terminal rash makes its appearance. This generally lasts for about twenty-four hours and then quickly disappears. Convalescence is then established in many cases, while in others there are various sequelæ. The first is the liability to relapses of fever. Malarial parasites are often found in the blood at this time. In certain cases there is a recrudescence or a continuance of the pains. These may be severe. The disease will run its course in any case. Sodium salicylate does something to relieve the pain and to keep the temperature within bounds. A hot bath often gives relief. The after pains are often obstinate. Salicin and potassium iodide have been used. Massage and stimulating liniments are useful. Some cases seem to defy all treatment, and the pain just dies away of its own accord.

The Treatment of Typhoid Fever.—N. E. Norway has treated about forty cases by his method, and has never lost a case. In his examination of the organs of typhoid patients after death he was struck with the fact that in no case did the food in the stomach or intestines appear to be digested. The cause of death in many cases seemed to be starvation. He says that the patient wastes because the food assimilated does not equal the elimination of urea and carbon dioxide, and this non-assimilation of food is in some way due to Eberth's bacillus. The bacillus being safe from direct attacks of drugs, there remains nothing to do but to strengthen the resisting powers of the patient. The writer, in view of these facts, makes use of the following mixture: Essence of pepsin, $\frac{1}{2}$-1 drachm; dilute nitrohydrochloric acid, 10 minims; glycerin, 20 minims; water, $\frac{1}{2}$ ounce. The half-ounce is put in half a tumbler or more of water, and is to be sipped as desired to relieve thirst. A dose every hour at first is given with ten minims of chloroform if the heart needs stimulation. A few minims of morphine hydrochlorate may be given if pain or want of sleep require it. As the temperature falls, as it generally does on the second or third day of the treatment, the dose is lessened. The mixture is given throughout the illness. Sometimes treatment is begun with 1 grain of calomel and 10 grains of phenacetin. The diet consists, as far as possible, of milk, unboiled. The flavor is varied by means of coffee or tea. Beef tea is given now and then, and later, the diet may be gradually increased.

Deutsche medicinische Wochenschrift, June 26, 1902.

Trichocephalus Dispar.—E. Becker reports two cases in which this parasite was responsible for the clinical picture produced. From a review of these, together with the cases hitherto reported by other observers, it is evident that three different clinical conditions may be produced by the trichocephalus, as follows: (1) That in which intestinal symptoms predominate. Here there is present severe diarrhœa, marked abdominal pain, intestinal hemorrhages, and vomiting. In some of these cases the symptoms closely resemble those of peritonitis or perityphlitis; (2) That in which the nervous system is principally involved; these cases are sometimes fatal and frequently show all the typical signs of a meningitis; (3) That in which the symptoms are chiefly hæmatogenous in character and correspond with those of a severe anæmia.

Venous Thrombosis in Acute Articular Rheumatism.—A. Hess reports two cases. In the first case, ten days after the commencement of the rheumatic attack and while this was still well developed, symptoms of thrombosis of the inferior vena cava and common iliac vein appeared. The legs soon became œdematous and considerable ascites developed. The general condition become very bad, and the end was only regarded as a question of time. Contrary to all expectations, however, after a short time the patient began gradually to improve, and in about four months all the symptoms had disappeared. The second case was fatal, and upon autopsy showed thrombosis of the superior vena cava and the left jugular and subclavian veins. These cases are of interest on account of the size of the veins involved, for while numerous instances have been reported in which acute articular rheumatism has been complicated by thrombosis of the smaller veins, only occasionally have cases been reported in which the larger veins have been implicated.

Berliner klinische Wochenschrift, June 30, 1902.

Folliculoma Malignum Ovarii.—Sigmund Gottschalk's patient had suffered with abdominal symptoms for about six months. The pain was severe in the left ovarian region and ascites was marked. Upon examination a tumor of the left ovary was detected and an operation for its removal was undertaken. Upon removal the tumor weighed about 250 gr. and was of the consistency of a soft myoma. Upon cut section the tumor was seen microscopically to consist of a parenchyma and stroma and to contain many pigment bodies. On the basis of the microscopical examination the author classes the tumor as a "folliculoma malignum ovarii. The chief clinical peculiarity observed in this patient was the large amount of ascites in comparison with the small size of the tumor, and the author is inclined to regard this characteristic as of diagnostic importance.

Münchener medicinische Wochenschrift, July 1, 1902

Wandering Heart.—Leusser describes under this name those cases in which the position of the heart within the thorax is subject to abnormal variation, such not being due to pathological alterations in the surrounding tissues. This change of position is easily demonstrated by locating the situation of the apex beat in different postures of the body. Having determined the location of the apex beat when the patient is in the upright position, he is then placed in the horizontal position on his left side, and the change in the location of the apex beat noted. Under these conditions in normal individuals this is never moved toward the left more than 2 cm., and if this is exceeded. a diagnosis of wandering heart may be made. Out of 400 persons examined by the author in six a wandering heart was found. Such persons usually show symptoms of palpitation, but are otherwise perfectly healthy. The name "cardioptosis" is also proposed by the author for this condition.

Infrequent Cases of Migraine.—Pässler reports three cases of migraine in illustration of features of this disease, which are of unusual occurrence. The chief interest concerning the first case relates to its etiology. The patient was a perfectly healthy young man, who first developed attacks of migraine after having received a fall upon his head. The attacks at first were somewhat indefinite in nature, but soon became typical in character. Hitherto very few cases have been reported in which the origin of the disease could be directly traced to traumatism. The second case showed, during some of the attacks, vasomotor disturbances, a bilateral dilatation of the pupils and a non-reaction of the pupils to light. It is interesting to note that in those attacks in which the vasomotor disturbances failed the eye symptoms were also absent. The third case was characterized by disturbances of motion, which closely resembled those seen in cerebellar ataxia; the tendon reflexes were also markedly increased. The principal treatment in this case was quinine, from the administration of which some benefit was produced.

Pathogenesis of Acute Articular Rheumatism.—Kollman considers the contagiousness of acute articular rheumatism, and reports an instance from which it might be inferred that this disease is directly or indirectly transferable. The patient was a male, twenty-nine years of age, and had frequently suffered from rheumatic attacks. During one of these attacks he was attended by his mother (fifty-four years of age), who had never had the disease. During the attack the woman slept at night under blankets which had covered the patient during the day, and which were more or less moistened by his perspiration, no sheets having been used. After the son had recovered the mother developed a typical attack of acute polyarticular rheumatism. The author believes that while there is some evidence furnished by this and other cases to show that acute articular rheumatism is contagious, that nevertheless great caution should be observed in accepting such a theory, since for the development of this disease many obscure factors are undoubtedly in some measure responsible.

French Journals.

Fibroma of the Uterus Compressing the Ureters.—Dauvergne reports the case of a woman who had had a uterine fibroma for about eight years. A few days before her entrance to the hospital she showed signs of partial anuria, which occurred suddenly with symptoms or uræmic intoxication—dyspnœa, vomiting, etc. The patient was catheterized, and about 150 grams of very dark urine with a thick deposit of albumin were obtained. There were no red blood cells, nor any abnormal elements. Total abdominal hysterectomy with removal of the adnexa was performed. The day after the operation there was no albumin, and vomiting had ceased. The condition had probably occurred in this way: The kidneys, distended for a long time by compression of the ureters, were attacked by interstitial nephritis, just as when the ureters have been incompletely ligated. This lesion is often slight. It often remains latent for some time. Then congestion of the kidneys develops, characterized by marked albuminuria.—*Gazette de Gynécologie*, June 1, 1902.

Bucco-Nasal Respiration Is Possible. H. Lavrand says that bucco-nasal respiration is possible; it completes insufficient nasal respiration during an exercise which causes panting. It takes place: (1) When the mouth is slightly gaping, for the tongue is not too much depressed, and the pharyngo-buccal canal not too large proportionally to the pharyngo-nasal; (2) When at the same time the veil of the palate is not contracted, so that it hangs between the tongue and the posterior wall of the pharynx, it divides, then, the current of air expired, as that which passes through an organ pipe; (3) Like expiration, inspiration can take place by the nose and mouth simultaneously; (4) The so-called intra-buccal vacuum of Donders does not exist ordinarily, but is produced only by suction.—*Journal des Sciences Médicales de Lille*, June 21, 1902.

Secretion of the Sub-maxillary Gland after Resection of the Cervical Ganglion of the Sympathetic.—Malloizel sums up these results which have been observed after resection of the superior ganglion: (1) The various excitants, such as meat and salt, call forth the saliva which is appropriate for them—viscous for meat, liquid for salt, as in a normal dog; (2) The quantity of saliva secreted is the same as in a normal dog; but the saliva is always a little richer in mucin than normally; (3) Atropine, in a small dose, suppresses all salivation in the dog. The chorda tympain alone can then provoke the different salivary secretions adapted to different aliments. On the other hand, the sympathetic has an action, since the saliva is more rich in mucin when it is cut, and atropine suppresses all secretion when it is not performing its function.—*La Médecine Moderne*, June 25, 1902.

A Note on Adrenalin.—Ch. Amat states that of all the vasoconstrictors adrenalin is the most active one that is known. The intravenous injection of this drug has a very powerful action on the nervous system, especially on the muscular walls of the vessels. Blood pressure is increased, sometimes enormously. Adrenalin is a powerful hemostatic, acting promptly from two to three minutes after its application to the mucosa, its effect lasting from twenty minutes to four hours. It rapidly alleviates pain in all forms of keratitis, iritis, and even in glaucoma, where it reduces the ocular tension, thus preventing hemorrhage in iridectomy. The opacities of the cornea, consecutive to contusions, are promptly cleared up by adrenalin, which also appears to modify favorably the opacities of keratitis in syphilitic iritis. Adrenalin will also reduce the swelling of the lacrymal canals, and allow the passage of liquid, thus avoiding the necessity of using a sound. Certain buzzings in the ear are relieved by the introduction of a drop of the solution of adrenalin into the Eustachian tube. Adrenalin is as valuable a therapeutic agent as cocaine.—*Bulletin Général de Thérapeutique*, June 23, 1902.

Cyclic Vomiting of Autoinfection, and Its Treatment.—Bernard R. LeRoy advises against the hypodermic use of atropine and morphine in this affection. Whatever is done for the patient must be done in the early stages of the disease, or else it is safer to let the disease run its course. The author has found that to give a remedy that would act on the small intestine quickly, kindly, and with certainty would be the ideal prescription. This he has found in the following: Pulv. myrr. et aloes ʒii, pulv. guaiaci ʒjss, pulv. capsici ʒj. M. Triturate in a porcelain mortar to an impalpable powder and add Ol. cinnamomi gtt. xxv. M. Fiant capsulæ No. xxv. Sig.: A capsule every four hours until the bowels act in a free manner. He gives no other medicine, but regulates the dose and the frequency of administration to suit the strength and the resistant powers of the patient. He supplies his patients with the medicine, with instruction to take as directed at the very onset of the attaeck.—*The Therapeutic Gazette.*

Therapeutic Hints.

Migraine is probably of toxic origin. Brain workers and those following sedentary occupations exhibit the most cases, pointing to the probability of a passive portal conjestion. This leads to fermentation in the intestines and absorption of toxic products. The hereditary character in these cases is referred to the intestinal condition. The treatment is therefore toward the restoration of the general tone of the nervous system, developing the muscles, improving the abdominal circulation, and, so far as drugs are concerned, administering intestinal antiseptics and cathartics. The mercuric laxative should be given at least once a week. This should be a 5-grain blue pill at night, followed by a saline in the morning. Also one or two drachms of sulphate of soda with gr. 10 of salicylate of sodium in a tumbler of warm water is to be given every morning. Also one half hour before each meal a pill containing one half grain of bichromate of potassium, and after meals bismuth subcarbonate. At night a full dose of an intestinal antiseptic, phenol bismuth or ammonium benzoate or sodium benzoate, gr. 10 given in two capsules. W. J. THOMPSON.

Urinous Smells.—Cases in which there is dribbling of urine in the bed, attended by the usual disagreeable smell, can be made less obnoxious by pouring some turpentine upon the sheets, where it will not touch the patient's skin. This counteracts the odor to a remarkable degree.—*International Journal of Surgery.*

Dressing the Umbilical Cord.—Wrap the cord in a piece of cotton soaked in alcohol. This is at once a germicide and causes rapid drying. BULLBERG.

Carbolic-Acid Poisoning.—Give at once a large dose of alcohol—whiskey, brandy, rum, or gin will do; and the dose should be repeated often.

Ginger.—Ginger is a remedy commonly overlooked when a stimulant is needed. It is more popular in domestic practice than with the profession. Its stimulating is instantaneous and greater even than alcohol. It has pain-relieving qualities which are difficult to explain. Whenever there is a sudden reduction of temperature, with coldness of the skin or extremities, or chilliness, all accompanying some severe local pain, this agent is specific.

Boils.—Oxygen under pressure is introduced into boils and carbuncles, by means of a Provoz needle and pump. The pain diminishes very rapidly, and the next day there is a noticeable change. In a few days cicatrization takes place. THIRIAR.

Pneumonia in Young Children can be diagnosticated from other diseases by the following sign: There is a lack of expansion of the subclavicular region independent of the location of the pneumonia lesion. On placing the fingers upon the subclavicular region they are lifted as by a wave on the sound side, while on the other the lack of expansion is evident even in early stages of the disease. In pleurisy and pneumothorax the lack of expansion corresponds with the site of the lesion. WEILL.

Klopfen Tuberculosis Cure.—This method consists in slapping with a silver paper cutter the surface of the chest, in front, behind, and at the sides. A scientific examination of the advantages said to result from this process appears to justify the conclusion that it is really a means of powerfully stimulating the pulmonary apparatus and of dissipating the tendency to congestion, and in this manner promotes spontaneous healing of tuberculous lesions.

Incompatibilities.—According to the *Journal of the American Medical Association*, chemical incompatibility may be apparant in three ways: (1) By precipitation or formation of insoluble compounds; (2) By evolution of gas; (3) In some instances by change of color in the mixture. The largest class is included in the formation of insoluble compounds by precipitation. This takes place when two salts combine and form an insoluble salt by interchange of radicals. The most important incompatibilities are included in the following table, arranged alphabetically by M. L. Neff, for the convenience of the practitioner: (1) Acids or acid salts are incompatible with alkalies or alkaline salts, alcohols (tinctures) and glycerin, hydrates and carbonates, glucosides, bases, relatively weak or volatile salts; (2) Alkalies with alkaloids and their salts, chloral, acids and their salts, relatively weak salts (halogens), metallic salts, calcium and magnesium salts; (3) Alkaloids and their salts with alkalies, alkaline salts, halogen, salts, tannic acid, phosphoric acid, boric acid, borates, hydriodic acid, carbonic acid and carbonates; (4) Arsenic is incompatible with tannic acid, salts of metals, especially lead and silver; lime, magnesia; (5) Aqueous solutions are incompatible with chloroform, metallic salts, essential and fixed oils; alcoholic tinctures, fluid extracts, resinous tinctures; (6) Calomel with antipyrin, alkalies, iodide of potassium, salt of iron and lead; (7) Carbonic acid and carbonates with iron salts, metallic salts, salts of calcium and mg. 'aceti acid; (8) Lime water with salts of mercury, carbonates of alkalies, morphine and quinine salts; (9) Mucilage with alcohol and nitrous ether, iron, aq. plumbi and mineral acids; (10) Nitrous ether with tinct guaiac, mucilages, antipyrin, puri sulphus, most carbonates; (11) Oxidizing agents; including permanganates, chlorates; nitrates with charcoal, ammonium chlorid, tannic acid, sulphur, glycerin; (12) Phosphoric acid and phosphates with alkaloids, metallic salts, salts of magnesium and calcium; (13) Tannic acid with alkaloids, metallic salts, arsenic, digitalis, albumins, gelatins; (14) Gentian preparations with iron salts, infus. prunes virginianæ, inf. chinconate comp., silver nitrate, lead salts.

Etiology of Recurrent Icterus Graviditatis.—O. Schaeffer considers, as exemplified by a case within his observation, that form of icterus which occurs exclusively during pregnancy and is not dependent upon disease of the liver or other organs. Beginning with the second half of pregnancy the nutritional demands of the fœtus require a marked increased supply of lime salts. The red blood-cells constitute one of the principle sources of such salts. Under normal conditions comparatively few red blood cells are destroyed in this process. Observation has shown that in cases of icterus graviditatis the red blood cells are markedly reduced in resistance. This may be easily demonstrated by their tinctorial and other reactions. This reduction in their resistance leads to their greatly increased destruction in this condition. In the liver certain of their components are changed to bile products. This leads to a condition of hypercholia and its attendant symptoms. The increased amount of bile products acts upon the sympathetic system and reduces the vasomotor tone in all the abdominal and pelvic organs, causing characteristic symptoms thereby. In icterus graviditatis, therefore, the initial cause is the reduced resistance of the red blood cells. The manner in which the resistance is brought about is not as yet definitely known. Many ascribe it to malarial poisoning and others to syphilis. Most of the patients who develop this variety of icterus have been for years in a so-called anæmic condition and are constitutionally reduced in vitality. It is probable that in such many causes may contribute to reduce the resistance of the red blood cells.—*Monatsschrift für Geburtshilfe und Gynäkologie.*

Hepatic Contusion, Caused by Collision with a Street Car.—Anna M. Handshaw reports this case. The patient was a man over forty years of age, who had been blind since infancy. He was struck by the hand-rail of a cable car. The primary symptoms and signs of the lesion were shock and muscular contusion, also slight injury to the floating ribs, but no fracture. The patient suffered from bradycardia and the temperature dropped below normal. He was restless and his respirations were limited. The contusion caused pain and discomfort on the change of position in bed, or when pressure was applied to the right side. As the muscles gained their integrity, the abdominal character of the breathing was restored and the pain on deep inspiration ceased. There was a sensation of oppression over the heart and lungs. Symptoms of abscess or suppuration developed. Chill and collapse, followed by rise of temperature, indicated a septic condition. There was pain in the right shoulder, jaundice, cyanosis of lips and finger nails, perspiration, vasomotor paresis, and "a feeling of a board inside of the ribs." If there was abscess it was probably encapsulated and slowly absorbed with the resulting cachectic condition of the patient. The patient left his room for the first time over three months after the accident.—*The Woman's Medical Journal.*

The Treatment of Sciatica.—Vernon A. Chapman holds that if nerve-stretching (neurectasy) were more often chosen as the first rather than as the last resort, the other numerous remedies would not need to be so frequently employed. He gives full directions for the proper manipulations, according to the seat of the pain. The degree of force to be used must be determined by the existing conditions in each case, and must be regulated by the common sense of the operator. In severe cases the pain aroused by the manipulations is so severe that general anæsthesia must be employed for the first few treatments. In mild cases the patient himself can employ this method of nerve-stretching to a certain point· Let him stand with feet together and legs straight; then let him bend himself forward at the hips, keeping the legs straight, and touch the toes with the tips of the fingers of both hands simultaneously; or let him sit upon a firm flat surface, with legs extended before him; then, by bending forward, keeping the knees unbent, grasp a foot by each hand, and firmly flex it upon the leg. This procedure will be found quite difficult at first, but can easily be performed in a short time by perseverance, and if thus practised by the sciatica victim, will ward off many attacks of his enemy.—*The Canadian Journal of Medicine and Surgery.*

Immunity, Natural and Artificial.—Victor C. Vaughan holds that the most important factors in natural immunity to bacterial infection are the following: (1) Inability on the part of the microorganism to multiply in the animal body; (2) The destructive action of the phagocytes on the invading microorganism; (3) Plasmolysis, or the destruction of the invading cell on account of the composition of the new medium in which it finds itself placed. The agents employed in securing the condition of acquired immunity are as follows: (1) Treatment with attenuated cultures of the germ of the disease; (2) The employment of sterilized cultures of the specific microorganism, or the use of its toxins; (4) Treating the animal with cultures of the specific microorganism mixed with the other bacteria, or the employment of mixed cultures, in which the specific microorganism is present.—*Indiana Medical Journal.*

Case of Afebrile Pneumonia.—J. L. Winner reports the case of a man of forty-eight years, who came to the office suffering from dyspnœa. The respiratory movements were 48 to the minute, pulse 90. The left lung showed the physical signs of consolidation, yet there was absolutely no elevation of temperature. The patient would not stay in bed, but after the occurrence of rusty expectoration consented to stay in the house. On the fourteenth day of the disease no crisis was reached, but the patient gradually assumed the appearance of convalescence. On that day he left the house, went to visit the grave of his child, and when he returned home was attacked with hæmoptysis so profuse as to cause collapse, promptly followed by death. At no time had there been any rise of temperature.—*Virginia Medical Semi-Monthly.*

Clinical Department.

TWO CASES OF BRONCHIAL OBSTRUCTION IN PHTHISIS; TWO CASES OF RHEUMATIC CREAKING IN THE SHOULDER JOINT IN PHTHISIS; TWO CASES OF THROMBOSIS OF THE COMMON ILIAC VEIN AFTER TYPHOID FEVER; EMBOLISM OF THE BIFURCATION OF THE AORTA.*

By J. N. HALL, M.D.,
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BRONCHIAL obstruction by enlarged bronchial glands in pulmonary tuberculosis, as I have heretofore stated, must be clinically much more frequent than it appears to be, judging from the rarity of such reports. The obstruction has been demonstrated so frequently post mortem that we have, I believe, abundant justification for a clinical diagnosis in such cases as the two here given:

CASE I.—A man, thirty-four years of age, came West with pulmonary tuberculosis, about six years ago. This has progressed slowly, with extensive dulness and moist râles in the left chest, and the right lung has recently been invaded. He has lost much ground in the last year. Tubercle bacilli are abundant. About three months ago he suffered so much from suddenly-increasing dyspnœa that he was compelled to stay at home. I found, in addition to the previous signs of chronic tuberculosis, a moderate increase in temperature, pulse, and respiration over the former condition, and severe suffering from shortness of breath upon even moderate exertion. Cyanosis was present under these circumstances.

The chest was retracted upon inspiration, and the left side lagged behind the right. Over the whole left lung, but more marked over the lower two-thirds, were diminished respiratory murmur and vocal fremitus, with marked inspiratory "crowing," or "cornage.' These signs persisted for about three weeks and gradually disappeared, without notable increase in expectoration. The general health of the patient has suffered markedly meanwhile, but the dyspnœa has decreased to its former amount. There were no signs of aneurism nor of intrathoracic tumor.

The best explanation that I can conceive of is that the enlargement of one or more bronchial glands encroached upon the primary bronchus, possibly interfering more with the branch to the lower lobe than with that to the upper, and that a subsidence by suppuration and emptying into the bronchus, or by decreased congestion, as mentioned in the report of the next case, restored the caliber of the tube. There is abundant pathological evidence to support such a supposition. Dr. Teele, with whom I saw the case, would venture no other explanation.

CASE II.—A man, twenty years of age, was admitted to the Arapahoe County Hospital, December 15, 1901. He had an old ankylosis of the right hip, stated by Dr. G. B. Packard to be the result of tuberculosis. There was a bad family history of consumption. At nine years of age, and at eleven and thirteen also, he had attacks of pneumonia. He has had some cough ever since the last attacks.

In July last he had acute rheumatism after exposure in a rain storm, and was in St. Anthony's Hospital for five months. He coughed all the time. Examination, on December 16, showed dulness in the right apex, more marked behind, with abundant moist râles upon both sides. Respiratory murmur and vocal fremitus were much decreased upon the right side. There was marked inspiratory dyspnœa, accompanied by indrawing of the chest walls, and lagging of the right side. Here was heard exceedingly harsh inspiration with fremitus, but vocal fremitus was decreased. The left pupil was slightly larger than the right. Examination of the heart gave negative results; the radial pulses were equal and synchronous; there were no tracheal or other signs of aneurysm. The temperature reached 102°, respiration 26; pulse, 80 to 90. The sputum showed tubercle bacilli with staphylococci and diplococci. Urine, 1026, with a trace of albumin, but no sediment of note.

From his great cyanosis and his history, miliary tuberculosis was suspected, and he was shown at the clinic at the hospital, and this possibility mentioned. Because of the chance that the unilateral bronchial obstruction was caused by the pressure of an enlarged bronchial gland, the patient was treated, like one with acutely enlarged scrofulous glands in the neck, with large doses of iodide of iron. In a few days the unilateral signs and the dyspnœa and cyanosis had disappeared, and in two weeks the patient insisted that he be discharged to return to work. He then had the signs of his chronic pulmonary tuberculosis, but all acute symptoms had disappeared.

In this case the rapid subsidence of the supposed gland enlargement, without increase of expectoration, leads me to think that the pressure was from increase in size owing to fluxion, and that this pressure was relieved by subsidence of the inflammation, and not from rupture of a suppurating tuberculous focus, as probably occurred in a case previously reported.*

To one familiar with the rapid increase in size of tuberculous cervical glands in children and young adults, and their frequently marvellous subsidence, without suppuration, under iodide of iron and cod-liver oil, the diagnosis offered in this case will certainly appeal very strongly.

The recent report of Blodgett, in the *Boston Medical and Surgical Journal*, upon auscultation as applied to diseased joints, leads me to report the following cases. In one of them I believe that a superficial examination may have led to an erroneous diagnosis of pulmonary tuberculosis, while in the other, the creaking was associated with this disease. If, as seems possible, it caused the error in diagnosis in the first case, it should be mentioned distinctly, that it may not cause further trouble.

CASE III.—A man, thirty-five years of age, physician, family history good. After severe professional work in an Eastern city, he fell off in weight from 147 pounds to 141 pounds, and then took cold by being thoroughly drenched in a July squall. Acute tonsillitis developed, followed by tracheitis and cough, with expectoration for a week, and a moderate temperature. No bacilli were found in the sputum. A few indefinite râles were said to have been found by two physicians in the left apex, and at the tenth rib behind upon the left. He had been sent here with the diagnosis of tuberculosis. When I saw him he had been in Colorado seven weeks, and weighed nine pounds more than ever before. Temperature and pulse were normal; there was no cough nor expectoration. Four physicians had examined him and found no signs of disease in his chest, and all were men of excellent standing in the profession. I found nothing within the chest, but the rheumatic creaking at the left shoulder led me to inquire further into his history.

He had had a mild rheumatism, which had for some months affected the left shoulder, causing occasional discomfort in its use. He had noticed the creaking, and the same sign had existed in two or three other joints. When the possibility of this creaking having erroneously given rise to the suspicion of intrathoracic trouble was suggested, he thought it quite possible in view of the negative finding of so many observers here in Colorado.

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*Read before the Denver and Arapahoe County Medical Society.

**Philadelphia Medical Journal*, December 1, 1900.

Near the angle of the scapula was heard a mild creaking noise, which I at first supposed to be pleuritic. It increased in intensity until, over the scapulo-humeral joint it was loud and palpable to the touch. When the patient stood in such a way that the arm hung freely, it entirely ceased, recurring if the arms were folded across the chest again.

I have occasionally heard this sign before, as others certainly have, but did not appreciate that it might lead to error. In this case it offers an easy explanation of what I feel sure was an erroneous diagnosis, if we assume the early examinations to have been rather superficial ones. The possibility is at least worthy of consideration.

Case IV.—A man, thirty years of age, had marked dulness and fine râles over the left apex, with probably a small cavity. The latter was not located, but suspected, because of profuse hæmoptyses with blood almost free from air. After he had gained sixteen pounds in weight, and made a good start toward recovery, precisely the same condition, as above described, was one day found over the left scapula. The sign has not reappeared, and the patient is practically well, weighing now twenty-three pounds more than ever before.

I scarcely see how one familiar with auscultation could mistake such a sound for one proceeding from within the lung, but its resemblance to pleural friction is so great that one might easily be deceived if he did not follow up the sound to its source. With reasonable care no justification exists for error.

I have recently seen two cases in which thrombosis of the common iliac vein had apparently occurred years before, following typhoid fever. Collateral circulation, although fairly efficient, still failed to keep the affected leg free from œdema.

Case V.—F., thirty-seven years of age, a ranchman, was admitted to the Arapahoe County Hospital in December, 1901. He was shown at the clinic on account of a chronic biliary obstruction, due probably to either impacted gallstone or malignant disease. He refused to permit an exploratory incision. Some fifteen years before he had had typhoid fever, and with it venous thrombosis of the left leg. This leg had always remained slightly enlarged, and œdema of the foot was still occasionally found.

From the left groin two veins, each as large as a lead-pencil, ran transversely to the right side, carrying blood in that direction. Five or six veins, a little smaller, carried blood upward toward the navel. The rapid upward current could be easily demonstrated by stroking the veins downward.

The great size of the collateral vessels leads me to think that the venous path from the left leg to the vena cava inferior was entirely cut off by upward extension of the crural thrombosis. The pelvic venous circulation upon this side may well have been involved by thrombosis of the internal iliac vein, if we are to judge by the abundant collateral circulation. The occasional extension of venous thrombosis from one leg to the other by involvement of the inferior vena cava is well recognized. These cases are of especial interest at this time, for in the past few years a great number of patients with typhoid fever have suffered from milk leg—a number vastly exceeding the one or two per cent. usually given in text-books.

Case VI.—G., a man, twenty years of age, seen December 14, 1901, with Drs. Eisenstadt and Moleen, and reported by their kind permission. His chest condition and anæmia do not concern us here. Six years ago he had typhoid fever and right crural thrombosis. The right leg still swells after exertion or long standing. An immense superficial vein carries blood upward from the right groin to the edge of the liver dulness, where it disappears within the abdomen. The patient states that many others existed for one or two years after the fever. In this case the external iliac vein was certainly thrombosed, and probably the common iliac as well.

In a recent case seen at the Arapahoe County Hospital, in which an immense sarcoma of the mediastinum cut off the circulation through the superior vena cava, the anterior chest wall was marked with enormous veins, and many of them contained phleboliths. None were found in either of these cases, although sought for.

In both the cases reported, it is evident that small superficial abdominal veins carried the blood upward to some anastomosis with the inferior vena cava. The superficial circumflex iliac, superficial epigastric, deep circumflex, and deep epigastric, and the small pubic veins were all enlarged, and doubtless many deeper veins participated in the compensation.

Case VII.—*Embolism of the Bifurcation of the Aorta.*—S., a man, about thirty years of age, seen with Dr. W. E. Shotwell, to whom the entire credit of the diagnosis is due.

This man had suffered from valvular heart disease for years, and had come down to Denver from the high altitude of Cripple Creek, to recuperate. He intended to spend the day at one of our summer resorts, when he was suddenly awakened with terrible pain in the legs, as he lay dozing upon a sofa. I saw him about four hours later.

Dr. Shotwell and I found the condition as follows: The legs were blue and cold, the only pulsation to be obtained being a very slight and feeble one in the left femoral artery, with possibly a slighter one in the right; it ceased in both soon after. The heart was much enlarged with wavy impulse, and a loud apex systolic murmur was transmitted to the left. His dyspnœa and other symptoms had been characteristic of mitral regurgitation. The pulse was 120, very feeble, and the pain was still severe, although relieved somewhat by the hypodermic use of morphine, strychnine, digitalis, and whiskey, and the external applications of heat.

It was obvious that an instantaneous obstruction of the crural circulation had occurred at the time of his sudden pain. The known frequency of the development of the ball thrombus in the left auricle led us to believe that the trouble came from the passage of such a thrombus from the auricle to the ventricle, and thence to the bifurcation of the aorta. It must have been small enough to pass the valves, but too large to enter any artery, apparently, after reaching the aorta. Thrombosis soon completed the obstruction after the embolus lodged.

The patient died about thirty-six hours after the attack. No autopsy could be obtained. Both legs were black for some hours before the fatal result

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The Italian Language at Congresses.—The government of Italy has instructed the diplomatic and consular agents in foreign countries that whenever invitations to attend international congresses are addressed to them they are to reply that Italy will abstain from taking official part in a congress in which the use of any language other than French is permitted, while Italian is excluded

CASE OF RATTLESNAKE BITE.

By WILLIAM A. WALKER, M.D.,
CAIRO, GA.

On March 7 a boy nineteen months old was bitten at 6 P.M. by a diamond-backed rattlesnake, two feet eight inches in length. The fangs entered just above the inner maleolus of the left leg. The parents of the child, attracted by its screams, almost immediately stopped the circulation in the leg by tying the mother's apron string above the bite. This was reenforced by a second constriction just above the knee. When I saw the patient about one hour later there were no symptoms of absorption of the venom, as the child's condition was good with the exception of interference with the circulation in the constricted leg. Six longitudinal incisions were made through the skin and deep fascia and partly into the muscles, over the region of the bite, to which were added two crucial cuts. The mother was then requested to make labial suction, which she did very thoroughly, bringing out a considerable quantity of blood, which had a distinctly greenish tinge. Two drachms of solution of permanganate of potassium (10 grains to the ounce) were injected into the tissues around the location of the bite, as directed in Wyeth's Surgery. The cords were loosened for about a minute and then re-applied. This operation was repeated several times, in order to prevent any overwhelming influx of venom into the circulation. As this was being done the child became very pale and nauseated, and to counteract this condition about a drachm of whiskey was given by hypodermic injection. In thirty minutes these alarming symptoms disappeared. The constriction, which was not tight enough to interfere with the supply of blood to the limb, but prevented a rapid return of the venous current, was not entirely removed for twenty hours. The wound healed entirely in two weeks. There was only a slight sloughing in the center of the crucial incisions.

I am of the opinion that this child's life was saved by the prompt constriction of the leg above the wound, the thorough labial suction, and the neutralization of the venom by the permanganate of potassium.

A CASE OF TYPHOID FEVER FOLLOWED BY PARALYSIS OF THE PHARYNX AND PROBABLY OF THE ŒSOPHAGUS.

By ISIDOR GINZBURG, M.D.,
NEW YORK.

J. O., female, eleven years old, became sick March 28, 1902. The initial symptoms were severe headache, general lassitude, and some fever. For five or six days in succession the patient was fed on different "headache powders," in the supply of which our drug stores are so rich and our druggists so liberal. At last the parents decided to send for a physician, and I was called to see the patient. After a thorough examination, I made a diagnosis of typhoid fever of a meningeal type. I advised the parents to send their child to a hospital, which they refused to do

Being unable to give the cold-bath treatment, which is simply impossible in a private house without the help of competent nurses, I ordered cold sponging and the cold pack. On the third day after I saw the patient first a typical typhoid eruption appeared.

The fastigium was of rather short duration, lasting only about six days, There was no hyperpyrexia, the highest temperature reaching 104° F., but the morning remissions were slight. The condition of the heart was good, there were no pulmonary complications, and the intestinal symptoms were of a mild character. It was the condition of the nervous system that caused me uneasiness; the patient was nearly all the time in a state of low, muttering delirium, and, in spite of the cold packs and cold spongings and other therapeutic measures, there was no marked amelioration of the symptoms.

On April 11 the defervescence set in. The temperature began to decline, the condition of the pulse improved, and even the nervous symptoms became milder, though not to the same degree. While my prognosis up to this time was guarded, I became rather sanguine in sight of the improvement, and gave the best hopes for a rapid recovery.

The next day I was there with a medical friend, to whom I wanted to show the case. Both of us examined the patient, and we found everything in the best possible condition. At that time the rectal temperature was 100° F., and the pulse was of a good quality, 105 to the minute.

On the next morning, April 13, when I came to see the patient, I was informed by the father that she had been unable to swallow, since two o'clock; had taken no food or medicine for about ten hours. The temperature at that time was normal, pulse 110, respiration 30. As I could not find any lesion in the throat which would explain the symptoms, I came to the conclusion that it was a case of paralysis of the pharynx. A specialist, for whom I sent later, could find nothing except some erythema of the pharynx and larynx. The pharynx did not respond to stimuli, and, as a result, large amounts of mucus and saliva accumulated there, which had to be removed with pieces of cotton dipped in an antiseptic solution.

The whole interest in the case lies in that peculiar complication—the paralysis of the pharynx—which came on so unexpectedly. So far as I know no textbook mentions it.

A CASE OF QUININE POISONING.

By DANIEL DAVIS ROSENBERG,
STUDENT IN THE COLLEGE OF PHYSICIANS AND SURGEONS,
NEW YORK CITY.

Being troubled with malaria and being advised by my physician to take quinine, I took 24 grs. of quinine sulphate per mouth at about 9 o'clock on the morning of April 5.

At about 11 o'clock of the same morning there began an awful buzzing in my ears, which was soon followed by almost complete deafness. I became very dizzy, and a cold sweat covered the entire surface of my body. My appetite became almost ferocious, but to my chagrin I found that I could not chew any food on account of the pain such action caused my masseter muscles, and moreover I found my swallowing apparatus almost completely paralyzed, so that I was only able, with the greatest difficulty, to take a rather small quantity of milk by means of a glass tube. My pulse rate was at this time about 110, full and bounding, while my temperature was approximately 94.6°. I was, moreover, in a state of great depression.

At about 12 o'clock I lay down and fell into a heavy sleep and did not awake until 4 o'clock, when I felt perfectly normal again.

Since that time I have taken as many as 12 grains of quinine without the slightest effects, not even a buzzing in my ears.

Society Reports.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-eighth Annual Meeting, Held at the New York Academy of Medicine, June 5, 6, and 7, 1902.

First Day—Thursday, June 5.

Dr. Joseph Collins of New York, President, in the Chair.

Study of the Myospasms, Myokymia, Myoclonus Multiplex, Myotonia Acquisita, and Intention Spasm.—This was the title of a paper by Dr. George L. Walton of Boston. In his opinion the present classification of the spasmodic disorders is not uniform. Myoclonia, for example, is used both as a synonym for myoclonus multiplex and as a collective term including the fibrillary chorea of Morvan, electric chorea, etc. Persistent muscular quivering should not be named myoclonus multiplex. Myoclonus multiplex is symmetrical, involves large muscles, and represents a disorder of the central nervous system. General muscular quivering (best named myokymia) represents a purely muscular disorder, perhaps a faulty connection between the nerve terminals and the muscle fiber. The quivering does not necessarily indicate increased irritability, but may represent irregular lapse from tonicity through such faulty connection. Two cases were presented showing persistent general muscular quivering without atrophy, persisting three and five years respectively, and two typical cases of myoclonus multiplex were reported to illustrate the distinctive characters of these disorders. Under the tonic myospasms, a case of "intention spasm" was reported in which tonic spasm of the lower extremities appeared on every attempt to walk, and persisted. Neither the myotonic reaction nor the myotonic muscular disorder were present.

The following conclusions were drawn: (1) The term *myoclonia* as a collective designation for the unrelated disorders should be discontinued; (2) The term *myokymia* should be limited to cases showing, without hereditary or congential history, widespread muscular quivering, without atrophy or other indication of progressive degeneration of the nervous system, without constitutional symptoms, and without signs of present infectious or other acute disease. Cases should not be excluded, however, on account of preceding or introductory symptoms pointing to disease of the lower neurons, if such disease has either disappeared or come to a standstill; (3) The term *myoclonus fibrillaris multiplex* should not be applied to such cases, since it suggests a relationship between myokymia and the paramyoclonus multiplex of Friedreich, with which it has nothing in common; (4) *Paramyoclonus multiplex* should be used to designate bilateral clonic spasms involving whole muscles or groups of muscles, generally those attached partly or entirely to the trunk; (5) The term *myotonia acquisita* should be limited to non-hereditary and non-congenital cases in which otherwise healthy individuals present the typical motor disorder, or the typical reactions of Thomsen's disease. This term should not include the rigidity accompanying marked intestinal disorder or pronounced psycopathic states, even though the rigidity in the latter conditions may be increased by voluntary movement; (6) The tendency to spasm on attempted voluntary movement, unless accompanied by the typical motor disorder, or the typical reactions of Thomsen's disease, should be classed as intention spasm.

Paramyoclonus Multiplex.—This was the report of a case by Dr. F. W. Langdon of Cincinnati. The patient was a girl thirteen years of age. The onset of the attack was attributed by her mother to fright by her brother who was in the habit of teasing her. There were violent shock-like contractions of the muscles of the trunk and of those attaching the limbs to the trunk. They rarely descended below the knees or elbows. The frequency with which they occurred was from thirty to eighty shocks per minute. The face, hands, and feet were not involved. The wrists, fingers, ankles, and toes were flaccid even during the muscular contractions of other parts. The spasms were symmetrical, but with a tendency to greater activity on the left side. The contractions ceased during sleep, but had not ceased for a half hour consecutively during waking hours for six weeks. The patient was still under observation. Treatment so far by anti-spasmodics had merely modified the violence of the contractions.

Dr. N. E. Brill of New York presented a case of paramyoclonus multiplex, and exhibited the patient, a girl of sixteen, whose disease started one year ago. She was treated during this time by Dr. B. Sachs at the Polyclinic and discharged therefrom as cured. Later, she entered the hospital with all the old symptoms intensified. The disease began after a severe fright, the clonic spasms involving almost all the muscles of the upper and lower extremities, including the flexors and extensors of the hands. There were no movements below the knees. The sternomastoids on both sides and the abdominal muscles were involved. Shortly after she came under Dr. Brill's observation the speech muscles became affected so that she articulated with difficulty, her articulation being snappy and explosive in character. There were at no time fibrillary twitchings in the muscles. She never had rheumatism or chorea. The distribution of the muscular spasm was more extensive and involved more muscle groups than any case under the speaker's observation or reading. He indicated the possible relation in this case to hysteria, because, while drugs had no influence on the disease, improvement was brought about by suggestion. The patient, however, showed none of the sensory stigmata of hysteria. He also mentioned the difficulty of distinguishing between this class of cases and generalized tic convulsif. of the French writers.

Dr. M. Allen Starr of New York referred to a similar condition as occurring in a patient under his observation. A young man, thirty-one years of age, had suffered from the same affection about eight months. During an attack of the grippe he was frightened and this mental shock was the active cause of his trouble. His spasms were identical with those we expect to find in paramyoclonus limited to the trunk muscles. The patient also had the same condition of the voice and speech as noted in Dr. Brill's patient. The voice was extremely irregular and he gave vent to peculiar involuntary sounds. During a four months' stay in the hospital, nothing produced any benefit except rest in bed, in a quiet room, with massage and baths. Under this treatment he improved so much that one month ago he went home and now has a spasm only occasionally, once in two or three days, each lasting but a few minutes.

Dr. Morton Prince of Boston mentioned a case in which the spasms were confined to the legs and developed as a traumatic neurosis following a carriage drive, the carriage being overturned by a trolley car. The same night there developed marked spasms of the lower extremities, confined almost entirely to the quadratus femoris on each side, but also extending over the posterior group of muscles when an attempt was made to move them. These spasms persisted for many years. The nerves were submitted to the operation of stretching, the legs being bent backward and upward toward the shoulder as far as possible. Immediately following this, there was a change in the character of the spasms and they continued during the night, but the next morning they disappeared and have been absent ever since. It was of interest to note that this began as a traumatic neurosis and ceased abruptly. It is doubtful whether any real injury was done to the nerves themselves.

Dr. B. Sachs of New York had seen the patient shown by Dr. Brill, and said that the sudden cessation of the movements under the simple rest treatment and also the equally sudden return of the phenomena under emotional excitement, were quite noticeable.

Dr. J. W. PUTNAM of Buffalo had observed a patient in whom the voice was of a peculiar character. He thought it was often impossible to differentiate between what is called hysteria and the spasmodic neuroses under discussion. We did not know just what the nature of hysteria was, but adapting the usual conception of it, hysteria might imitate other diseases in which there was shown a tendency of the nervous system to break down. There was certainly a sliding scale between the two, and we should not attempt to make a very sharp distinction between them.

Dr. CHARLES K. MILLS of Philadelphia called attention to the occurrence of a form of tonic myospasm or myotonia, closely simulating Thomsen's phenomena, in a case of brain tumor not situated in the motor region. In a patient now under his care, he had witnessed a gradual development of this condition in association with other symptoms of organic brain disease. There were no motor or sensory disturbances, but there had been an increasing disturbance of the mental powers, such as judgment, memory, etc. Several years ago, he had seen another case in which Thomsen's disease was closely simulated. A brain tumor was found to be the cause of the symptoms.

Dr. SMITH BAKER of Utica believed it was entirely useless to attempt to help these cases with any ordinary therapeutic measures. He had never been able to benefit them with medicines. He thought that more attention should be paid to the mental condition than to the spasm. Let them alone, isolate them, and study how to perform some deep phsychical impression. This would go as far as anything he was aware of in producing good results.

Dr. F. X. DERCUM of Philadelphia was much impressed with the psychical element in these cases, and also with the close relation which they seem to bear to hysteria. He had been in the habit of regarding them, especially when there has been a history of any psychical origin, as of an hysterical nature. Incurability was therefore not in keeping with this view. These cases bore some relation to general convulsive tic, which is an hereditary neuropathy. The muscular tracts were undoubtedly influenced by potassium, calcium, and sodium salts, and here, perhaps, was where chemistry might be of service.

Dr. WALTON said that the absence of fibrillary twitching in the cases reported showed that this symptom was not a common one in myoclonus multiplex. While Dr. Baker's observation as to the mental factors were quite accurate as regards myoclonus multiplex, they did not apply to myokymia, or to myotonia congenital or acquired.

Dr. Langdon concluded that close lines could not be drawn as to the cause. There were no commonly recognized stigmata as in hysteria. If the cases were largely psychic, how was one going to reverse the psychic processes? So far as a cure was concerned, ordinary remedies did not seem to have much effect.

Disseminated Sclerosis Causing Ocular Palsies and Spasticity with Loss of Knee-jerks.—Dr. WILLIAM G. SPILLER of Philadelphia read a paper with this title. The necropsy showed the existence of numerous sclerotic areas throughout the brain and spinal cord. In 1891 the patient, a woman, forty-one years of age, complained of numbness in the feet, and soon the legs became numb. She had at this time progressive loss of power in the lower limbs and staggering gait. Within two days the numbness extended as high as the waist, and she complained of girdle sensation, and had complete paralysis of the lower limbs. She had also incontinence of urine and fæces. The disturbance of gait soon disappeared, and she was able to walk until 1899, but staggered. She complained of shooting pains at times in the knees, extending to the ankles. In 1901 her speech was somewhat drawling. The lower limbes were completely paralyzed, were much wasted and spastic, slight irritation causing the limbs to be drawn up involuntarily, and yet the patellar and Achilles reflexes were absent. The knees and feet were inverted The Babinski reflex was pronounced. Sensation was normal everywhere. Voluntary movement in the upper limbs was impaired, and the grasp of the hands was very feeble. The hands were very much atrophied. Reflexes of the upper limbs were normal. Mentality was feeble. She had almost complete external ophthalmoplegia and partial atrophic cupping of each optic disc Iritic response was good. The interesting features of this case were: the pronounced muscular atrophy, the secondary degeneration of the pyramidal tracts in a case of disseminated sclerosis, the loss of the patellar and Achilles reflexes with great spasticity of the lower limbs—the loss of these reflexes probably being the result of sclerotic areas in the posterior columns of the lumbar and sacral regions, and the almost complete external ophthalmoplegia resulting from sclerosis of an area in the nuclei of the third and fourth nerves.

Dr. KNAPP related the history of a patient in whom there had been gradually increasing headache and vertigo for several weeks, the general symptomatology being somewhat similar to that in the case reported by Dr. Spiller. This was followed by an apathetic mental condition, slowness in speech, post-neuritic optic atrophy, unequal but active pupils, uncertain gait, exaggerated knee-jerks and ankle-clonus, increased muscular rigidity, and general diminution of sensibility to pain and touch. The mental dulness and apathy increased, and the diagnosis rested between a tumor of the cerebellum and one of the frontal lobe. Death soon followed. The autopsy revealed a cerebellar tumor and basal meningitis.

Dr. WALTON had lately seen a patient with marked bilateral contracture associated with hemiplegia of comparatively recent occurrence. He thought that in the absence of the knee-jerk in spastic paralysis we should take great care to exclude variations of tonicity from the normal before having recourse to an additional focus of disease in the reflex arc. He had seen absence of knee-jerk and of cutaneous reflexes in cases of tumor with spastic paralysis, and also the cutaneous reflexes lost during the rigid stage of meningitis to gradually return during relaxation.

Dr. STARR had observed a child who presented the typical symptoms of multiple sclerosis developing at the age of seven years after an attack of measles. There was the characteristic spasmodic condition of the lower extremities with exaggerated reflexes and evidence of descending degeneration in both pyramidal tracts. The only question that arose in his mind was whether the descending degeneration was secondary to the sclerosis. He was glad that Dr. Spiller had presented pathological observations which makes it evident that multiple sclerosis may have a secondary descending degeneration.

Dr. J. W. PUTNAM said that as disseminated sclerosis is not very common in this country, he wished to state that several years ago he had seen a case in which very extensive degenerative changes were found in the cord. This patient also had marked disturbance in the action of the eye muscles.

Dr. SINKLER thought that the symptoms as described in the case of Dr. Spiller were more those of a diffuse myelitis than a disseminated sclerosis.

Dr. D. J. McCARTHY of Philadelphia asked Dr. Spiller to explain the loss of reflexes in cases of patches of sclerosis.

Dr. Spiller, in closing the discussion, said that it was extremely difficult to decide whether or not the knee-jerk was lost in cases of rigidity of the limbs. With regard to infants we should be guarded in our statements as to these reflexes. He had seen loss of knee-jerk in disseminated sclerosis a number of times and had attributed it to sclerotic patches. Generally, one did not find, as in this case, permanent bilateral contraction in unilateral lesions. Descending degeneration in multiple sclerosis did exist, but it was very rare.

Traumatic Myelitis Causing Symptoms of Central Hæmatomyelia.—Dr. SPILLER read a paper with this title, and reported a case because of the dissociation of sensation of the syringomyelic type following a fall without fracture of the vertebræ. It has been assumed that under such conditions this symptom-complex indicates hematomyelia. The case showed that traumatic myelitis, with very insignificant hemorrhage, could produce the same dissociation of sensation as hematomyelia. The recovery of motor power in the lower limbs had been very great, although intense degeneration of the pyramidal tracts was shown by the Marchi method. The case showed that much motor power might exist even when the degeneration of these tracts was considerable. The nerve-cell bodies of the anterior horns of the cervical swelling, especially at the eighth servical segment, were much degenerated, and this explained the greater intensity of the paralysis in the hands and fingers, even though the mild traumatic myelitis was above the sixth cervical segment. The case also showed that degeneration of nerve fibers and cell-bodies from trauma might occur within the spinal cord without fracture of the vertebræ, and might resemble that produced experimentally. This fact had much medicolegal importance.

Combined Tabes and Multiple Sclerosis.—Dr. Wharton Sinkler of Philadelphia read a paper with this title. He described a case in which pronounced symptoms of multiple sclerosis were combined with those of locomotor ataxia, and remarked upon the fact that, while multiple sclerosis gave rise to a diversity of symptoms according to the location of the diseased areas, he had never known of a case in which the symptoms of this disease were so conspicuously blended with those of tabes as in the following case: The patient was a man sixty-two years of age. He had had syphilis as a youth, but never had any secondary symptoms. For many years he had noticed a tendency to shaking of the hands in doing delicate work, but for the past eight years there has been marked tremor on voluntary effort. About eight years ago he began to have attacks of intense lightning pains in the legs. The pain was usually concentrated in a small area, the spot being not much larger than a ten-cent piece. For about the same length of time the legs have felt dead and numb. About the same time he suddenly found that there was loss of vesical control; that is, at night he would have sudden and unconscious emptying of the bladder. This condition has persisted so that he has been obliged to wear a urinal. The patient's gait was not characteristic of locomotor ataxia, but was unsteady. He walked long distances habitually and did not experience any sense of fatigue. The station was bad, that is, there was considerable shaking of the body from tremor of the legs. Standing with the eyes closed, there was great swaying, and he would fall if not supported. The knee-jerk and Achilles jerk were absent. Plantar reflex was present, but easily exhausted. No Babinski sign. There was extreme intention tremor in both hands, more marked in the right. It was impossible for the patient to carry a glass of water to the mouth with the right hand, although by some dexterity he succeeded in accomplishing this with the left. He was unable to write. An attempt to write his name resulted in an illegible scrawl. The Argyle-Robertson phenomenon was absent, and there was no change in the fundus of the eyes. The speech was not scanning.

Course of the Sensory Fibers in the Cord, and Some Points in Spinal Localization.—This was the title of a paper and the report of a case by Dr. Morton Prince of Boston. The case was of value in that it showed the existence of a pathway for sensory fibers other than in the posterior columns. The patient had been stabbed in the neck. The knife entered between the fifth and sixth cervical vertebræ and severed approximately the posterior half of the cord, the section being carried farther forward in the left half of the cord than in the right, so that both posterior columns were cut clean through, and the lateral columns on the right as far forward as the anterior boundary of the pyramidal tract, but on the left it extended ventrally so as to include a portion of the anterolateral field. During life tactile sensation was preserved on the left half of the body, but abolished on the right half as high as the set of the lesion. As the posterior columns were completely severed, tactile impressions from the left half of the body must have ascended in the anterolateral field. It was evident also that they must have crossed to the opposite half of the cord, otherwise there was no way of explaining the anæsthesia on the same side of the body as that on which the section of the cord was of the least extent. It would also appear that this path for tactile impressions, after crossing in the cervical region, must ascend somewhere in an area represented by a triangle, the posterior leg of which corresponds to the line of incision on the right side, and the anterior leg to the line of incision on the left side of the cord. The case also corroborated our knowledge of spinal localization, although the paralysis resulting from the lesion varied somewhat from the usually accepted view. There was absolute paralysis of the extensors of the forearm with preservation of the function of the flexor group, showing that the centers for the triceps do not extend above the seventh segment. The distribution of the sensory loss also presented some points of interest. The report of the case was a preliminary one, as the microscopic examination of the cord was not yet complete.

Dr. Mills said that aside from the motor conditions present, it would have been of great value to determine the muscular sense, and the pain, temperature and tactile senses.

Dr. William G. Spiller of Philadelphia thought that Dr. Prince's case seemed to show that the tactile fibers were not confined to the posterior columns. He believed in the study of the pain and temperature senses, and felt quite sure that had a microscopic examination been made, the lesion would have been found to extend further anteriorly.

Dr. Prince admitted that the tactile sense only was investigated in this patient, the pain and temperature senses being disregarded. The question at issue was that of operation. He was concerned solely with the idea of looking for the height of the lesion in the cord.

Exophthalmic Goiter after Thyroidectomy.—Dr. J. Arthur Booth of New York read a paper with this title and reported the results in eight cases of Graves' disease after partial thyroidectomy. All were in women from seventeen to forty-two years of age. Exophthalmos, goiter, tachycardia, and tremor were present in every case. One patient died twenty-four hours after the operation, but the seven others had been under observation since the operation for periods ranging from two to nine years. Three were cured and four were practically well, all of the prominent symptoms having more or less subsided, the pulse being from 80 to 84. The following conclusions were drawn: (1) Cases of Graves' disease are cured both by thyroidectomy and by resection of the sympathetic; (2) Sudden death may occur during or after the operation, which is due to an already weakened heart, faulty technique of the operator, or nephritis; (3) in the majority of cases the thyroid gland dominates the disease.

Dr. Starr believed in the importance of operation in such cases. He had recently seen a patient in whom the gland was enlarged downward and backward, and so did not produce so much protrusion as usual. The operation resulted favorably and the patient was in fairly good condition. He believed that the activity of the gland was responsible for the disease.

Dr. Dana said that the statistics regarding this operation, and especially that of the removal of the sympathetic, were very misleading. There was no evidence that removal of the sympathetic ganglion would cure Graves' disease. If one were to select a series of seven cases treated medically and go back six or seven years, he could report as good results as Dr. Booth had. It was most important to bear in mind that these patients could be improved more promptly by operation, provided it did not kill them. He thought the disease was essentially or primarily a psychosis, with some disturbances of the nerve-centers and increased glandular activity. He had collected about twelve cases of Graves' disease in which death had occurred within three or four months, and nearly all had bulbar symptoms, facial palsy, etc.

Dr. Hirsch said that as a rule surgeons do not publish the unsuccessful or fatal cases.

Dr. William Osler of Baltimore had personal knowledge of two patients dying during the operation, and he had heard of a third case. If there was any clinic from which reliable figures were to be had, it was Kocher's clinic in Berne. Kocher concluded that in the surgical treatment of the disease we had by far the best means at hand for curing a large percentage of cases. Osler thought that little was known as yet of the good that might be obtained in Graves' disease from surgery.

Dr. B. Sachs said we should be more conservative in regard to surgical intervention, for many cases will get well by simple means. Exophthalmic goiter was not such an unfavorable disease as it was generally supposed to be. He mentioned a patient who had been successfully operated upon eight years ago. In this case there was tremendous exophthalmos. Both the tachycardia and the exophthalmos diminished, and there was improvement in the general health.

Adiposis Dolorosa.—Drs. F. X. Dercum and D. J. McCarthy of Philadelphia reported the results of an autopsy in a case of adiposis dolorosa.

Dr. Spiller had made sections in the case reported, but did not find any affection of the hæmolymph glands.

Amaurotic Family Idiocy.—Dr. B. Sachs of New York reported a case with the result of the autopsy, which showed degeneration in the gray matter throughout the entire central nervous system.

Asthenic Bulbar Paralysis.—Dr. William M. Leszynsky of New York presented two patients with this rare affection. The first patient was a girl twenty years of age. She had been subject to frequent attacks of right-sided migraine without vomiting, but with transient obscuration of vision since her fourteenth year. Otherwise, she was perfectly well until about a year ago, when she first noticed slight difficulty in speech while reading aloud, her voice becoming of a nasal quality. This gradually got worse, and a month later there was transient diplopia, and in attempts at swallowing, food would regurgitate through the nose. Six months ago the eyes did not close completely, and three months later there was occasional weakness with heaviness in the right arm and hand, and subsequently the left arm and band became similarly affected. In the last six months, there had been dysphagia and difficulty in mastication. She was now easily exhausted after talking or chewing for a short time. She therefore took very little nourishment and was losing weight. There were present incomplete bilateral lagophthalmos and facial paresis, paralysis of the palate, and paretic masseter muscles. The reflexes were easily exhausted. The second patient was a married woman twenty-two years of age. From time to time during the year, before coming under observation, she had suffered from attacks of dysphagia, in which fluid food regurgitated through the nose. Several times there had been transient paresis of the left arm and leg. Later she complained of headache, gastric pain, nausea, and vertigo lasting three days. There was some fever but no vomiting. This was soon followed by vertigo, diplopia and ptosis of the left eye, from which she gradually recovered. During the next eight months she had several attacks of vertigo, diplopia, and ptosis alternating between the two eyes, from all of which she recovered spontaneously in a few days or a few weeks. At present there were partial ptosis of the left eye, bilateral facial paresis, nasal quality of the voice, difficulty in mastication, due to rapid exhaustion of the masseters, paresis of the palate, dysphagia, and regurgitation of food through the nose. After talking a short time she was unable to continue on account of rapid fatigue. On awaking, all of these symptoms subsided more or less, but began again in a few hours and increased during the day.

The Posterolateral Scleroses.—Drs. C. W. Burr and D. J. McCarthy read a report of nine cases of diffuse sclerosis affecting the posterior and lateral columns of the cord, and presented a classification of combined diseases of the spinal cord.

Dr. J. J. Putnam said that the variety of toxic conditions which gave rise to this affection was considerable.

Dr. Walton thought that sufficient stress had not been laid on the ischæmic form due to arteriofibrosis. The parts of the cord usually attacked were those physiologically supplied with the least blood, and it was reasonable to suppose that they might first succumb in the presence of even moderate arterial changes.

Dr. Spiller said that the disease is almost invariably a diffuse process when it is due to anæmia.

Transverse Lesion of the Midthoracic Segments of the Spinal Cord.—Dr. Adolf Meyer of New York reported a case of probably syphilitic myelitis of the fourth thoracic segment destroying the entire cross-section with the exception of the greater part of the posterior columns (the most ventral part and the commissure were destroyed), a few pyramidal fibers, and the head of the dorsal horns. The symptoms were for one year before death: analgesia and thermanæsthesia below the sixth rib on the right, and the fifth rib on the left side; a zone of slight thermanæsthesia over the fourth rib, paralysis below the thorax (slight movement of the thigh and of the right toes occasionally possible); involuntary pulling up of the thighs, at times accompanied by shoot-pains. There was no disorder of tactile sensibility, pressure sense, tickle sense, or sense of position.

Dr. Prince said that our anatomical knowledge as to the course of the fibers is far in excess of our physiological knowledge. We must admit that there are at least two tracts going up carrying tactile and pain impressions.

Second Day—Friday, June 6.

Paralysis of All Four Limbs and One Side of the Face, with Dissociation of Sensation Developing in a Few Hours and Resulting from Meningomyeloencephalitis.—This was the report of a case by Drs. Charles K. Mills and William G. Spiller of Philadelphia.

Dr. Walton thought that such cases added materially to our knowledge of the reflex arc. The case confirmed the theory that any sudden cutting off of the upper portion of the cord produces a persistent loss of the knee-jerk.

Dr. Mills said that in spite of the enormous obliteration of the spinal cord, tactile sense was present over the entire body, with a complete loss of temperature and pain senses in the parts indicated.

Multiple Neurofibromatosis.—This was the title of a paper by Drs. Joseph Fraenkel and J. R. Hunt of New York. They dwelt upon the comparative rarity of the condition, stating that neurofibromatosis presents itself clinically under five different forms, as follows: (1) Tubercula dolorosa (painful tubercles) Wood; (2) Multiple neuromata of the skin (molluscum fibrosum—Recklinghausen's disease); (3) Neuromata or neurofibromata of a single peripheral nerve; (4) Neuroma plexiforme, pachydermatocele, and neuromatous elephantiasis; (5) Generalized neurofibromatosis, neurofibromata of the skin, cerebrospinal, and sympathetic nerves. Anatomically the disease is characterized by a fibrous hyperplasia, particularly endoneurial and perineurial, very rarely epineurial. This fibrous tissue is very succulent and shows no tendency to contract. This is.

perhaps, one of the reasons why most of the neurofibromata are without symptoms. Five cases were reported: A woman of thirty-one who had been sick for ten years and presented a clinical picture of transverse myelitis, in whom the autopsy revealed a large number of fibroneuromata and an isolated large neurofibroma within the vertebral canal. A young girl of eighteen, afflicted with neuralgia and paralysis of one lower extremity, in whom the operative removal of fibromata of the peroneal nerve led to recovery. The other cases were examples of Recklinghausen's disease and of peripheral neuromata without symptoms.

Dr. Dercum believed that a very broad distinction should be made between neurofibromatosis and adiposis dolorosa. In the latter condition there may be an increase of fat, which may be diffused, localized, or nodular, together with pain. Typical cases present fatty deposits, pain, and always some intense mental impression. In some cases there are hysterical manifestations; in others, a great tendency to hemorrhages into mucous membranes, epistaxis, hemorrhages into the retina, etc.

Dr. D. J. McCarthy said there were several types of adiposis dolorosa. One, in which the nodules appear to be more or less of a normal type but sensitive to pressure; another, in which the nodules are not sensitive to pressure; and a gouty type. He mentioned the case of a very fat woman who had attacks of acute tumor formations of fat; with each recurring attack there was a slight rise in temperature and more or less pain. A week after the subsidence of the attack there was no trace of the disease.

Dr. Fraenkel had seen a patient with general adiposis who lost sixteen pounds during the development of tuberculosis. It had been noted that this condition was more likely to develop in alcoholic subjects. The pathological examination of the fatty condition showed dilated lymph channels and enlarged lymph glands.

Pseudomuscular Atrophy.—Dr. G. M. Hammond of New York exhibited a boy nine years of age, who had been ailing for three years. There was at first a stage of muscular hypertrophy, but now the atrophic stage had developed. When first seen there was a condition of almost extreme helplessness, and the patient's general health was very poor. He was given three grains of thyroid extract three times a day, and he began to improve. He had gained five pounds in weight, his general condition was much better, and he was now able to walk upstairs. The speaker considered the condition one of dystrophy, the result of glandular deficiency and degeneration of the muscles.

Sarcoma of the Third Cervical Segment of the Spinal Cord. Operation. Recovery.—This was the report of a case by Drs. James W. Putnam and William C. Krauss of Buffalo. The patient was a man forty-five years of age. He had always been in good health and gave no history of injury. Two years ago he had attacks of sharp pain in the back of the neck radiating to the occiput. These increased in frequency, and were at times accompanied by vertigo. Later, numbness and weakness developed in both hands and arms. Then the legs became similarly affected until he was unable to walk. Motion was entirely lost in the muscles of the left arm and leg. There was some power in all of the muscles of the right arm and right leg, and no muscular rigidity. All of the reflexes were highly exaggerated with the presence of patellar and ankle clonus and the Babinski reflex. There was loss of control over the bladder and rectum, with total loss of sensation on both sides from the clavicle down. The vision was good and the pupils reacted readily to light. The diagnosis was made of tumor of the cervical portion of the cord and operation was advised. This was done by Dr. Roswell Park, April 28, 1902, and a sarcoma, involving the third cervical segment, was found and removed. During the five weeks since the operation there had been some improvement, which still continued. The writers claimed this case to be unique for the following reasons: (1) It was the only tumor of the spinal cord affecting the upper cervical regions which had been so far recorded; (2) It was the only cervical cord tumor which had gone on an uninterrupted course toward recovery; (3) It was definitely located and quickly removed without sacrifice of spinous processes and laminæ and the short incision closed with remarkable rapidity; (4) From the surgeon's standpoint it was located in the most inaccessible portion of the spinal cord by virtue of the cervical curvature of the spinal column offering a concave field for operation instead of a convex field; (5) It was the only tumor of the cervical segment of the cord in which distinct phrenic nerve disturbances were noted.

Dr. J. H. Lloyd of Philadelphia said that tumors of the spinal cord are rare, and therefore operations for their relief must be correspondingly rare. The subject of operation upon spinal tumors was a matter of recent development. He had had two cases that were operated on for spinal tumor. The case reported was an unusually successful one when it was considered that the operation was done in a dangerous region of the cord.

Dr. Walton said that his experience in a continuous series of cases, properly located, showed that the operation had not been attended with very good results. The readers of the paper had shown that the posture of the patient during the operation embarrassed the respiration. It seemed to him that in some of these cases of embarrassed respiration that it must be laid to another cause, which is most likely pressure upon the phrenic nerve.

Dr. Fraenkel referred to a tumor which was supposed to be situated at a certain portion of the spinal cord. The tumor was not found at the time of the operation, because it was performed one-quarter of an inch below the tumor. The patient died two days later, and the tumor was found near the entrance of the foramen magnum. He thought that caudal tumors were more important than tumors situated in other parts of the cord because we can offer a better prognosis.

Dr. J. J. Putnam of Boston mentioned three cases that had been operated upon in the Massachusetts General Hospital. In one case the tumor proved to be a sarcoma surrounding the dura like a collar at the junction of the cervical and dorsal cord. This patient was very stout and had embarrassed breathing during the operation. He died. Another case proved to be a cancer in the lower dorsal region. This also surrounded the dura like a collar, growing anteriorly. This patient suffered much pain. The nerve roots were severed and the pain was lessened. In the third patient the symptoms of tumor were perfectly characteristic, yet the tumor was not found. The nerve roots were severed, from which much relief followed.

Dr. J. W. Putnam, in closing, said that when the tumor was removed from the cord it showed that compression had been exerted upon the cord by a cup-like depression which was on both sides of the median line. The delay before operation was due to the obstinancy of the family physician, who insisted that there was no tumor present, but that it was a case of hysteria. The patient was going on to incomplete recovery.

Hysteria Major and Its Differentiation from Organic Disease.—Dr. C. L. Dana of New York reported three cases of major hysteria combined with organic disease. One was that of a woman who suffered from paralysis of all four extremities, due apparently to alcoholism and neuritis, but really a typical case of hysterical paralysis with contractures. Another case was that of a woman who had fracture of the spine and crushing of the first lumbar segment of the cord with paraplegia, but who had in addition anæthesias extending over all of one side of the body, and involving the special senses with other evidences of a complicating hysteria. The third case was a tunnel accident patient who had fracture of the ribs and burning of the hand with complicating anæsthetic hysteria. The speaker divided the syndrome of hysteria into five groups: (1) Anæsthesia; (2)Paralysis and tremor; (3) Contractures; (4) Attacks or crises; (5) The mental state. The characteristics of the anæsthesias were their appearance in the hemianæsthetic type and in the segmental type. He did not believe in the so-called "spots of anæsthesia." The anæsthesias were generally diffused, but did not usually have such sharp differentiation as in syringomyelia, though the loss of pain sense was generally more complete than that of touch. There was very rarely any loss of deep sensibility with ataxia or astereognosis. The contractures when of a fixed type were very severe and persistent and rarely disappeared in sleep. They were not accompanied by pain or cramps or exaggeration or reflexes. Dr. Dana spoke at some length on the peculiar and, as he believed, characteristic mental state of the major hysterical.

Dr. Knapp did not believe that anæsthesia was a less grave and less permanent condition than the paralysis and contracture of hysteria. He had seen a considerable number of cases in which the anæsthesia was one of the chief stigmata of the disease without any paralysis or contracture. Of course, anæsthesia was often absent. He had never observed anæsthesia involving the middle segment of the body. Hysterical paraplegia was an extremely rare condition.

Dr. B. Onuf of New York had seen two cases of hysterical paraplegia, one being associated with loss of all forms of sensation in the lower extremities.

Dr. Prince agreed with Dr. Dana that isolated scattered areas of anæsthesia were extremely rare. With regard to the nature of hysteria, he believed that some time in the future it will be possible to show a cerebral localization just as is now shown in many cases of organic paralysis.

Dr. Mills said that the differentiation between the symptom-complex of organic disease and hysteria had to do with the persistence of the phenomena. In hysteria he had found a distinct feature to be hyperæsthesia rather than anæsthesia. In hysterical cases the anæsthesia is more likely to affect the proximal portion of the limb. It was rare for him to see cases of hysterical paraplegia. Persistent contractures were rare in true hysteria. They might be pseudocontractures. The deep reflexes were often exaggerated, but never extremely so without the pressure of ankle clonus. One might have anything and everything in hysteria.

Dr. J. J. Putnam of Boston was in full accord with what had been stated. When there was an organic lesion in some part of the nervous system, it was impossible to explain the anatomical distribution of the anæsthesia. He thought the anæsthesia of distal portions of the limbs could not be explained on anatomical grounds.

Dr. Joseph Fraenkel of New York mentioned the fact that in organic anæsthesia the skin reflexes were absent in that area, while in hysterical anæsthesia the reflexes were usually increased.

Dr. Dana, in closing, said that he firmly believed major hysteria could be recognized and differentiated from organic disease. Organic disease did not present a picture like this, and it was time to accentuate that fact. The statement that hysteria might simulate everything was not true. It was quite common and characteristic, however, to have a reduction of the tactile sense in hysteria.

Focal Lesion of the Upper Cervical Cord.—Dr. F. X. Dercum of Philadelphia reported a case of progressive paralysis of all of the extremities from a focal lesion of the upper cervical cord.

Raynaud's Disease.—Dr. B. Onuf of New York read a paper on this subject with special reference to the etiology, pathogenesis, and nosology.

The Mechanism of the Plantar Reflex.—Dr. P. C. Knapp of Boston read a paper on this subject, in which he stated that the normal plantar reflex was dependent upon a reflex arc extending to the cerebral cortex, and disappeared when a certain portion of that arc was destroyed. A wholly new reflex (the Babinski reflex) might take its place under such circumstances. He also spoke of the crossed plantar reflex, and its possible significance, when the normal uncrossed reflex has disappeared.

Dr. Walton was in full accord with the present views that crossed reflexes depend upon the diffusion of stimuli through the commissural fibers in the cord, and in the pons and subthalamic region, without reference to the cortex.

Cerebral Abscess.—Dr. William M. Leszynsky of New York read a report and exhibited the brains from two cases of cerebral abscess. The first case was that of a woman thirty years of age. On admission to the hospital there was evidence of purulent mastoid disease, which was successfully subjected to surgical operation. One week later there occurred headache and a general convulsion followed by hebetude. The next day she had nine general convulsions and remained semicomatose for several hours. The pupils, optic axes, and eye-grounds were normal. There were no signs of focal brain disease. The temperature ranged from 100° to 103° F., pulse 82 to 112. The following day she was able to answer questions, the hebetude cleared, she took nourishment well, and the pulse and temperature became normal. She remained in a clear state of mind for five days and seemed to be improving. She then gradually became comatose and died. On account of the decided improvement, exploratory operation had been delayed. The autopsy revealed an otitic abscess in the left temporosphenoidal lobe communicating with a larger abscess cavity in the frontal lobe.

The second case was in a man thirty-one years of age. After exposure to cold there had been chills, fever, profuse sweating, severe frontal and temporal headache, followed by acute rhinitis, and cough with slight mucous expectoration. Six days later he entered the hospital. There was no history or evidence of ear disease. Temperature, 102°; pulse, 98°. There was extreme tenderness over the frontal bone and a mucopurulent discharge from the left nostril. Both frontal sinuses were opened, but no pus was found. Leszynsky saw him the following day (one week after admission to the hospital). He was much emaciated, with a rapid feeble pulse, and in a condition of marked mental hebetude. There were motor aphasia and right hemiplegia with exaggerated reflexes andankle-clonus. The diagnosis was made of a cerebral abscess situated either in the frontal or temporal lobe on the left side and immediate operation was advised. The operation was attempted, but not completed. Death took place four hours later. The autopsy showed purulent meningitis over the left convexity, involving the frontal and temporal lobes, and an abscess in the anterior portion of the left temporosphenoid lobe. This abscess, probably of metastatic origin, had ruptured through the cortex, thus causing the purulent meningitis. There was no evidence of cranial bone disease. A large empyema was found in the right pleural cavity.

Partial Internal Hydrocephalus.—Dr. William G. Spiller of Philadelphia reported two cases, one resulting from partial closure of the foramen of Monro by an inflammatory exudate; the other, from occlusion of the aqueduct of Sylvius by proliferation of the neuroglia. He also spoke of the existence of intense bilateral contracture in the first case, resulting from a unilateral cerebral lesion—a condition very little known—and of symptoms of cerebellar tumor in the second case, caused by the internal hydrocephalus.

Acromegaly with Diabetes.—Dr. Adolf Meyer reported a case with the usual tumor of the hypophysis. The growth of the tumor had separated a portion of the nervous part of the hypophysis from the rest which remained connected with the tuber cinereum.

Dr. Meyer also reported six instances of a peculiar terminal disorder in cases of melancholia, depressive hallucinosis, and alcoholic-senile delirium. After a course not different from that in other cases, the patients developed weakness, rigidity of all the muscles to passive motion, and a jerking tremor and grimacing, usually with diarrhœa, irregular temperature, accentuation of the delirious condition and, finally, termination with bronchopneumonia. It was not unlike certain forms of gastric tetany. The condition was one of parenchymatous alteration, chiefly of central elements, analogous to what happens in the peripheral nerves in parenchymatous peripheral neuritis, and for the sake of brevity the provisional term central neuritis might be used. Whether the disease begins in the fibers or the cell-bodies, or whether a definite toxic agent can be found, must be left to further investigation.

Arteriosclerosis of the Spinal Cord.—This was the title of a paper by Dr. William Hirsch of New York. He considered arteriosclerosis of the spinal cord a condition which is only rarely diagnosticated. The clinical symptoms might vary according to the affection of the blood vessels. The anterior half of the cord was apt to suffer more from sclerotic changes in the arteries than the posterior part, and the lower more than the upper part. This was due to the peculiarity of the blood supply of the spinal cord, the anastomosis of the posterior half being more abundant than that of the anterior half, so that in case of an obstruction the cells could derive their nutrition from other sources. Nine cases were reported in which the diagnosis of spinal arteriosclerosis was made during life. Some of them were combined with sclerosis of the cerebral arteries. In one case an autopsy was performed, which revealed arteriosclerosis throughout the entire central nervous system. The motor cells of the anterior horns showed a marked increase of pigmentation, while the cells of the posterior horns appeared perfectly normal.

Dr J. J. Putnam said that such cases had been described in a group of cases seen by him. Atropic optic nerves were observed once or twice in diffused spinal degeneration.

Dr Spiller had been interested in this subject for several years. He said that the reader of the paper had not spoken of paralysis agitans which had been regarded as a senile form of disease. In many such cases he had found arteriosclerosis. He was surprised to hear it said that the anterior half of the cord was more affected than the posterior, for that had not been his experience. Sometimes, undoubtedly, there was an arteriosclerosis in the lower extremities, but that could hardly be explained by any greater involvement of the lower portion of the spinal cord.

Dr Leszynsky said that in people at an advanced age and in others with arteriosclerosis it was not unusual to find evidence of degeneration in the peripheral nerves. This would often explain the loss of the knee-jerks and many other symptoms affecting the lower extremities. In his opinion it was always safe to make a diagnosis of spinal arteriosclerosis in the presence of generalized arteriosclerosis.

Dr. Hirsch, in closing, said he did not mention paralysis agitans because it could be excluded in the differential diagnosis.

Acute Hemorrhagic Cortical Encephalitis.—This was the title of a paper by Dr. Herman H. Hoppe of Cincinnati. He said that the study of cortical encephalitis was more necessary and of more practical utility than that of Wernicke's form of pontine encephalitis. The cause of the disease was usually one of the acute infectious diseases, measles and influenza being the most frequent, the bacillus of the later disease having been found in the hemorrhagic areas. Alcohol, ptomain poisoning, and the various metallic poisonings were doubtful etiological factors. Early childhood was the most frequent age. The clinical history was illustrated by three cases: Case 1. Acute hemorrhagic influenza encephalitis, ending in death on the fourteenth day. Case 2. General delirium with aphasia and paraphasia, paresis of right side of face and arm; recovery with defective speech. Case 3. Complication in third week of typhoid fever. Sudden onset of delirium with hallucinations. Paresis of right side of face, tongue and arm. Amnesic aphasia. Recovery with defective speech.

Dr. Mills said that the diagnosis of true encephalitis was not always made by the clinical history. The diagnosis of toxæmia without a true encephalitis would better explain several of the cases recorded as occurring in connection with typhoid fever. He would not regard cases as encephalitis, which, on post-mortem examination did not show the evidences of that condition.

Division of the Posterior Spinal Roots for Amputation Neuralgia.—This was the report of a case by Dr. P. C. Knapp of Boston, who said that this was sometimes the only effectual operation, but it was not devoid of danger. His case resulted fatally. Removal of neuromata or resection of the nerves sometimes gave no relief, and degeneration in the distal end of the severed nerves was not complete. There might be preservation of sensibility with relief of pain after division of the four posterior spinal roots.

Dr. Spiller had seen a case almost exactly like the one just reported. The man had had an injury of the upper limb, which had been amputated near the shoulder. Three operations had been done for the relief of pain in the stump. There were also involuntary jerkings in the stump. Division of the posterior roots was advised, but the operation was not urged, for it had been shown to be serious. One patient died upon the table, and another was not benefited.

Herpes Zoster and Paralysis.—Dr. P. C. Knapp of Boston exhibited diagrams of a case of zoster, with eruption, hyperæsthesia and degenerative paralysis in the region, supplied by the fifth and sixth cervical segments.

Third Day—Saturday, June 7.

Pseudoepilepsies and the Relief of Some Forms by Thyroid.—This was the title of a paper by Dr. William Browning of Brooklyn. Details of a few cases were given and some of the points made were summarized as follows: In the young there occurred a class of cases characterized by recurrent attacks of heterogenous type, that might be called "pseudoepilepsy." This form of trouble was curable. The cases studied were due to, or associated with, disturbances in the general tissue metabolism of the body. Some of these were in whole or in part of rachitic origin. Troubles of this kind when due to rachitis were amenable to thyroid treatment. True epilepsy was not remedied by thyroid, even in a person who was once rachitic. It was evident that in many cases there was a closer relationship between rachitis and athyreosis than had heretofore been recognized. There must be a relative inadequacy of the thyroid function in these cases associated with rickets. Either, as one of the cases indicated, there was a serious impairment of the activity of the gland, or thyroid feeding served to burn up harmful material at large in the system.

Dr. E. D. Fisher of New York said that children without real symptoms of myxœdema or cretinism seemed to improve under thyroid treatment. He thought the use of thyroid was deserving of trial in the class of cases reported by Dr. Browning.

Dr. Langdon expressed the view that in such cases of epilepsy, the convulsions not being due to injury or to a toxæmia, occurring in the developmental age, were, in some measure, due to defects in the neuron, or a chemical condition. The phenomena seemed to indicate a defect in structure and improvement or recovery might be hoped for after complete development.

Dr. J. J. Putnam referred to the case of a girl sixteen years old who had been treated with bromides for so-called epilepsy. When she came under his care, he found in association with her convulsive seizures a condition of ichthyosis. After the ichthyosis had been vigorously treated for a few days locally and with thyroid extract, and cessation of the bromide treatment, she began to improve, and the interval between the seizures increased by several weeks. He was of the opinion that so-called p psy was often the result of nutritional changes. These a s should not be classed as epilepsy until the conti ive habit had lasted long after the original cause has e eliminated.

ychomotor **Epilepsy.**—Dr. Ira Van Gieson of New Y k read a paper with this title. The work had been ca ied out at the Pathological Institute of the New York St e Hospitals under his directorship. The research c isted in reinstating into the patient's consciousness a ries of upheavals of subconscious intervals, accompa ied by classical manifestations of epilepsy of which th e was complete amnesia. The case related to a man th ty-three years of age, who some months before coming u er investigation had been having progressively freq nt attacks of epilepsy and occasional attacks of p t mal. The attacks were preceded by an aura, con- ng of a foul taste in the mouth with a bad odor. At t time of admission there was also a tendency toward c tinuous amnesia in the epileptic interval. Under h nosis patiently carried out, the man succeeded u esurrecting the psychic content of the first attack, all o which it was possible to verify from eye-witnesses. I vas found that the aura had its genesis in the patient's t ing a piece of stale meat from a lunch counter and u nis falling in the epileptic attack immediately afterw d. As one by one, starting from the first attack, the s sequent ones were thus synthesized into the patient's c sciousness, the new attacks became correspondingly f er. In all, about fifty of the attacks were reassociated w h the patient's consciousness. As the series of fusion b ame complete the attacks disappeared, the confusion a l mild stupor in the interepileptic periods vanished, l for some months the patient had been back at his w k and had had no attacks. The speaker announced t t a volume of the Archives of Neurology and Psycho- hology would shortly appear containing a detailed ac- c int of this case.

nsanity with Peculiar Motor Manifestations.—This was t title of a paper by Dr. H. A. Tomlinson of St. Peter. e paper dealt with the motor manifestations in three c es of insanity, which simulated those resulting from c ganic disease. They illustrated in an extreme degree t usual forms of motor disturbance among the insane. udocatalepsy, spastic tremor, and subsequent rigidity i the first case illustrated the irritative form; while ndness and paraplegia in the second case illustrated e paretic form. The entire annihilation of speech and luntary movement in the third case, which was that of idiot, suggested the pathology of these forms of motor volvement and their mode of origin; while the complete tor recovery in all of them showed that the functions the motor area may be seriously interfered with, or most entirely annihilated without permanent lesion.

New Members.—The following were elected to mem- rship in the Association: Dr. Leo S. Newmark of San ancisco; Dr. Harold N. Moyer of Albany, and Dr . E. Paul of Boston.

Election of Officers.—*President,* Dr. James W. Put- m of Buffalo; *Vice-Presidents,* Drs. C. E. Riggs of St. ul. and H. M. Thomas of Baltimore; *Council,* Drs. W. Bullard of Boston, and Joseph Collins of New York. *tary* and *Treasurer,* Dr. G. M Hammond of New rk

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Retraction of the Palmar Aponeurosis in the Insane.— . Féré and Martha Françillon have found this symptom fourteen out of 226 patients admitted to the insane lum. It was also found in cases of general paralysis, t less frequently. A very few cases have been re- rted in epilepsy. In imbeciles there were three cases t of sixty-nine. The authors hold that in all these e retraction of the aponeurosis of the palm is a mani- tation of a congenital anatomical defect.—*Revue de decine.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 19, 1902:

	Cases	Deaths.
Measles	201	8
Diphtheria and croup	225	40
Scarlet fever	134	23
Smallpox	15	3
Varicella	20	..
Tuberculosis	253	146
Typhoid fever	74	18
Cerebro-spinal meningitis	..	..

The Influence of Intestinal Bacteria on Nutrition.—Max Schottelius mentions the investigation of Duclaux, who showed that the synthesis of organic substances in plants can take place only in the presence of bacteria. If sterile but otherwise healthy seeds are planted in sterile soil growth takes place only to the extent corresponding to the amount of nutrition already contained in the seed plus the absorption of water, and the plant dies at the end of twenty to twenty-five days, while other central seeds germinating under normal conditions have acquired two to three times their original weight. The fact that of the myriads of microorganisms inhabiting the mouths and intestinal tracts of mammals and particularly of man, only very few are susceptible of cultivation, makes a condition almost akin to symbiosis probable, and is *a priori* evidence of their value to the host. That this is actually so is shown by the author's experiments with sterile chicklets raised under absolutely sterile conditions and kept so until death occurred. None of these animals lived longer than thirty days, most of them dying much earlier and all lost weight steadily, the deficit in one case amounting to as much as 32 per cent. of the weight on hatching, while the control birds flourished and gained up to 117 per cent. The sterile birds appeared to be constantly hungry and ate incessantly, at the same time producing correspondingly large amounts of excrement, but, in spite of this activity and the digestion of their food by the body juices, did not grow but continued steadily to lose flesh and strength. The addition of a little of the excrement of normally-raised birds to their food, however, almost immediately produced a change and allowed their metabolic processes to progress naturally.—*Zeitschrift für diätetische und physikalische Therapie.*

Surgery of the Spine.—Eugen Hahn, in discussing the difficult question of whether to operate at all in injuries of the vertebræ and, if so, when, says that compression through fractures of the arch requires immediate intervention. If the incision shows that no fracture is present one must remain content with the mere exploration. In fractures accompanied by compression, dislocation, and crushing through of the cord, all operation is hopeless. As long as the suspicion exists that the case is one of contusion with hemorrhage no operation is permissible. In paralysis through fractures, with compression and narrowing of the canal, the attempt must be made to free the cord from pressure by laminectomy. This is to be done by the removal of the arch of the vertebræ lying above the fractured body, as the narrowing is nearly always produced between this portion of bone and the upper posterior edge of the fractured body. It is only when this measure proves unsuccessful that the much more serious procedure of removing the projecting angle of the body should be adopted. In this case the cord must be pushed aside to permit the chisel to cut away the prominent edge. The greatest judgment is required in cases of fracture of the body. The decisive point is the conviction that no improvement can follow non-operative measures

All cases in which any improvement is noted before operation prove nothing for the value of the operation, and the more favorable statistics of late surgery in such instances are easily explicable, since the cases that succumb to the initial severity of the injury are eliminated. —*Deutsche Zeitschrift für Chirurgie.*

The Etiology of Relapsing Fever.—Justin Karlinski, who has had unusual opportunities for studying this disease during a recent epidemic in the Bosnian border, believes that he has found the carrier of infection. The disease is notoriously proletarian, and in the present epidemic out of one thousand cases but two occurred in those of the better class, and even these were patients who came into continual contact with the filthy and almost brutish peasantry. The dirtiness of their homes and, in particular, the prevalence of bed-bugs, lice, and fleas are almost incredible, since these vermin are never killed, but are regarded as a special favor sent by Allah to promote health by removing poisonous juices from the body. The author examined the intestinal contents of one hundred and twenty bed-bugs taken from the infected houses, and in every case found abundant living spirilli, which corresponded in every particular with the characteristic organism of the disease. A similar examination of insects taken from non-infected houses invariably gave negative results. Fleas and lice never acted as hosts for the spirillum. The author's theory is that a bug filled with infected blood from a patient wounds the skin of a healthy individual for the purpose of further feeding, and deposits excrement in the immediate vicinity of the puncture, thus affording a most favorable opportunity for inoculation. He attributes his own escape from infection to the fact that he constantly kept his clothing and skin impregnated with insect powder during his visits to the infected localities.—*Centralblatt für Bakteriologie, etc.*

A New Protective Dressing.—Karl Springer describes a new protective dressing, which is intended especially for use in plastic operations, skin grafting, etc., where it is important to keep the dressing from adhering to the surface of the wound. The various materials, such as rubber tissue, oiled silk, oiled gauze, etc., which are in general use for this purpose are open to the objection that they stand sterilization by heat but once, after which they must be preserved in some antiseptic solution, which often impairs their strength or pliability, and always requires washing off in sterile water to remove before use. The substance which the author employs as a substitute is paraffin of a melting point of 45-47° C. If a small piece of this is thrown on the surface of boiling water it is first melted, and then, on cooling forms a thin, floating pellicle, which may be handled with forceps and cut to the proper shape with scissors. The technique of its practical application is simple. A flat vessel provided with a cover is partially filled with water and brought to a boiling point. A piece of paraffin is then thrown in and the boiling continued for ten minutes. The vessel is then placed in another dish of cold water, causing the paraffin to harden as a thin pellicle on the surface. As soon as this occurs the vessel is placed in water at a little above body temperature, which keeps the pellicle soft and pliable. Holes for drainage may then be punctured through it with a sterile needle, and after cutting to shape it is lifted with forceps and applied to the wound with the water side down. The thickness may easily be controlled as experience dictates by the size of the lump of paraffin used.—*Centralblatt für Chirurgie.*

Infusion through the Umbilical Vein.—A. Shücking, after a protracted labor, found that the usual methods failed to resuscitate the asphyxiated child. As an infusion was ready, he decided to try its effect, though the child was blue and the heart action barely perceptible. A solution of 0.5 per cent. sodium fructosate and 0.7 per cent. sodium chloride was used and the cannula simply inserted in the umbilical vein, and the cord *in toto* tied abou it. After about an ounce of the solution had entered th circulation, the heart's action improved, and after si drachms further had been given spontaneous respiratio began. This was reinforced for several minutes by Sylvester's method and then proceeded naturally, the chil surviving. The action of sodium fructosate and sodiu saccharate in such cases is the result of their taking u the carbonic acid of the blood and being converted int glucose and carbonate of sodium. In this way the embarrassed respiratory center of the child was probabl relieved and rendered irritable again, though the question involves the mooted point of the explanation of the first breath.—*Centralblatt für Gynäkologie.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health, and U. S Marine Hospital Service, during the week ended July 19, 1902:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, San Francisco	June 29–July 6	5	
Florida, Live Oak	July 11	1	
Palmetto	July 11	1	
Illinois, Belleville	June 5–12	1	
Chicago	July 5–12	1	
Freeport	July 5–12	5	
Indiana, Indianapolis	June 29–July 5	11	
Kansas, Wichita	July 5–12	1	
Kentucky, Covington	July 5–12	6	
Lexington	July 5–12	1	
Massachusetts, Boston	July 5–12	7	1
Cambridge	July 5–12	13	2
Everett	June 28–July 12	6	1
Lowell	July 5–12	7	
Melrose	July 5–12	1	
Newton	July 5–12	1	
Somerville	July 5–12	3	
Michigan, Detroit	July 5–12	3	
Missouri, St. Louis	July 6–13	16	
Montana, Butte	June 6–July 12	6	
Nebraska, Omaha	July 5–12	8	
New Hampshire, Nashua	July 5–12	1	
New Jersey, Hudson County, Jersey City included	July 6–13	18	3
Newark	July 5–12	10	1
New York, New York	July 5–12	28	0
Ohio, Cincinnati	July 4–11	5	
Cleveland	July 5–12	38	4
Hamilton	July 5–12	1	
Toledo	June 29–July 12	3	
Zanesville	June 1–30	1	
Pennsylvania, Allentown	July 5–12	1	
Erie	July 5–12	3	
Philadelphia	July 5–12	18	3
Pittsburg	July 5–12	32	1
Scranton	June 28–July 5	1	
Rhode Island, Providence	July 5–12	1	
Tennessee, Memphis	July 5–12	1	
Utah, Ogden	June 10	9	
Salt Lake City	July 5–12	3	
Virginia, Danville	July 7–14	3	
Washington, Tacoma	June 30–July 6	1	
Wisconsin, Green Bay	June 6–13	1	
Milwaukee	July 5–12	3	

SMALLPOX—FOREIGN.

Argentina, Montevideo	June 4–11	49	3
Austria, Prague	June 21–28	2	
Colombia, Cartagena	June 23–29	..	1
Panama	June 30–July 7	6	
Egypt, Cairo	June 10–17	..	1
Great Britain, Birmingham	June 28–July 5	2	
Liverpool	June 30–July 5	3	
London	June 21–28	129	17
Sunderland	June 21–28	1	
India, Bombay	June 10–17	..	9
Calcutta	June 7–14	..	3
Karachi	June 1–14	2	1
Italy, Naples	June 21–28	5	
Mexico, City of Mexico	June 29–July 6	1	1
Russia, Moscow	June 14–21	15	2
Odessa	June 21–28	3	
Warsaw	June 14–21	..	3

YELLOW FEVER.

Colombia, Panama	June 30–July 7	5	2
Cuba, Gibara	July 16		1
Mexico, Vera Cruz	June 28–July 5	9	8

PLAGUE.

India, Bombay	June 10–17	..	55
Calcutta	June 7–14	..	65
Russia, Odessa	July 10	Present	

CHOLERA—INSULAR.

Philippine Islands, Manila	May 10–24	236	186
Provinces	May 10–24	804	549

CHOLERA.

China, Kweilan	July 12	10,000 deaths	
Pinglo	July 12	3,000 deaths	
Shanghai	June 1–30	20 cases	
Tangku	June 7	Epidemic	
India, Bombay	June 10–17	2 deaths	
Calcutta	June 7–14	..	32

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Original Articles.

DIET, DRUGS, AND DIAGNOSIS IN TYPHOID FEVER.*

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SOME ten years ago, two patients suffering from typhoid fever entered Columbus Hospital. These patients were brought from an Italian war vessel, at that time lying in New York harbor. They were of Italian nationality, alike in build and temperament, of the same occupation—that of seamen in the Italian navy—and presumably had contracted the disease from the same source of infection. At the time of admission the course of the fever had been strikingly similar in each case, one being in the lead by about two weeks.

These patients entered the service of the late Dr. Byron, and were put upon the treatment then in vogue, viz., two to three quarts of milk, or more, in the twenty-four hours, alcoholic stimulants, and enemata when necessary to encourage evacuation of the bowels. Under this treatment these cases ran along the average lines, being neither unusually severe nor mild. Each patient had intestinal hemorrhages, and "pea soup" stools were the rule. After a rather tedious course of fever, convalescence was sighted in the first case, and recovery seemed to loom up in the dim distance. The stomach intake of milk had exceeded expectations, and the bowel output had not been unduly copious or frequent. Nevertheless, emaciation was extreme. The heart's action, notwithstanding the rather large amounts of alcoholic and other stimulation, all of which had been retained, was nothing to boast of. Yet the thought of what it would have been, or perhaps would not have been, had the stomach of the patient been rebellious, or the alcoholic supply limited, enabled me to meet this case with composure, which, although much the worse for wear and tear, had apparently run the gauntlet of a "typhoid" without succumbing. The second case was trailing along the same path, about two weeks behind the first, and receiving practically the same treatment.

These cases confronted me on beginning my service, on September 1, 1893. I continued the treatment that had previously been employed, and, in order better to combat the excessive meteorism, I recommended daily enemas, which were invariably followed by the ward note of "result satisfactory." This meant that the expulsion of the enema was attended with, or followed by, that of a very large amount of fecal matter of soupy consistence, cheesy curds, variegated color, and a most disagreeable odor, which easily and offensively permeated the entire ward.

The temperature of the first case was now hovering about the normal point. The stomach remained tolerant, and the heart, under liberal stimulation, seemed to be holding its own. After an interim of about a week, the temperature curve slowly began to rise, and the index of the general condition to fall. The unwelcome, but never unexpected, "relapse" set in. Constipation alternated with diarrhœa. Milk was poured frequently and copiously into an unusually tolerant stomach, the bowel injected regularly with high and low enemata of water, turpentine, ox-gall, etc., and, just as regularly, was recorded on the ward notes "result satisfactory." Nevertheless, continued tympanites, a failing heart, toneless and tremulous muscles, and blunted senses, pointed toward the end, which came September 20, 1893, about five weeks after the man had entered the hospital.

No autopsy was permitted, but the daily course of the disease marked out in such clear lines two pictures—the one of an apparently successful emersion from a general infection, the other a fatal immersion into a secondary intoxication—that I resolved, if possible, to change the sequence of events, and, should it become necessary, to adopt different measures in the case of the second sailor, who had been traveling, clinically, over the same road as his predecessor, and threatened to arrive at the same destination, on schedule time, about two weeks later. This patient pursued the anticipated course—an almost exact counterpart of that of his shipmate—received essentially the same treatment, and exhibited the same results.

On the advent of the "relapse," with some misgivings, but urged on by the fate of the other case, I decided to supplement the enemata with medicines administered by the mouth, and to employ what I then considered heroic treatment, in order, if possible, to lessen the tympanites, which was then extreme, and to clean out the intestines, which, judging from the discharges, were in a most foul condition; and to risk this, notwithstanding their assumed frail condition, as inferred from the previous rather profuse hemorrhages. The drug which I selected for this purpose was calomel, and the dose 15 gr., with double the amount of bicarbonate of sodium.

On the next day, on my arrival at the hospital, I ascertained a number of interesting facts: (1) That the patient had passed an enormous stool of firmly formed fecal matter, and that this had been followed by others of softer consistence, malodorous, but most tenacious and adhering strongly to the bedpan; (2) That in the formed stool were found grape skins; (3) That these must have been in the bowels for at least twelve days, as at that time the patient had partaken surreptitiously of grapes, which had been smuggled into the ward by well-meaning friends. He had been detected in the act of eating these, and the remainder had been confiscated. This fixed the time of ingestion, as it is hardly necessary to add that the patient was subsequently "saved from his friends" and no opportunity afforded for similar indiscretions; (4) The tympanites had very perceptibly diminished; (5) The general condition of the patient was slightly improved.

This called a halt in the discouraging train of ymptoms. The sequence of events took an upward turn, and very gradual, but progressive, improvement ensued. Calomel was given in large and small doses at irregular intervals, whenever the exigencies of the case demanded it. The threatened "relapse" came and went with less severity than usual, but about the average duration. After a long and tedious convalescence, a complete recovery resulted, and the patient left the hospital February 26, 1894.

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*Read, in part, before the Hospital Graduates' Club.

From that time on, without theorizing as to the primary seat of the disease, even admitting, for argument's sake, that typhoid fever exists without intestinal lesions, I ceased to put my trust in enemas, and began to use calomel and other drugs, in varying doses, for the purpose of relieving tympanites and cleaning out the bowels, and I can truly add, with "results, both immediate and remote—satisfactory." The conclusion also has been gradually, but inevitably, forced upon me that both of these conditions were the more promptly and permanently obtained, the more regularly the dose was administered, and the smaller the amount of nourishment ingested. Another impression dawned upon me also, viz., that emaciation seemed to be independent of the amount of nourishment taken into the stomach. The system apparently assimilated, or at least accounted for, but a small part of the food intake, while the balance was thrown off by the bowels, and to a lesser extent by the other emunctories, at a cost of considerable fever, heart force, and general wear and tear to the system. After considerable clinical experimentation, carried on in conservative lines, for the past year and a half, I have selected calomel as the drug par excellence for relieving tympanites and cleaning the bowels, in half-grain doses twice a day; and one pint of milk, diluted with an equal quantity of vichy, as about the proper amount of nourishment for a typhoid patient during the twenty-four hours. The imbibition of water, preferably acidulated with dilute hydrochloric acid ʒ ss - ʒ i to a quart, is encouraged as much as possible. In my experience, too much cannot be taken; too little may be.

In hospital practice, as soon as a tentative diagnosis is made and without regard to the stage of the disease, five or ten grains of calomel with double the amount of bicarbonate of sodium is given, and the appearance of the stools and condition of the abdomen following this prescription determines a repetition of the dose, or the amount of calomel to be started as a routine measure.

Stimulants and sedatives are employed to meet presenting symptoms, not prospective ones, and are never given routinely, or without direct indication. Salol, beta-napthol, bismuth, salicylates, carbolic acid, and all the so-called intestinal antiseptics have not appealed to me on practical or theoretical grounds. In doses employed they do not antisepticize the bowel, and if they did, it would not stay the disease. The typhoid bacilli in great numbers have long before migrated from the bowel, and are lodged, proliferating, and manufacturing their toxins in the intestinal coats, mesenteric glands, spleen, and many, perhaps all of the other organs of the body. They have been found in the blood, urine, saliva, and perspiration. To the infection is added an intoxication, and the local lesions in the intestinal mucous membrane—the parts accessible to the alleged antiseptics—only mark the damaged portals of entry for the germ causes of a constitutional affection.

There may be a future for the serum treatment, but Elliot and Washburn's experience (*Lancet*, January 18, 1902) in 211 cases does not encourage much hope in this direction at present. From the nature of the disease, when the curative serum comes, it must attack primarily the bacilli, rather than the toxins.

One grain of calomel then, in divided doses, with one pint of milk properly diluted, every twenty-four hours, acidulated water, the more the better, constitute the routine diet and drug treatment which I have employed in most of the ninety cases here tabulated, and the remainder, with very few exceptions, received drugs and diet, approximating to this standard; but it is hardly necessary to add that variations and additions have been made to meet the requirements of individual cases. "No symptom is too irregular for typhoid," and the success of the physician is commensurate with his ability to anticipate or promptly meet all such unexpected contingencies. For instance, one-half grain of calomel, one or three times a day, may be advisable, according to the condition of the stools; or a discontinuation of it altogether, in the event of a stomatitis, or other individual idiosyncrasy. In such cases a laxative pill of nux vom., bellad., colocynth co., and aloes—the laxative pill of the Roosevelt Hospital formulary—twice a day, with or without a saline mixture, forms a good substitute. In general, a remedy which takes some time to act is preferable, in my opinion, to a saline used alone. Very probably cascara, podophyllin, or any other similar drug, would serve as well, but I have been habituated to the above, and they seem to answer every purpose. Enemata are exceptionally indicated.

In regard to the nourishment, there are no hard or fast lines as to quality; the quantity must, however, be limited. A good rule to observe is to consult the patients' taste, and if they have no decided preference, give milk. When the quantity to be taken is limited to a pint or less in twenty-four hours, it is rare to find any strenuous objectors. An egg, broths, or any mixed diet, may, perhaps, be permitted, so long as the quantity is limited. What may suit one may not suit another, and certain individual dietary experiments most carefully conducted may be advisable in exceptional cases, but I have never been obliged to resort to such measures. A small amount of coffee in the milk will render it more palatable to some patients.

At St. Vincent's and Columbus hospitals, in my service, each patient has his supply of acidulated water, and it is given freely. I know of nothing better to make a dry tongue moist, or a foul mouth clean. Intestinal hemorrhage, which has been a rare complication in my cases, forms no contra-indication to the calomel or laxative treatment. Ten grains of calomel and twenty of sodium bicarbonate will stop a slight hemorrhage of the bowels, as I have often demonstrated. In profuse hemorrhages opium, acetate of lead, turpentine, the ice coil, etc., may be useful. I have, at present, under treatment at St. Vincent's Hospital a private patient who has had twenty-three hemorrhagic stools extending over a period of seven days, including two days before admission. On admission—the third day of the hemorrhages—one pint of a 10-per-cent. solution of gelatin, containing also acid. hydrochlor. dil. and calcii chlorid. āā ʒ ss. and whiskey, ℥ iss., was administered during every twenty-four hours. This, with gr. ss. calomel b.i.d. and plenty of water, constituted all ingesta for five days, at which time the hemorrhages ceased. Peptonized milk ℥ viii. i.d. was then added, and the amount doubled seven days later, when the gelatin was discontinued. At present, nine days later, there has been no recurrence of the hemorrhages, and the outlook for a rapid recovery is bright. ʒ ss-ʒ i of tincture of the chloride of iron to one quart of water, instead of the acidulated water, is recommended when hemorrhages occur; and chlorate of potassum ʒ i to a quart of water in cases of stomatitis. Stimulants are rarely required.

I have thought best to make tabulated records of the cases upon which the treatment recommended in this paper is based, in so far as it affects diet and drugs. The cases were taken in regular order as they occurred in my services at St. Vincent's or Columbus Hospital. Most of the patients were under my personal observation during their entire stay in the hospital. Some were left in the fever, or period of convalescence, under the charge of the house physician, with directions to continue the treatment. All of these recovered without any unfavorable symptoms. Of those patients handed over by the visiting physician preceding me, none are included, except a few who "relapsed," or whose condition demanded change of treatment, and that on the lines indicated in this paper.

As may be seen on going over these tabulated cases, and still more clearly had I gone back prior to 1899, the tendency has gravitated toward diminishing the intake of nourishment, and a more constant use of calomel, on account, primarily, of my growing confidence in these measures to relieve meteorism. Tympanites will bear more careful watching than temperature, and in my experience, a distended and inflated abdomen is more to be feared than a temperature of 105° or 106°. An ice bath will reduce the latter, and what is more important, add tone to the system, But the difficulty of relieving a tense and baloon-like abdomen increases directly with the amount and duration of the distension, and the time soon comes when it is well nigh impossible. Nor is this difficult to understand when we consider the effect of stretching muscular tissue. If paralysis follows stretching of the sphincters, the same condition must obtain after continuous distension of the muscular walls of the intestines. Then, too, the tense intestinal wall not only interferes with peristalsis and invites septic absorption, but predisposes to hemorrhage and bowel perforation. I do not remember to have seen an intestinal hemorrhage of any considerable amount with a relaxed abdomen, although I do not doubt that such cases may occur—in typhoid all things are possible—but the picture of an abdominal coil assuming a balloon shape in order to conform to a hollow and distended belly, is so intimately associated in my mind with hemorrhage that the conditions seem supplementary.

It is then, with the idea primarily of lessening tympanites, that I have resorted to the comparatively small amount of nourishment advocated in this paper. Granting that it does this, is the amount sufficient for nourishment? Osler recommends three pints of milk, and Dreshfield in Allbutt's System, two to three pints in twenty-four hours. A. A. Smith says it is an error to give too much milk. Two or three years ago, I remember a discussion which took place in the medical section of the Academy of Medicine, and after the opinion had been pretty unanimously expressed that milk, from two quarts per day up, the more the better, should be poured down the typhoid patient, one gentleman rose and stated that he had used no nourishment at all in his cases, but plenty of water, and cited three or four cases treated by this method with 100 per cent. of survivals. Between these two extremes, a golden mean, varying perhaps with each case, must lie. At all events, the question of diet for sick and well is undergoing considerable change, and the trend of opinion is, according to the recent writings of Sir Henry Thompson and Osler, toward a lesser quantity, in order to secure the best results for a sound or ailing body.

In this connection I have abstracted brief quotations from a letter recently received by me from Dr. V. Zolnowski, in which he cites four cases treated in his sanitarium on low or no diet.

Case I.—"O. C., age twenty-seven years, suffering from gastritis, headache, and general malaise. Fasted ten days. Took nothing except water. Walked three to five miles and exercised in gymnasium two hours every day. Lost fifteen pounds. At expiration of fast expressed entire relief from above symptoms."

Case II.—"J. S., age thirty-five years; diag. neurasthenia, mental depression, catarrhal gastritis and malassimilation. Took one meal each day at 5 P.M., with hot water and an orangeade in the morning. Walked six miles per day with two hours' work in the gymnasium. Followed this up for one month, when he said he felt 'like living again.' Depression disappeared, and organic functions became normal."

Case III.—"T. D., age twenty-nine years; diag. catarrhal gastritis, insomnia and constipation. Fasted twelve days. Water given freely. Walked three miles each day for eight days, with light gymnasium work and short walks during rest of fast. Lost seventeen and a half pounds. Regained seven pounds four days after breaking fast, and looked and felt absolutely well."

Case IV.—"J. F., age twenty-five years; diag. neurasthenia, mental depression, and insomnia. Fasted eighteen days. Walked three miles daily and took light gymnasium work. Lost eighteen pounds, which he rapidly regained after breaking his fast. Slept and felt well during rest of time at sanitarium."

I regret that I cannot give in figures the exact loss of weight sustained on the restricted diet, recommended in this paper through a two to three weeks' course of typhoid. But, so far as my observation goes, it is not extreme, and patients emerge in astonishingly good condition, as I have often demonstrated.

A glance at the tables will show that when an increase is made in the diet, it is made progressively and rapidly. The returning appetite, moist tongue, retracted abdomen, rather than a normal temperature, set the time for increasing the quantity of food, and the patient's palate fixes the quality. A soft egg, bread, toast, beef broths, scraped beef, jellies, ice cream, or an increase in the amount of milk, is permitted, without any *a priori* considerations as to food value. No relapses have occurred in the cases treated by this method from the beginning, and under this management none is expected. This list also includes three cases of pregnancy, in none of which was there any interruption or any untoward complication of the disease.

As to the use of cathartics or laxatives in typhoid fever, I think the question may be fairly stated as, at present, a mooted one, with the general trend inclining toward their use. There are many and distinguished practitioners, who still advise against the employment of anything but enemas as a routine measure during the course of the disease. Osler permits Hunyadi or Fredrichshall exceptionally, repudiates the intestinal antiseptics, and admits having had no experience with mercurials. He is opposed to the eliminative theory as advocated by Thistle on theoretical grounds It may also be exceptionally true that typhoid

NO.	PLACE.	DATE.	NAME.	SEX.	AGE.	DAY OF DISEASE.	DIET.	DRUGS.	DIAGNOSIS AND REMARKS.	RESULT AND DISCHARGE.
1	At home.	September 28, 1895.	M. B.	F.	30	7+	Milk, Oii.; vichy, Oi.; whiskey, ʒii., in die. Acid aq., ad lib.	Salol, gr. v., t.i.d. Calomel, gr. 1-10, for 10 doses, and repeated at frequent intervals. Phenacetine p. r. n.	Fifth month pregnancy. Healthy child born following February.	Cured December 15, 1895.
2	Columbus Hospital.	February 21, 1899.	V. B.	M.	20	14+	Milk and vichy, āā Oii., i. d. Acid aq., ad lib.	Calomel, gr. v.; sod. bic., gr. x., initial dose. Cal., gr. ss., b. i. d. Strych. sulph. and whiskey, p. r. n.	Temperature, 104° on admission; 98.4° March 20.	Cured April 14, 1899.
3	do.	May 1, 1899.	G. D.	M.	14	10+	Milk and vichy, āā Oii., i. d. Acid aq., ad lib.	Cal., gr. v. Sod. b c., gr. x. Cal. gr.ss. b. i. d. Salol and phenacetine, p. r. n.	On admission, 102°.	Cured May 29, 1899.
4	do.	May 10, 1899.	P. A.	M.	50	12+	Milk and vichy, āā Oii., i. d. Acid aq., ad lib.	Cal., gr. x. Sod. bic., gr. xx. Cal., gr. ss., b. i. d. May 12, Salol, gr. v., t. i. d.	On admission, 102.4°.	Cured June 6, 1899.
5	At home.	May 15, 1899.	R. G.	M.	38	7+	Milk and vichy, āā Oiii., i. d. Hot coffee in milk every morning. Acid aq., ad lib.	Cal., gr. ss., b. i. d. Phenacetine, gr. v., at night. Cal., gr. v., at night, p. r. n.	First visit, 103.2°.	Cured June 25, 1899.
6	Columbus Hospital.	June 16, 1899.	S. G.	M.	36	20+	Milk and vichy, and broths, etc., ad lib. Acid aq., q. s.	Cal., gr. ss., b. i. d. Strych. sulph. Digital, and whiskey, p. r. n.	On admission 102.4°. Delirious; subsult. tendin.; extreme tympanites, and prostration; weak pulse.	Died June 21, 1899.
7	do.	August 2, 1899.	A. A.	M.	18	14+	Milk and vichy, āā Oii., in die. August 14, light diet. Acid aq., ad lib.	Cal., gr. v. Sod. bic., gr. x. Mg. sulph., p. r. n. Cal., gr. iii., at night, p. r. n.	On admission, 103°. Widal —.	Cured August 26, 1899.
8	St. Vincent's Hospital.	October 25, 1899.	A. D.	M.	25	7+	Milk, about Oiv., in die. Whiskey in milk. Acid aq., ad lib. November 24, light diet.	Quin. sulph., gr. x.; potass. brom., gr. xv. t. i. d. Salol. gr. v., t. i. d. November 3, Cal., gr. iii., p. r. n. Strych. sulph.	Widal+ Leucocytes, 15,000.	Cured December 3, 1899.
9	Columbus Hospital.	November 2, 1899.	M. F.	M.	19	14+	Milk and vichy, broths, q. s. November 20, "light."	Cal., gr. x. Sod. bic., gr. xx. November 4, Cal., gr. ss., b. i. d.	On admission, 104.3°. Widal+	Cured November 28, 1899.
10	St. Vincent's Hospital.	November 15, 1899.	J. M.	M.	47	7+	Milk and vichy, āā Oiss., i. d. Acid aq., ad lib. +December 12, egg; +15th bread, 20 h. "light."	Cal., gr. x. Sod. bic., gr. xx. November 17, Cal., gr. ss., b. i. d.	....	Cured January 9, 1900.
11	do.	November 25, 1899	A. R.	M.	29	10+	Milk and vichy, āā Oiss., i. d. December 1, milk and vichy, āā Oi., i. d. December 24, milk and vichy, āā Oii., i. d. Acid aq., ad lib. Gradually increasing to light diet.	Cal., gr. v. Sod. bic., gr. x., at night, p. r. n. Potass. brom. Stimulants p. r. n. Mg. sulph. occasionally.	On admission, 104°. Widal+.	Cured February 15, 1900.
12	do.	November 28, 1899	J. T.	M.	22	12+	Milk and vichy, āā Oiss., i. d. Acid aq. January 5, milk and vichy, āā Oi., i. d. January 13, milk and vichy, āā Oii. i. d.; January 18, milk and vichy, āā Oiii., i. d. +19th, egg; 20th, "light."	Sal. Rochelle, ʒii., p. r. n. January 5, Cal., gr. v. Sod., gr. x., at night, p. r. n	On admission, 104.1°. Widal —. December 1, +. Diazo+.	Cured January 23, 1900.
13	do.	November 30, 1899	W. B.	M.	22	14+	Milk and vichy, āā Oiss., i. d. Acid aq. December 5, Milk and vichy, āāOi., i. d.	Cal., gr. iii. Sod. bic., gr. v., or Sal. Roch., or Comp. cath. pil., p. r. n.	Widal+. Diazo —.	Cured December 28, 1899.
14	Columbus Hospital.	December 1, 1899	C. B.	M.	45	12+	Milk and vichy, q. s. Acid aq.	Cal., gr. v. Sod. bic., gr. x., or Mg. sulph. p. r. n.	On admission, 102.3°. Widal —.	Cured December 28, 1899.
15	St. Vincent's Hospital.	December 2, 1899	T. D.	M.	21	14+	Milk and vichy, āā Oi., i. d. Acid aq. +January 6, egg; 8th, eggs (2); +12th, toast; 15th, "light."	Cal., gr. v. Sod. bic., gr. x. December 4, Cal. gr. ss., b. i. d.	Widal+.	Cured February 7, 1900.
16	do.	December 19, 1899	A. B.	M.	23	12+	Milk and vichy, āā Oi., i. d. Acid aq. January 2, Milk and vichy, āā Oii., i. d. 10th, "light."	Cal. gr. v. Sod. bic., gr. x. December 20, Cal., gr. ss., b. i. d.	Widal+.	Cured January 20, 1900.
17	do.	December 19, 1899	J. R.	M.	28	2	Fluid diet one week, then milk and vichy, āā Oi., i. d. Acid aq. +January 20, egg; 22d, eggs (2); +24th, toast; 26th "light."	No drugs for one week, then Cal., gr. ss., b. i. d.	Temperature normal one week; relapse. Widal+.	Cured February 13, 1900.
18	do.	December 19, 1899	J. S.	M.	30	7+	Milk and vichy, āā Oi., i. d. Acid aq. +January 10, egg; 16th, "light."	Cal., gr. v. Sod. bic., gr. x. December 21, Cal., gr. ss., b. i. d.	Widal+.	Cured January 31, 1900.
19	Columbus Hospital.	January 15, 1900	J. F.	M.	22	16+	Milk and vichy, āā Oii., i. d. Acid aq. February 6, "light."	Cal., gr. ss., b. i. d.	On admission, 102.3°.	Cured February 16, 1900.
20	do	March 14, 1900	P. G.	M.	17	16+	Milk and vichy, āā Oii., i. d. Acid aq.	Cal., gr. iii. Sod. bic., gr. v., p. r. n. March 16, Cal., gr. ss., b. i. d.	On admission, 102.2°.	Cured April 15, 1900.
21	St. Vincent's Hospital.	March 18, 1900	J. G.	M.	35	21+	Milk and vichy, āā Oii.+, i. d. Acid aq.	Whiskey, Digital., Strych. sulph. Cal., gr. iii. Sod. bic., gr. v. Mg. sulph., p. r. n. Trional. Strontii bromid. Hypodermoclysis (Salt sol.).	On admission, 104.2°. Pulse, 108. Widal+. Diazo+. Delirium, tympanites extreme. Subsultus tendinum.	Died March 25, 1900.
22	do.	April 2, 1900	B. M.	M.	26	21+	Milk and vichy, āā Oii.+, i. d. Acid aq.	Whiskey, Digitalis, Strych. sulph., Potass. brom., Pulv. opii, Morph. sulph.	On admission, 104.4°. Widal+ Delirious. Tympanites. Involuntary stools and urine. Intest. hemorrhages.	Died April 10, 1900.
23	do.	May 13, 1900	B. S.	F.	38	16+	Milk and vichy, āā Oii., i. d. Acid aq.+. June 1 toast; 7th, "light."	Cal., gr. 1-10, for 10 doses (hour intervals). Salol, gr. v., t. i. d. Strych., sulph. Whiskey, p. r. n. Mag. sulph., p. r. n. Repeat Cal., gr. 1-10, as above. p. r. n.	On admission, 104.2°. Leucocytes, 12,000. Widal —. Diazo+.	Cured June 30, 1900.
24	do.	May 30, 1900	M. G.	M.	30	7+	Milk and vichy, āā Oii., i. d. Acid aq.	Cal. gr. v, Sod. bic., gr. x. June 1. Cal. gr. s. s., b. id.	....	Cured August 27 1900.

25	do.	June 8, 1900	J. M.	M.	21	7+	Milk and vichy, āā Oii., i. d. Acid aq. +July 5, toast; +8th, egg; +9th, scraped beef.	Cal., gr. v. Sod. bic., gr. x. Lax. pil., p. r. n. July 10, Cal., gr. 1-10, q. 1 h. for 6 doses. Whiskey, strych. sulph., p. r. n.	On admission, 102.4°. Widal —. June 11, —; 16th, —; 20th, +.	Cured July 21, 1900.
26	do.	June 13, 1900	J. S.	M.	39	12+	Milk and vichy, āā Oii., i. d. Acid aq.+. July 4, scraped beef; +5th, toast; +6th, egg.	Cal., gr. iii. Sod. bic., v. Lax. pil., p. r. n. Whiskey, q. s.	On admission, 103.2°. Widal+.	Cured July 14, 1900.
27	do.	June 24, 1900	E. D.	M.	30	10+	Milk and vichy, āā Oiss., i. d. Acid aq.	Cal., gr. 1-10, q. 1 h. (10 doses), p. r. n.	Widal —.	Cured July 21, 1900.
28	do.	June 4, 1900	W. M.	M.	25	10+	Milk and vichy, āā Oi., i. d. Acid aq.+. June 17, toast; +18th, rice and broth; +19th, egg; 20th, "light."	Cal., gr. v. Sod. bic., gr. x. June 6, Cal., gr. ss., b. i. d.	On admission, 104.4°. Widal+. Leucocytes, 7,000.	Cured August 1, 1900.
29	do.	June 9, 1900	J. M.	M.	24	2	Milk and vichy, ad lib. Acid aq.	Free stimulation.	On admission, moribund. Diagnosis not made until autopsy.	Died June 10, 1900.
30	do.	June 26, 1900	M. T.	M.	21	7+	Milk and vichy, āā Oi., i. d. Acid aq.	Cal., gr. v. Sod. bic., gr. x. June 28, Cal., gr. ss., b. i. d.	Double parotitis.	Cured October 13, 1900.
31	do.	July 28, 1900	P. M.	M.	22	14+	Milk and vichy, āā Oiss., i. d. Acid aq. +August 13, scraped beef; +14th, toast; +15th, egg; 19th, "light."	Cal., gr. x. Sod. bic., gr. xx. July 29, Cal., gr. ss., b. i. d.	On admission, 103°. Widal —; August 8, —.	Cured August 25, 1900.
32	Columbus Hospital.	August 17, 1900	A. P.	M.	32	12+	Milk and vichy, āā Oiss., i. d. Acid aq.	Cal., gr. x. Sod. bic., gr. xx. Sal. Roch. August 19, Cal., gr. ss., b. i. d.	On admission, 103°. Widal+.	Cured September 9, 1900.
33	do.	August 30, 1900	P. A.	M.	28	7+	Milk and vichy, āā Oii., i. d. Acid aq. +September 9, toast; +16th, eggs; 20th, "light."	do.	On admission, 104°. Widal —. September 24+.	Cured October 11, 1900.
34	do.	September 11, 1900	G. D.	M.	26	7+	Milk and vichy, āā Oii., i. d. Acid aq.+. September 28, egg; +30th, milk and vichy, ad lib. October 3, "light."	Cal., gr. x. Sod. bic., gr. xx., at night, and repeated two days later. September 15, Cal., gr. ss., b. i. d.	On admission, 104.4°. Widal+. Leucocytes, 6,000.	Cured November 1, 1900.
35	St. Vincent's Hospital.	September 18, 1900	J. D.	M.	25	10+	Milk and vichy, āā Oii., i. d. Acid aq. +October 5, rice; 18th, "light."	Cal., gr. v. Sod. bic., gr. x. September 21, Lax. pil., b. i. d. Enemata, p. r. n. Substitute potass. aq. for acid aq.	On admission, 103.3°. Widal+. Tympanites and abdominal pain. September 21, stomatitis.	Cured November 14, 1900
36	do.	October 2, 1900	C. C.	F.	56	14+	Milk and vichy, āā Oii., i. d. Acid aq.+ October 19, beef tea; +25th, scraped beef; 29th, "light."	Cal., gr. iii. Sod. bic., gr. x. October 4, Cal., gr. ss., b. i. d. Whiskey, p. r. n. Enemata, p. r. n. Quin. sulph., p. r. n.	On admission, 104.1°. Widal+. Plasmodii present.	Cured November 4, 1900.
37	do.	October 6, 1900	W. M.	M.	30	7+	Milk and vichy, āā Oi., i. d. Acid aq.+ November 6, toast; +10th, egg; +12th, scraped beef; 15th, "light."	Cal., gr. v. Sod. bic., gr. x. October 8, Cal., gr. ss., b. i. d.	Widal+.	Cured November 21, 1900.
38	do.	July 23, 1900	M. O.	F.	27	12+	Milk and vichy, āā Oii., i. d. Acid. aq.+ August 2, scraped beef; +3d, toast; 9th, "light."	Cal., gr. x. Sod. bic., gr. x. July 25, Cal., gr. ss., b. i. d. Whiskey, p. r. n.	On admission, 103.6°. Widal+. Leucocytes, 5,000.	Cured August 23, 1900.
39	do.	October 25, 1900	L. M.	F.	35	16+	About Oiii. milk, i. d. Acid aq. November 19, "light."	Whiskey, opium, strych. sulph., p. r. n. November 12, Cal., gr. v. Sod. bic., gr. x.; 21st, Cal., gr. x. Sod. bic., gr. xx. December 1, Cal., pulv., gr. i., t. i. d.	On admission, 104°. Great tympanites and abdominal pain, requiring frequent opiates.	Cured December 22, 1900
40	do	October 26, 1900	A. C.	F.	37	7+	Milk and vichy, āā Oiiss., i. d. Acid aq. +December 6, egg; +15, scraped beef; 20th, "light."	Cal., gr. v., and Sod. bic., gr. x. Whiskey. October 28, Cal., gr. ss., b. i. d. November 6, Pulv. opii., q. s. Tr. Ferri. Aq Chlor. instead of Acid aq.	Widal+. Pregnant two months. November 6, Intestinal hemorrhage.	Cured February 15, 1901.
41	At home	November 18, 1900	J. M.	M.	35	7+	Milk and vichy, āā Oi., i. d. Acid aq. November 23, milk and vichy, āā Oss., i. d. December 8, milk and vichy, āā Oi., i. d.; +15th, egg; 20th eggs (2); +21st, toast; 22d, "light."	Cal., gr. ss., b. i. d. +Cal., gr. v. Sod. bic., gr. x., p. r. n.	On admission, 103.4°. Irritable stomach, otherwise course uneventful. General condition good at end of fever and convalescence rapid. Note small amount of nourishment during height of fever.	Cured December 31, 1900.
42	St. Vincent's Hospital	November 18, 1900	C. M.	F.	7	2	Milk and vichy, āā Oi., i. d. Acid aq. January 1, milk and vichy, āā Oii., i. d.; 15th, toast; 16th, oatmeal; 20th, scraped beef; 30th, "light."	Cal., gr. v. Sod. bic., gr. x. Cal., gr. ss., b. i. d. November 22, Lax. pil., b. i. d. Substitute Potass. Chlor. aq. for Acid aq. Mag. sulph., p. r. n.	November 22, Stomatitis.	Cured March 17, 1901.
43	do.	November 19, 1900	Child of C. M.	M.	38	10	Milk and vichy, āā Oi., i. d. Acid aq. December 15, egg. January 1, light.	Cal., gr. x. Sod. bic., gr. xx. November 20, Cal., gr. ss., b. i. d.	....	Cured January 15, 1901.
44	do.	November 19, 1900	G. H.	M.	26	14+	Milk and vichy, āā Oi., i. d. Acid aq. December 2, egg; 4th, toast; 6th, "light."	Cal., gr. x. Sod. bic., gr. xx. November 21, Cal., gr. ss., b. i. d.	On admission, 101.2°.	Cured December 12, 1900
45	Columbus Hospital.	November 22, 1900	J. P.	M.	26	7+	Fluid diet ad lib. Acid aq.	Sal. Roch., ℨii., p. r. n.	Relapse, 10 days.	Cured January 22, 1901.
46	St. Vincent's Hospital.	November 24, 1900	H. C.	M.	28	10+	Milk and vichy, āā Oi., i. d. Acid aq. +December 17, egg; +18th, toast; 24th, "light."	Cal., gr. x. Sod. bic., gr. xx. November 26, Cal., gr. ss., b. i. d.	....	Cured January 7, 1901.
47	do.	December 5, 1900	C. P.	M.	25	7+	Milk and vichy, āā Oi., i. d. Acid aq. +December 20, egg; +24th, toast; 28th, "light."	Cal., gr. x. Sod. bic., gr. xx. December 7, Cal., gr. ss., b. i. d.	....	Cured January 6, 1901.
48	do.	December 5, 1900	M. D.	F.	25	12+	Milk and vichy, āā Oi., i. d. Acid aq. +December 20, egg; 25th, "light."	Cal., gr. v. Sod. bic., gr. x. December 6, Cal., gr. ss., b. i. d.	On admission, 103.2°. Pregoaut five months.	Cured January 3, 1901.
49	Columbus Hospital.	December 11 1900	V. F.	M.	17	7+	Fluid diet ad lib. Acid aq. January 4, "light."	Cal., gr. v. Sod. bic., gr. x. Sal. Roch. in morning, p. r. n.	Widal —.	Cured January 17, 1901.
50	St. Vincent's Hospital.	December 19, 1900	L. H.	M.	21	12+	Milk and vichy, āā Oi., i. d. Acid aq.+ January 1, toast; +2d, egg; 6th, "light."	Cal., gr. x. Sod. bic., gr. xx. December 20, Cal., gr. ss., b. i. d.	Widal+.	Cured January 10, 1901.
51	Columbus Hospital.	December 25, 1900	A. S.	M.	32	10+	Milk and vichy, āā Oi., i. d. Acid aq.+ January 11, broths; 15th, "light.	Cal., gr. v. Sod. bic., gr. x. December 26, Cal., gr. ss. b. i. d.	On admission, 103.6°. Widal+ Diazo —	Cured February 2 1901.

NO.	PLACE.	DATE.	NAME.	SEX.	AGE.	DAY OF DISEASE.	DIET.	DRUGS.	DIAGNOSIS AND REMARKS.	RESULT AND DISCHARGE.
52	St. Vincent's Hospital.	February 7, 1901	A. F.	M.	38	10+	Milk about ℥xl. per diem. Acid aq. +Mar. 8, egg; +10th, eggs (2); 29th, "light."	Enemata, p. r. n. Strych. sulph. Whiskey, q. s. March 21, Cal., gr. v.; Sod. bic., gr. x.; 22d, Cal., gr. iii., p. r. n.	On admission, 103°.	Cured April 24, 1901.
53	Columbus Hospital.	February 21, 1901	M. C.	F.	14	7+	Milk and vichy, āā Oi., i. d. Acid aq.+ April 7, broths; 10th, "light."	Cal., gr. iii. Sod. bic., gr. v. February 22, Cal., gr. ss., b. i. d.	On admission, 101°. Widal.+	Cured March 22, 1901.
54	do.	February 25, 1901	S. B.	M.	16	7+	Milk and vichy, āā Oi., i. d. Acid aq.	Cal., gr. x. Sod. bic., gr. xx., p. r. n. Cal. gr. s. s., b. i. d.	Widal+.	Cured April 9, 1901.
55	St. Vincent's Hospital.	February 25, 1901	E. W.	M.	35	7+	Milk and vichy, āā Oi., i. d. Acid aq.+ March 20, egg; +25th, toast; +28th, broths. April 2, "light."	do.	On admission, 102.4°. Widal —. Leucocytes, 4,000.	Cured April 9, 1901.
56	do.	March 17, 1901	D. S.	M.	34	12+	Milk and vichy, āā Oi., i. d. March 24, Milk and vichy, āā Oii., i. d.; 25th, Acid. aq.+ April 1 egg; +4th, toast; +14th, "light."	Lax. pil., b. i. d. Potass. chlor. aq. March 24, Cal., gr. ss., b. i. d.; 25th, Potass. chlor. aq. stopped. Mag. sulph., p. r. n.	On admission, 101.2°. Stomatitis. Widal+. March 24, Stomatitis gone.	Cured April 28, 1901.
57	do.	April 8, 1901	S. S.	M.	27	14+	Milk and vichy, āā Oi., i. d. Acid aq.	Cal., gr. v. Sod. bic., gr. x. April 10, Cal., gr. ss., b. i. d.	On admission, 103°. Widal+.	Cured April 26, 1901.
58	do.	June 21, 1901	G. S.	M.	26	24+	Milk and vichy, ad lib.	Strych. sulph. Digitalis. Whiskey, p. r. n.	Tympanitic. Delirious. Pulse weak and apparently moribund on admission.	Died June 26, 1901.
59	do.	June 26, 1901	P. R.	M.	28	21+	Milk and vichy, āā Oi., i. d. Acid aq.+ July 7, beef tea; +10th, egg; +12th, eggs and broth; 20th, "light."	Cal., gr. x. Sod. bic., gr. xx. Whiskey, p. r. n. June 27, Cal., gr. x. Sod. bic., gr. xx.; 28th, Mag sulph. July 1, Cal., gr. v.; Sod. bic., gr. x.; 2d, Cal., gr. ss., b. i. d.	On admission, 105.3°. Leucocytes, 8,800 Widal —. Delirious and tympanitic; 10 stools after first purge; 6 stools after second purge; 3 stools after Mag. sulph., and 1 after Cal., gr. v., and normal thereafter. Widal — until July 12, when it became + "walking case." No special treatment before admission.	Cured July 27, 1901.
60	Columbus Hospital.	August 1, 1901	N. G.	M.	25	12+	Fluid diet ad lib. Acid aq.+ September 5, "light;" 14th, full; 18th, fluid. October 10, full.	Cal., gr. v. Sod. bic., gr. x. Later Cal., gr. ss., b. i. d., with occasional doses of Mag. sulph.	On admission, 103.3°. September 14, 98.3°; 18th, relapse." Temperature between 100° and 103.4° for 12 days.	Cured October 20, 1901
61	St. Vincent's Hospital.	August 4, 1901	F. L.	M.	16	10+	Milk and vichy, āā Oi., i. d. Acid aq.+ August 21, ice cream; +27th, toast; +31st, beef tea. +September 2, eggs, 10th, "light."	Cal. Salol. Mag. sulph. in varying doses, p. r. n. August 23, Cal., gr. ss., b. i. d. Mag. sulph., ʒii., i. d.	On admission, 103°. Widal —. 16th, +. Leucocytes, 7,200.	Cured October 1, 1901.
62	do.	August 30, 1901	D. K.	M.	19	7+	Milk and vichy, āā Oii., i. d. Acid aq.	Cal., gr. ss., b. i. d. Mag. sulph. and enemata, p. r. n.	Widal+. Leucocytes, 9,000.	Cured November 11, 1901
63	do.	September 10, 1901	F. G.	M.	28	7+	Milk and vichy, āā about Oii., i. d. Acid aq. November 1, milk and vichy, āā Oi., i. d.	Cal., gr. v. Sod. bic., gr. x. Later, Cal. gr. ss., b. i. d.	On admission, 102°. Widal+.	Cured December 11, 1901
64	Columbus Hospital.	September 11, 1901	R. G.	M.	32	10+	Fluid diet ad lib. Acid aq. +September 26, eggs; +30th, toast. October 7, fluid diet only; 20th, full.	Cal., gr. v. Sod. bic., gr. x. September 12, Cal., gr. ss., b. i. d. October 8, Cal., gr. x.; Sod. bic., gr. xx.	On admission, 101.2°. Diazo+. October 7, temperature 102°, and continued 4 days.	Cured December 25, 1901.
65	do.	September 12, 1901	G. M.	M.	17	7+	Broths. Acid aq. +September 28, milk, +30th, eggs. October 24, full.	Cal., gr. x. Sod. bic., gr. xx., p. r. n. B. naphthol. bism., gr. v., t. i. d.	On admission, 104°. Widal+. Diazo+.	Cured October 31, 1901.
66	St. Vincent's Hospital.	September 15, 1901 Children of No. 69.	D. O.	M.	5	1 week after admission.	Milk and vichy, āā Oi., i. d. Acid aq. Later, ice cream, broths, etc.	Cal., gr. ¼ and Mag. sulph., ʒss., p. r. n. September 22, Cal., gr. 1-10, b. i. d.	Temperature normal for one week after admission. Widal +. Fever developed in hospital.	Cured December 21, 1901
67	do.	do.	W. O.	M.	3	2 wks after admission.	Milk and vichy, āā Oi., i. d. Acid aq. Later, vary diet as above.	Cal., gr. ¼, and Mag. sulph., q. s., p. r. n.	Temperature normal two weeks after admission. Widal+. Leucocytes, 9,400.	Cured December 21, 1901
68	do.	do.	J. O.	M.	7	do.	do.	do.	Temperature normal two weeks after admission. Widal+. Leucocytes, 9,600.	Cured December 21, 1901
69	do.	do.	D. O.	F.	29	7+	Milk and vichy, āā Oi., i. d. Acid aq.	Cal., gr. x. Sod. bic., gr. xx. Cal., gr. ss., b. i. d.	On admission, 101.3°. Widal+.	Cured December 21, 1901
70	do.	October 21, 1901	G. D.	M.	26	10+	Milk, about ℥xl., i. d. Acid aq. November 1, milk and vichy Oii., i. d., i. d., and gradually reduce to Oi., i. d.	Quin. and Potass. brom., āā gr. x., t. i. d. Salol. and Sod. bic. November 1, Cal. gr. ss., b. i. d. Stop Salol and Sod. bic.	On admission, 104.1°. Widal+. Leucocytes, 7,200.	Cured December 4, 1901
71	do.	do.	J. R.	M.	49	12+	Milk and vichy, āā Oi., i. d. Acid aq. +December 12, toast; +14th, egg, 18th, "light."	Cal., gr. v. Sod. bic., gr. x. October 22, Cal., gr. ss., b. i. d.	On admission, 103°.	Cured November 26, 1901
72	do.	October 25, 1901	M. B.	F.	14	12+	Milk and vichy, āā Oi., i. d. Acid aq.+ November 14, beef broth. +December 9, toast; 23d, "light."	November 1, Cal., gr. ss., b. i. d.; 6 Cal., gr. v.; Sod. gr. x.; 9th, Cal., gr. ii.; Sod. bic., gr. vi.; 15th, Cal., gr. v.; Sod. bic., gr. x.; 18th, do.; 22d, do.	On admission, 103°. Widal+, Leucocytes, 7,000.	Cured February 9, 1902.
73	do.	October 28, 1901	T. C.	M.	31	10+	Milk and vichy, āā Oi., i. d. Acid aq. November 21, milk and vichy, āā Oii., i. d.; +22, egg; +23, toast. December 9, "light."	Cal., gr. v. Sod. bic., gr. x. Whiskey, q. s. November 1, Cal., gr. ss., b. i. d.	On admission, 104°. Widal+. Leucocytes, 7,600. Diazo+.	Cured January 8, 1902.
74	do.	November 5, 1901	T. L.	M.	16	10+	Milk and vichy, āā Oi., i. d. Acid aq.+ November 20, egg; 21st, eggs (2); +22d, milk toast; +27tb, eggs (3). December 6, "light."	Cal., gr. x. Sod. bic., gr. xx., p. r. n. Cal., gr. ss., b. i. d. November 15, Whiskey.	On admission, 104°. Leucocytes, 10,000. Widal —. November 20+. Diazo —	Cured December 16,1901

75	do.	November 8, 1901	J. A.	M.	24	12 +	Milk and vichy, āā Oi., i. d. Acid aq. + November 21, toast; + 22d, egg; + 28th, eggs. December 5, "light."	Cal., gr. v. Sod. bic., gr. x., p. r. n. November 10, Cal., gr. ss., b. i. d.	On admission, 104.2°. Widal +. Diazo +. Leucocytes, 15,600.	Cured December 18, 1901.
76	do.	November 23, 1901	J. Z.	M.	6	....	Fluid diet until December 18, then milk and vichy, āā about Oi., i. d.	Tonics until December 19, then Cal., gr. ss., b. i. d. Strych. and Whiskey, q. s. January 8, Stop Cal., and use enemata, p. r. n.	Widal —. December 16 +. Leucocytes, 9,600.	Cured February 11, 1902.
77	Columbus Hospital.	December 11, 1901	A. B.	M.	27	7 +	Broths and milk (diluted). + December 22, eggs; 28th, full diet.	Cal., gr. x. Sod. bic., gr. xx., p. r. n. B. naphthol. bism., gr. v., t. i. d.	On admission, 103°. Widal +.	Cured January 4, 1902.
78	St. Vincent's Hospital.	December 12, 1901	G. C.	M.	25	10 +	Milk and vichy, āā Oi., i. d. Acid aq. + January 1, egg; 9th, "light."	Cal., gr. v. Sod. bic., gr. x. December 13, Cal., gr. ss., b. i. d.	On admission, 104.4°. Widal +. Diazo +. Leucocytes, 21,000.	Cured February 5, 1902.
79	do.	do.	E. D.	M.	23	8 +	Milk and vichy, āā Oi., i. d. Acid aq. + December 27, beef tea; + 31st, egg. January 7, "light."	Cal., gr. x. Sod. bic., gr. xx. December 14, Cal., gr. ss., b. i. d., until December 21. December 21, Lax. pil., b. i. d. Substitute Potass. chlor. aq. for Acid aq.	On admission, 101.2°. Widal +. Leucocytes, 8,000. December 21, Stomatitis.	Cured February 5, 1902.
80	do.	do.	G. H.	M.	30	7 +	Milk and vichy, āā Oi., i. d. Acid aq + December 29, bread. January 2, "light."	Cal., gr. v. Sod. bic., gr. x., p. r. n. Cal. gr. ss., b. i. d. December 22, Lax. pil., b. i. d. Subs. Potass. chlor. + aq. for Acid aq.	,On admission, 101°. Widal —. Leucocytes, 5,800. December 22, Stomatitis	Cured February 5, 1902.
81	do.	do.	W. L.	M.	27	21 +	Milk and vichy, āā Oi., i. d. Acid aq. +.	Cal., gr. x. Sod. bic., gr. xx. December 14, Cal., gr. ss., b. i. d. Whiskey. Strych. sulph. Tr. Ferri. chlor. aq.	On admission, 104.2°. Widal —. December 14 —; 16th —. Leucocytes, 13,000; 20th +. Diazo —. Tympanitic and profoundly septic. Temperature 104°-105° during observation. Intestinal hemorrhages 20 hours before death.	Died December 26, 1901.
82	do.	December 15, 1901	G. W.	M.	32	12 +	Milk and vichy, āā Oi., i. d. Acid aq. + December 26, egg; 29th, eggs (2); + 31st, beef tea and toast. January 10, "light"; 29th, full diet.	Cal., gr. v. Sod. bic., gr. x., p. r. n, December 13, Cal., gr. ss., b. i. d.	On admission, 102.4°. Widal —. 26th +. Leucocytes, 13,500. Diazo —.	Cured February 4, 1902.
83	do.	do.	T. W.	M.	16	10 +	Milk and vichy, āā Oi., i. d. Acid aq. + December 27, egg; + 29th, eggs (2). January 1, 1902, "light."	do. until December 21, then Lax. pil., b. i. d. and Potass. chlor. aq. instead of Acid aq.	On admission, 103.3°. Widal +. Diazo +. Leucocytes, 11,800. December 21, Stomatitis.	Cured February 4, 1902.
84	do.	December 17, 1901	H. S.	M.	27	12 +	Milk and vichy, āā Oi., i. d. Acid aq. + December 28, bread and milk. + January 8, egg +; "light" on 15th.	Cal., gr. v. Sod. bic., gr. x. December 18, Cal., gr. ss., b. i. d.	On admission, 101°. Widal —; 17th —; 20th —. January 14 —; 20th —. Diazo —; 18th —; 20th —. Leucocytes, 7,800.	Cured February 5, 1902.
85	do.	do.	F. L.	M.	21	6 +	Milk and vichy, āā Oi., i. d. Acid aq. + December 28, beef tea. January 1, 1902, "light."	do.	On admission, 102.1°. Widal —; 28th +. Leucocytes, 17,400.	Cured February 5, 1902
86	do.	do.	A. F.	M.	35	7 +	Milk and vichy, āā Oi., b. i. d. Acid aq. + December 31, bread. + January 3, toast and jelly; + 4th, clam broth; 13th, "light."	do.	On admission, 99.6°. Widal —; 26th +. Leucocytes, 5,800.	Cured February 5, 1902.
87	do.	do.	E. W.	M.	26	10 +	Milk and vichy, āā Oi., i. d. Acid aq. + January 8, peptonized milk, Oiii., i. d. + January 29th, bread and milk, egg, jelly and broth.	Cal., gr. v. Sod. bic., gr. x. December 18, Cal., gr. ss. b. i. d. December 22, Lax. pil., b. i. d.; 27th, strych. sulph. and digitalis. Potass. chlor. aq. instead of Acid aq.	On admission, 102.1°. Widal —; 20th —; 26th +. Leucocytes, 5,400. Diazo —; 20th —. November 22, Stomatitis.	Cured February 18, 1902.
88	do.	November 25, 1901	K. G.	F.	26	7 +	Milk and vichy, āā Oi., i. d. Acid aq. January 16, Milk (diluted), Oiii., i. d.; + 18th, toast; 24th, light. February 1, full diet.	Cal., gr. v. Sod. bic., gr. x. Strych. November 26, Cal., gr. ss., b. i. d. Digitalis and whiskey, p. r. n.	On admission, 104°. Widal +. Diazo —. Leucocytes, 8,000.	Cured March 15, 1902.
89	do.	December 24, 1901	J. v. M.	M.	23	14 +	Milk and vichy, āā Oi., i. d. Acid aq. + January 24, beef tea: + 28th, egg; + 29th, eggs (2), + bread and milk. February 10, light.	Cal., gr. v. Sod. bic., gr. x. December 26, Cal. gr. ss., b. i. d.	On admission, 105°. Widal +. Leucocytes, 5,600. Diazo.—	Cured March 15, 1902.
90	Columbus Hospital.	February 22, 1902	T. C.	M.	30	7 +	Milk and vichy, āā Oi., i. d. Acid aq. March 20, "light."	Cal., gr. v. Sod. bic., gr. x. February 23, Cal., gr. ss., b. i. d.	On admission, 102°. Widal +. Leucocytes, 7,500. Diazo +.	Cured April 5, 1902.

exists without intestinal lesions, but a few years of bacteriology has not yet wiped out the clinical and pathological experience of the best observers of a century, and, furthermore, Opie in the *Johns Hopkins Bulletin*, of last July, after a most thorough analysis of all the reported cases of "typhoid without intestinal lesions," reduces the number to three, possibly to five, and concludes, even these do not demonstrate that the organism entered the system by any other way than the intestinal canal; while the other cases simply emphasize the fact that the lesion may be so slight as not to be recognizable at the time of autopsy or may have healed ante mortem. He therefore confesses to a well-founded skepticism, as to whether typhoid ever exists without some intestinal lesion, and Dr. Welch in the subsequent discussion, while not denying the possibility, justifies Dr. Opie's skeptical views.

As to the practical value of calomel, without formulating any theory as to its advantage over other drugs, if indeed I have any theory to offer, I can only add that I have found it, after comparison with other drugs, the most useful. The patients run a smoother and more uniform course under its use. A stomatitis, of course, contraindicates its continuation. I have seen it stated, however, that typhoid patients bear mercurials better than the normal individual, and my limited experience bears out this statement. There is nothing new in the use of mercurials or laxatives in typhoid fever. Fifty years before the time of Woodbridge and Thistle, Thomas Watson recommended two grains of calomel three or four times a day in the first stages of typhoid fever "to be accompanied by Dover's powder, if the diarrhœa persisted." And, in his "Practice of Physics," quotes Dr. Latham in a comparison of two series of cases in his wards during the same epidemic, treated respectively with mercurials and liquor ammonia acetate, in which he drew conclusions strongly favorable to the former drug.

As to diagnosis, so far as I am aware, the classical symptoms of typhoid fever have undergone little change in character, number, or diagnostic importance since the time of Thomas Watson, sixty years ago. I am positive that the bedside diagnosis was made as promptly and accurately during my interne service, twenty years ago, as it is to-day; and I am equally certain that my faith was greater in the intuition of my visiting physician to "spot" a case of typhoid then, than in my own powers in that direction, now. This is, in a measure, doubtless due to our unconscious leaning on bacteriology, which has opened up a fertile field for investigation and has supplied valuable aids to diagnosis. The Widal reaction, the presence of the Eberth bacillus the specific microorganism, in the stools, urine or blood, the leucocyte count, and possibly the diazo-reaction of the urine, have forged new and strong links in the diagnostic chain.

In general terms, the Widal reaction, when unmistakably present, fixes the diagnosis; although the converse of the proposition does not necessarily follow. The often late appearance of the reaction, however, lessens its practical value for diagnostic purposes. The presence of the typhoid bacillus in stools or urine of a case clinically typhoid, may be regarded as conclusive proof of the presence of the disease. The objection of this test is the time, skill, and elaborate outfit required for the search and identification of the germ. A normal, or sub-normal leucocyte count, would tend to exclude appendicitis, liver abscess, pyosalpynx, ulcerative endocarditis, and other forms of general sepsis, but not malaria or acute miliary tuberculosis. These could, however, be recognized by the presence of the plasmodium, or the tubercle bacillus. The utility of this method of diagnosis is considerably modified by the somewhat frequent occurrence of a leucocytosis, due to complications or transient conditions, in unquestioned cases of typhoid fever. Ehrlich's diazo-reaction, which promised much, in that it is found early in the disease, has not fulfilled expectations, and in my personal experience, is of little value. It appears in about three-quarters of the cases of typhoid and in a number of other diseases as well. I am not unmindful, however, of Simon's recent recommendations, and Green's statistics, in which, with a slight modification of the test, he finds it present in 95 per cent. of his cases.

I regret that conclusions cannot be drawn from all the cases here tabulated, as to the value of the "Widal" test and leucocyte count as aids to diagnosis. Owing to unmade or unreliable tests, or misplaced records, the results of but sixty-four cases tested for the "Widal" reaction, and thirty for the leucocyte count can be vouched for. Of the sixty-four "Widals," fifty-four gave a positive reaction at some time during the disease, and of the thirty cases where the leucocyte count was made, twenty-two exhibited a normal or subnormal number (10,000 or less to the cubic mill.). These percentages agree pretty closely with the results obtained in seventy-five cases of "typhoid" treated at St. Vincent's Hospital from July 1, 1901, to January 1, 1902. I am indebted to Dr. Charles Bolduan of the house staff, under whose personal supervision these tests were made for the preparation of this list:

Total number of cases of typhoid	75	cases.
Positive Widal reaction obtained in	64	"
" " " not obtained in	11	"

(In 4 cases only 1 test made.)

Positive Widal reaction obtained on day of admission	35	cases.

PROBABLE STAGE OF DISEASE IN "POSITIVE" CASES.

Positive Widal reaction obtained in first week of disease	13
Positive Widal reaction obtained in second week of disease	24
Positive Widal reaction obtained in third week of disease	14
Positive Widal reaction obtained in fourth week of disease	2
Positive Widal reaction obtained in fifth week of disease	3
Positive Widal reaction obtained in sixth week of disease	3
Positive Widal reaction obtained, time unknown	5
	64

Positive Widal reaction obtained in *no* case, not clinically "typhoid."

WHITE BLOOD COUNTS ON DAY OF ADMISSION.

Below 5,000	7	cases.	45 cases. below 10,000.
From 5,000 to 7,000	14	"	
From 7,000 to 9,000	19	"	
From 9,000 to 10,000	5	"	
From 10,000 to 11,000	6	"	13 cases over 10,000.
Over 11,000	7	"	

Lowest white blood counts 2,200; highest, 15.600.

The mortality of the cases presented in this series is low. Not all, however, received the same low limit of nourishment and a few were given other drugs than calomel or the laxative pill. They were all, however, treated approximating to this standard. Out of the whole number of cases (ninety) here tabulated, all but three were treated in the hospital. Of these ninety cases six died, yielding a mortality of 6.6 per cent. The usual hospital mortality for all cases is from 15 to 25 per cent. (Peabody.) Of the fatal cases, Nos. 29 and 58 died, respectively, one and two days after admission. Both were hopeless from the start, and the treatment, emergency in character

In No. 29 the diagnosis was not made until autopsy. Excluding these two cases, the mortality is 4.4 per cent. No. 6 died five days after admission. He entered with tympanites, stupor, subsultustendinum, and extreme prostration. He evinced no improvement from nourishment or stimulation, which were given freely. Nos. 21 and 22 lived seven and eight days, respectively, after admission. Both were well on in the "third week" with high temperatures, weak hearts, delirium, and profound sepsis. Meteorism was extreme in each. Nourishment was given *ad libitum* and stimulation crowded without benefit. No. 21 received calomel; No. 22 none. No improvement, even temporary, in any symptom was noted in either case. No. 81, the last remaining fatal case, was one of a series of twelve cases coming from a White Star steamship, and entering my service at St. Vincent's Hospital last December. On admission, the 12th inst., the leucocyte count was 13,000; next day, 14,200; subsequent counts never below 10,000. "Widal," negative, on admission; 14th, negative; 16th, negative; 20th, positive. "Diazo," negative. The temperature, on admission, was 104 and continued about this point, never yielding to the cold baths or other treatment. The day before death three hemorrhagic stools were passed, but the patient died from cardiac failure, due apparently, to sepsis. He was in the hospital two weeks, the longest time of any of the fatal cases.

Mortality arguments, after all, are never convincing. The physician "who never loses a case," is instinctively set down as a man who never has one, or who does have a treacherous memory. The point, which I would especially emphasize, and which has often been noted by my house physicians, is the easy course which these cases run, so soon as the tympanites is relieved. The stools, one or two per day, appear with noticeable regularity and uniformity in color, consistence, and odor. The dark brown or yellow stool, not offensive odor, semi-solid consistence, of a quantity uniform in each patient, appears with astonishing regularity on the ward notes, and in case of any deviation from this standard, slight changes are made in the diet or drugs, until such a condition obtains. Hence an accurate report, or better, a personal inspection of the stools is of the utmost importance. I would rather do away with the thermometer than an inspection or careful report of the stools in a case of typhoid fever.

If I should draw any practical or general conclusions from this paper, they would be: (1) In typhoid fever, approximate the diet to a pint of milk, diluted with an equal amount of Vichy daily. (2) Approximate the therapeusis to half a grain of calomel twice a day; (3) Give free and frequent draughts of acidulated, or pure water. This is the theme. You can write your own variations.

51 West 58th Street.

The Possible Injurious Effects of Carraway Seeds.—W. Bramwell found a carraway seed in an ischiorectal abscess in an old man, the seed being in a perfect state of preservation, and, in spite of the fact that it had been lying in pus, was not even softened or swollen. The pointed extremities of many of these seeds are of needle-like sharpness, one of which, projecting from a hardened mass of fæces, could easily become fixed in the mucous membrane, and when pointing downward be driven further into it by the downward passage of the fæces during defecation, thus forming a suitable nidus for the commencement of abscess, resulting in fistula. These seeds might also cause some cases of peritonitis of obscure origin, and, perhaps, also of abscess and ulcer of the stomach, to say nothing of the irritation resulting in cancer.—*Medical Times and Hospital Gazette*

SUMMER DISORDERS, DIETETIC MANAGEMENT AND MILK SUBSTITUTES IN CHILDREN.

By LOUIS FISCHER, M.D.
NEW YORK.

When fever exists it is frequently advisable to discontinue the feeding of milk. This is also true when vomiting and extreme gastric irritability are noticed. In gastroenteric conditions we are frequently compelled to substitute other forms of feeding, owing to the intolerance of milk. Milk given in any form, be it sterilized, pasteurized, boiled, or raw, will frequently aggravate an existing diarrhœa. This is so well known that one of the first rules to insist upon in the treatment of summer diarrhœa is to "stop milk feeding." In substituting other forms of feeding, *pro tempore*, we invariably do so at the expense of body weight. It will invariably be noted that children deprived of milk will lose weight unless care is taken to substitute a proper nutritious food. The body will lose to such an extent that atrophy may frequently follow.

The following substitutes have been of especial value to the writer, and are offered for temporary use in gastric and intestinal derangements:

How to Prepare Barley Water.—This can best be made by taking one heaping tablespoonful of ground barley flour and adding the same to one pint of water. Boil this thoroughly for half an hour, then strain through cheese-cloth and add enough water to make one pint of barley water. It is advisable to sweeten by adding one heaping teaspoonful of granulated sugar. When sugar is contraindicated, as in fermentative conditions, add saccharine. When barley water is given for any length of time, and constipation results therefrom, then glycerin should be added. One teaspoonful of glycerin to each teacupful of barley water will make the same quite palatable, and will offset the constipating tendency.

How to Prepare Oatmeal Water.—This can be made by adding one tablespoonful of oatmeal flour to a pint of water, boiling the same in the same manner as above described in the preparation of barley water.

If the child is underfed, then frequently the addition of the white of a raw egg, well beaten, with either of the above-mentioned barley water or oatmeal water will be found advantageous. In like manner the writer has frequently added the yolk of an egg, well beaten, with barley water or oatmeal water properly sweetened, as a temporary substitute.

Vegetable Proteids.—Great success is frequently scored by vegetarians, especially by the use of the celebrated vegetable milks. When we consider the ingredients used, it is no wonder that they offer good temporary, and often permanent, substitutes for animal milks. The writer has frequently recommended the use of almond milk made by blanching almonds (sweet almonds) with scalding water and then rubbing them up thoroughly. One to two ounces of sweetened almonds with one pint of water will yield about one pint of almond milk. When it is to be used as the only substitute for milk the almonds can be thoroughly mashed and boiled with the water to extract all of the nutritive substance. This can best be done in the following manner: Scald about one to two ounces of sweetened almonds, removing the skin, then add about eight ounces of fresh water and mash the almonds to a pulp; boil this pulp with the water for about fifteen or twenty minutes, next strain through cheese-cloth and add enough water to make one pint. Finally add one tablespoonful of granulated sugar. This can be given *ad libitum*, depending upon the age of the child to be fed. It is certainly a very nutritious substitute for milk containing proteid.

The writer frequently uses this almond milk as a diluent to break up the curd in cow's milk instead of using cereal decoctions. When children have eczema and erythematous eruption following the use of cereals, then almond milk may be used with advantage to dilute cow's milk. It is useful as a food in urticaria.

Meat Soup Substitutes for Milk.—Another valuable substitute for milk is a good, nutritious, beef, chicken, or mutton broth. Soup broths or soups can be thickened with sago or farina, rice, or barley, in the proportion of one tablespoonful of the cereal to a pint of the broth.

Vegetable Soup Substitutes.—Mashed peas, boiled with beef or chicken or veal, offers a very nutritious proteid substitute for milk. This will be found especially advantageous during the hot summer months when milk is not well borne, and when the physician requires a nutritious food which can be fed in doses of two, three, four, six, or eight ounces at proper intervals, just exactly as milk would have been given.

Tea as a Substitute.—Weakened mixed tea is frequently of great service with or without white of egg. When children have diarrhœa and milk cannot be given, then dextrinized wheat or dextrinized barley or dextrinized rice offers a convenient and valuable substitute.

Tea with Barley Water: Coffee with Barley Water.—Weak tea, mixed with equal parts of barley water, is very valuable as a temporary substitute in hot weather. It can be fed in teaspoonful doses. It should be made palatable by sweetening with granulated sugar.

Coffee, diluted with barley water or with rice water, is very valuable as a substitute for milk when marked cardiac depression from continued diarrhœa exists.

A Few Points Concerning Milk.—When cow's milk is to be used for infant feeding a simple test can be used with advantage by almost every one. It consists in dipping a piece of blue litmus paper into the milk when it is received. If the blue litmus turns red, then it shows that the milk is acid. Such milk is entirely unfit for infant feeding, and it is necessary to add to such milk a pinch of either bicarbonate of sodium or bicarbonate of potassium. When acid milk is fed to children we will invariably have trouble.

It is advisable to learn the source of the milk, so that we can know the age of the milk received. A good plan is to procure milk which has been milked on the day it is bought. Such milk can be procured in a great many dairies in this city. Several of our largest laboratories receive milk on the morning of the milking, and hence are in a position to supply fresh milk of a low bacteria count and before fermentation is developed. It is self understood that the older the milk the more chance is offered to the development of microorganisms and the greater the tendency to fermentations. It is stale milk that invariably causes gastroenteric disturbances. When fresh milk is procured, then the same may be safely fed in its raw state, after having been warmed to the proper feeding temperature.

When milk stands for several days, as we frequently have it in New York City, then *no amount of boiling, pasteurizing nor sterilizing can destroy the toxins developed* by the colon baccillus. Such milk is a deadly poison. The experiments made by Professor Victor Vaughan of Ann Arbor, Mich., have shown that, no matter how much heat is applied to such milk, its toxins cannot be destroyed. This investigator subjected milk to a temperature of 300° F. without destroying this toxin. The toxin produced in milk is a deadly poison, and it is this toxin that is the cause of cholera infantum, which ends so fatally. It is advisable, therefore, to secure clean milk from a clean source and to feed it in clean vessels if we desire good results.

If modern sanitary methods are applied in the stables, at the creamery and, most important of all, *at the home in which the milk* is modified for infant feeding, then we have the remedy against the development of summer complaint, as well as of scurvy and rickets, which sometimes are the stepping stones to tuberculosis in later years.

FORMULA FOR WEAK INFANTS IN SUBSTITUTE FEEDING.

When vomiting and diarrhœa persist give either:

Barley water	4 oz.
Or	
Oatmeal water	4 oz.

Feed every two or three hours.

Sweeten with granulated sugar half-teaspoonful to each bottle.

If fermentation exists—colic, greenish stools, and eructations—use saccharine, ½ gr., instead of sugar for sweetening.

When constipation is caused by continued use of barley or rice water, then sweeten with glycerin by adding half-teaspoonful of pure glycerin to each 4-oz. bottle of rice, oatmeal, or barley water.

FORMULA FOR ALMOND MILK FOOD.

Almond milk	4 oz.
Granulated sugar	1 teaspoonful.

Mix. Feed above quantity, every three hours.

Whey.—To make whey, take half pint of fresh milk, heated lukewarm, not warmer than can be agreeably borne by the mouth (about 115° F.); add one teaspoonful essence of pepsin, and stir just enough to mix. Pour into custard cups; let it stand until firmly curdled; then beat up with a fork until the curd is finely divided; now strain and the whey is ready for use.

Whey prepared from fresh cow's milk should be alkaline and contain from:

0.8–1 per cent. of lactalbumin.
0.03 per cent. of casein.
1.0 per cent. of fat.

When such whey is added to milk, take of whey two parts, milk one part, for an infant under six weeks. This can be increased until equal parts of milk and whey are used. (To be used for a child several months old.)

FORMULA FOR WHEY FEEDING.

For an infant under six months:

Whey	2 oz.
Milk	1 oz.

Warm to blood temperature (about 100° F.) for three minutes, then feed. Above quantity can be fed every two or two and one-half hours.

When feeding a child two to four months old:

Whey	2 oz.
Milk	2 oz.

Feed every three hours.

If the above is well borne, we must gradually increase by adding an ounce of food; the formula will then be:

Whey	2½ oz.
Milk	2½ oz.

Feed above quantity every three hours.

The general condition of the infant—its sleep, its stool, and its body weight are important factors to determine an increase in the quantity of food.

If the child cries very much after feeding and appears hungry, then we can give:

Whey	3 oz.
Milk	3 oz.

Feed every three hours.

Some children at three months will take very readily six ounces of food. If the appetite warrants it, and the stool is homogeneous and well digested, then we need not hesitate to give the following:

Whey	3 oz.
Milk	4 oz.

Feed every three hours.

The weight is the determining factor. If the child does not thrive, increase the quantity of milk and decrease the whey.

In the case of feeble and debilitated children, I frequently order sweetened whey; instead of water, for quenching thirst. This is especially valuable in summer.

PROTEID INDIGESTION IN NURSING INFANTS.

Colic.—One of the most frequent disorders in nursing infants is colic. This colic usually appears about one hour after nursing. Sometimes it appears a little sooner, sometimes a little later. Associated with this colic there is the usual evidence of pain. The attack appears in the following manner: In about an hour after nursing the child, which up to this time has been quiet or asleep, will suddenly awake with a shriek, and scream, and at the same time draw the legs on the abdomen, get very red in the face, and continue to scream for several minutes. Such an attack will last from fifteen to twenty minutes, at other times as long as one hour. Relief is usually afforded by gently stroking the abdomen with warm sweet oil or vaselin—in other words, by using gentle massage. Besides the oil, a warm enema, consisting of warm water and glycerin, or warm chamomile tea, usually affords relief. It removes the offending and undigested casein. The stool will usually be found to contain large quantities of undigested cheese. Small white particles can be seen scattered through such stool. It is not uncommon to find, where such condition exists, that the attacks will appear after each nursing. A distinct association between the condition described and the nursing must be suspected. When this condition is suspected, then the milk must be carefully examined by a chemist to determine the percentage of its ingredients. If the percentage of casein is found excessive, then exercise of the nursing mother will be called for. Sometimes reducing the nitrogenous food and drinking large quantities of liquid will modify the amount of casein so that the milk will not be so concentrated. If the child continues with this colicky condition, in spite of this change of diet, then we must instruct the mother regarding exercise.

It is well to give the child a small quantity of oatmeal water—several teaspoonfuls will suffice—after each nursing. In other instances, giving the baby small quantities of pancreatin, or a peptonizing combination, will be found advantageous. This may be given so as to peptonize the food and aid in the digestion and assimilation of the same.

We are dealing with mother and infant, and a great many changes will be demanded. Care should be bestowed on the condition of the mother's bowels. The slightest constipation should be modified by giving her a saline, a teaspoonful of epsom salts in the morning, repeated in the evening, if necessary. She should eat large quantities of fruit, such as peaches, prunes, grapes, apples, and oranges.

Constipation.—Another result of proteid indigestion is constipation. When we are told that large, dry, cheesy curds are evacuated, then the cause of such indigestion should be sought.

If the infant is nursing, then the proper method to pursue is (*a*) Examine a specimen of breast milk, using middle milk, under a microscope; (*b*) Better yet, submit a specimen to a chemist or to a laboratory, and note the percentage of ingredients; (*c*) If there is a deficiency in the percentage of fat, such deficiency can be modified by giving the baby an equivalent of cream; (*d*) If there is a deficiency of carbohydrate, we can increase the same by giving the baby some sugar; (*e*) When there is proteid deficiency, we can modify the same by adding raw albumen (white of raw egg), almond milk, pea soup, lentil soup, or broth made from meat; whey is frequently very serviceable; (*f*) The above will give a choice between animal and vegetable proteids.

The indiscriminate feeding of cream, to strengthen the baby, cannot be too strongly condemned.

Many a dyspeptic can be traced to good mothers' and nurses' indiscriminate cream feeding.

When cream is added, and the proportion of fat or proteid is too large, vomiting will result.

The stuffing of delicate children with cream, regardless of their digestive power, cannot be too strongly condemned. When improper food is given, and the infant's stomach is overtaxed, the excess of food irritates and may cause vomiting.

If, however, the food remains in the stomach, the gastric mucosa is inflamed by bacterial fermentation of stagnant food.

This may result in fermentative gastritis and cause chronic enlargement of the stomach, or it may cause diarrhœa.

65 East Ninetieth Street.

CAUSES OF CANCER.

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The first, and probably the most powerful predisposing cause of cancer is senility, or old age, of the tissues and organs of the body. An apparently formidable objection will at once be made to the above statement by citing the well-known fact that cancer is found in young persons, and is sometimes (though rarely) congenital. Whilst this is perfectly true, yet it should be remembered that senility is only a comparative term. Many persons are practically as old in their tissues at twenty or thirty years of age as others are at sixty. The real test of old age is not the number of years the person has lived, but the retrograde metamorphosis and degradation which has taken place in the various parts of the body. When we see the arcus senilis in the eye of a patient, or note that he is suffering from fatty, calcareous, arteriosclerotic or other forms of degeneration of the organs of the body, we at once know that this person practically belongs to the class of aged persons, and this important fact must always be borne in mind in the treatment of such a patient.

This same degeneration of the tissues is often inherited, and this is, probably, the reason why the offspring of syphilitics, tuberculous patients, and drunkards often suffer from cancer at an early age. These children, there is every reason to believe, do not inherit the cancer neoplasm as such, but the resisting power of their tissues is so lessened

*Read before the Medical Society of the District of Columbia.

as to form a suitable soil for its growth and propagation.

The vast majority, then, of cases of cancer occur in persons whose tissues are undergoing degeneration, from either advancing age or senile changes. In women about the time of menopause, and in men of a similar age when the duties and labors of life begin to seem to be a heavier burden than they were in youth, this disease becomes more prevalent.

Another curious fact in the increasing prevalence of cancer during the last thirty years. Dr. Roswell Park says that if the present increase of cancer in the United States continues from 1899 to 1909 there will be more deaths from cancer than from consumption, smallpox, and typhoid fever combined. (*Medical News*, April 1, 1889, p. 399). In England cancer is also increasing. In 1898 there were 25,196 cases of cancer reported, or 902 per million of the total population. The male rate was $19\frac{6}{10}$ and the female rate was 10 per cent. greater than the average of the past ten years. (*Philadelphia Medical Journal*, April 21, 1900, p. 887). In Germany the same fact is noted: In 1898 there were twice as many cases of cancer (relatively to the total population) as there were in 1879. (MEDICAL RECORD, May 17, 1902, p. 776.) This relative increase in the number of cases of cancer is found to exist at the present time in all civilized countries, and it should be noted that this, coincident with the great improvements in the diet and hygiene of the population of our great cities, when compared with their condition during past generations.

We would not wish, however, to be misunderstood, or to assert that the increase of cancer is due to the improved hygiene and diet of the present generation, but we believe it to be due to the overconsumption of a particular kind of food about which we will speak more in detail hereafter.

Cancer *per se* is not a disease which prevails extensively in hot climates or in the tropics. Especially is it comparatively rare among those races inhabiting hot climates who live almost entirely or wholly upon vegetable foods. In Borneo the disease is unknown. Dr. A. B. Dalgetty says that he has never seen a case of malignant disease of the mamma in a native of India. He wonders whether the constant presence of malaria in these countries has anything to do with it. He also calls attention to the want of pressure upon the breasts of the Hindoo women by their thin and light clothing, and also to their habit of suckling their children until their breasts are literally sucked dry. Such a gland would appear less likely to undergo perverted action than a gland arrested while its function is still in full force. The inhabitants of certain parts of China, and Burmah suffer comparatively little from cancer, and in certain localities in these countries it is very rare. What is the cause of this comparative exemption? The facts would seem certainly to warrant the assertion that a diet of vegetable food is inimical to the development of cancer.

The second predisposing cause of cancer that we would mention is the habitual use of the various forms of alcohol as an article of diet. No one can deny the enormous amount of evil that is done to the individual who partakes of it, and also to the community as a whole by the use of alcohol as an intoxicant. But there is a more insidious and more dangerous effect upon the tissues of the body by smaller quantities of alcoholic drinks (when taken regularly) than is generally recognized. The dilute forms of alcohol enter into the blood and thence circulate through every tissue and organ of the body. What is the effect of this? The alcohol, by powerful affinity for the water of the tissues, dehydrates and prematurely hardens them. Not only this, but alcohol is a retarder of waste in the body. In other words, it diminishes the metamorphosis of tissue, it hinders the separation from the tissues of the body of those effete and waste products which should be eliminated. These used up and waste matters are retained in the body, and tissue hardening and degeneration of organs is the result. If we may use the simile, the fuel is all ready for a spark to kindle it; and if we have a local irritation, a traumatic injury, or necrosis, of the living tissue, a malignant or other neoplasm may result.

The above remarks do not apply to the drunkard; we all know what his fate will be. Many persons live daily under the influence of and die from the effects of alcoholic drinks, who were never suspected during their lives (except by their physicians) to have ever used them.

The daily use at meals of the various bitters is essentially nothing more than a thinly disguised tippling under the form of medication, and produces its dire effects in the course of time, especially when, at the same time, little or no bodily exercise is taken.

The third and most important predisposing cause of all we believe to be the consumption of too much meat and nitrogenized food. If we consider the uses of meat as an article of diet, we will speedily see that it is taken to supply the waste of the muscles and other nitrogenous tissues of the body. In persons leading inactive lives, the consumption of bodily tissue is at a minimum, and hence they need very little meat or nitrogenous food. If these same persons are habitual consumers of alcoholic drinks, even in small quantities, their power of assimilating meat is still farther decreased. In fact, as people advance toward the close of life, their needs for food, and especially for the nitrogenous parts of it, are lessened, and the amount of food given to such persons should be diminished.

Sir Henry Thompson, who is now past eighty-two, says that in old age we ought to diminish the amount of food taken; he further says that half of our ills in old age are due to overfeeding. He also advises, and has practised in his own person, total abstinance from alcoholic drinks. In persons who consume large amounts of nitrogenous food, even when they are habitual users of alcohol the frequency of cancer is greatly diminished when their avocations require them to take a great deal of exercise, or when they perform hard manual labor. In forty-six years of continuous practice I have seen very few cases of cancer (with the exception of lip or tobacco cancer) occurring among men who live in the open air. The reason, no doubt, of this is that the waste materials produced in the body are, by hard manual exercise, burnt up and consumed.

Exciting Causes of Cancer.—The theories on this subject are many and various. I shall consider at this time only three of the most important.

1. The theory of Dr. Braithwaite, who recognizes that four chief factors enter into cancer production, viz., over-nutrition, non-oxidation of ingested food, local irritations, and excess of salt in the diet. This last he considers the most important and always present, though it requires the co-operation of at least one, and probably two, of the other factors to make it efficient. The suggestion of the importance of salt as a factor came to him from noticing the infrequency of uterine cancer among Jewesses, whose religion excludes salt pork from their diet. Other considerations in favor of this

view in his estimation are the absence of HCl in the vomit of gastric cancer, the fact that salt is a most powerful stimulant to all metabolism, the local prevalence of cancer in certain districts and among certain populations where salt is a specially important element in the diet, together with an excess of nitrogenous food, etc. "Cancer-houses are," he says, "probably merely houses where there is accommodation to keep a pig and where the diet consists of a great deal of bacon, or where a great deal of butcher's meat is consumed, and with it, of course, salt, or where the inhabitants are old, but their appetites are still good; or where they are women and live well, but lead indoor lives, so that the food is not well oxidized." He believes that with the increase of cancer reported of late years it will be found that there has also been a great increase in the consumption of salt.

2. The theory of Dr. Harry R. Gaylord. Gaylord has reported that he has found the protozoon of the disease in the pathological laboratory of the State of New York. Whether his theory will stand the test, time alone will determine. Gaylord injected cancerous tissue into the jugular vein of a dog, which died twenty-two days after with a distinct cancer in the lung. He also found that the so-called cancer-protozoon and vaccine bodies developed alike when injected into the cornea of a rabbit. In his experiments Gaylord used the fluid from the peritoneal cavity of a patient operated upon for cancer, and from this obtained a pure culture of the protozoon in its hyaline form. One hundred animals were inoculated by him, and the same organisms were recovered from different organs in every case examined. In twelve animals distinct cancers were found.

3. The theory of Dr. Lambert Lack of England who believes that cancer is produced by an abnormal development taking place in normal or healthy epithelium, when invading the lymph spaces of the body. In confirmation of this theory, he adduces the results of his experiments with rabbits and other animals. In a number of cases, by introducing healthy epithelium into the abnormal cavities of rabbits, he succeeded in developing cancerous tumors. (*British Journal of Pathology and Bacteriology*, 1900, p. 154; also quoted in the MEDICAL RECORD, Sept. 1899, p. 345.)

Dr. Konstanowitch has also succeeded in producing growths not dissimilar from granuloma, and containing epithelioid and giant cells, by inserting spores of lycopodium under the skin. (*Philadelphia Medical Journal*, June 8, 1901, p. 1067.)

Whatever theory we may adopt as to the causation of cancer, there are two facts that seem to be now generally admitted. The first of these is that it is probably always local in its early stages, and the second is that its origin is due to an injury or local irritation of the part affected.

Finally the writer wishes to summarize by giving the following facts, which seem to him to express the history of the causation of cancer:

1. Cancer is a disease of senility or decay of the tissues, or at least occurs at the time when the retrograde metamorphosis of the tissues is taking place.
2. Cancer is comparatively rare in hot climates, and especially where the diet of the inhabitants is composed chiefly of rice or other starchy foods.
3. Cancer at the present time is very prevalent where animal food is largely consumed; the number of cases of cancer has been found to increase in proportion to the increase in the consumption of nitrogenous or animal foods.
4. The theory of Gaylord that cancer is caused by a protozoon or animal microorganism seems to be disproved by later investigations, and the probability is that cancer is simply erring epithelium, which has taken on an abnormal growth and development.

HUNCHBACK: RECTIFYING OF SPINAL DEFORMITY BY FORCIBLE TRACTION; IMMEDIATE STRAIGHTENING.

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THE operation which I am about to describe will, no doubt, be of interest to the readers of this journal. To myself it is of especial interest in that it is the the first of its kind, I have undertaken and, so far as I am aware, is the first that has been performed in Syria, if not in the East.

The method and mode of procedure in straightening crooked spines were first of all put before the surgical world by Alfred Herbert Tubby, F.R.C.S., Eng., of London, and Robert Jones F.R.C.S., Ed., of Liverpool, as joint authors, in the *Medical Annual* of 1898, wherein they detailed their attempts in that direction. They pointed out the feasibility of the operation, and, writing in the same annual three years later, they have shown that their expectation of results was well-founded, and their prognoses have, in most cases, been fulfilled.

The statistics and literature that they give are briefly as follows: Up to May, 1900, Drs. Bradford and Vose report (*Annals of Surgery*, vol. xxx, p. 357) that in 610 cases operated upon for rectifying deformities of the spine there were 21 deaths. These cases were attended to by, in all, 29 operators. Of the 21 deaths 4 were due to general tuberculosis, 5 to meningitis, 4 to trauma of the operation, 3 to intercurrent diseases, and in 5 cases the cause was not stated.

The originators of the operation, Messrs. Tubby and Jones, had themselves an aggregate of 99 cases. These they divided into two series of 25 and 74, for the reason that they had another 25 cases in which manual treatment for spinal deformity had been refused, thus keeping 25 "control" cases. Of the 25 cases operated on 5 died—4 from intercurrent disease, and 1 four days after the operation, from a cause not stated.

Compare these with the 25 cases who refused operation—the "control" cases—in no one was there an obliteration of the deformity; 3 died from tubercle, in 4 abscesses occurred, 4 became paraplegic, and in the rest the deformity "steadily progressed."

Of all the 99 cases operated upon, 12 died, but only 2 as the direct result of the operation.

Acting on the initiative of these surgeons, I myself operated on the case I am reporting to this journal, and which I have aready written about to Messrs. Tubby and Jones in order to help them to complete their statistics.

I saw the case in consultation with Dr. Saïd S. Harfoosh of Beyrout about six weeks ago. I then proposed operative measures. My proposal was accepted and about a fortnight later—on the 7th of February, 1902—I operated.

The case was that of a boy, a Druse, thirteen years of age, who three years before "was running quickly beside a cow and fell violently [sic] on his back on a stone." The father says the cow kicked his son on the back. Be that as it may, eliminating any sign or symptom of tuberculous disease, I arrived at the conclusion that the case was a distinct one of injury. This makes the case the more interesting, as it points to reduction as being feasible in these cases as well as in those the results of Pott's disease, to which cases, I believe, the operative proceedings have been hitherto confined.

In operating I adhered as nearly as possible to the methods worked out by Jones and Tubby. No anæsthetic was used, and there was not, whilst the patient was undergoing the operation, the amount of pain apparent that I anticipated. The *modus operandi* is not only so well described, but so well illustrated in the articles to which I have alluded, that it may seem superfluous for me to travel so closely over the same ground again. There is nothing too good, however, to be repeated, and the slight difference in my *technique* may be my apology.

The patient was placed upon a plain deal table face downward with his chin about four inches beyond its edge—my five assistants and the nurse that was to hand the bandages being in the positions assigned them respectively. The submental and occipital bandages were applied in such a manner that a level pull could be made on the spinal column in pulling with and against the four other assistants that I considered necessary—one to each arm and one to each leg.

Dr. Harpoosh took charge of the head. The other assistants were unqualified men, professionally speaking, and I may be permitted in passing to thank Dr. Harpoosh for having previously put our four unqualified assistants through a somewhat rigorous rehearsal.

I superintended the hump myself, and, at a signal, the assistants, all together, made steady traction, beginning with a small amount and going on till I raised my hand. This was kept up for about eight minutes, during which time I was occupied in manipulating the hump and putting on a Sayre's jacket from two inches below the crest of the ilium to as high up under the armpit as was indicated.

The jacket was put on in the usual way, a rather thick jacket of aseptic cotton-wool being placed in position next the skin which had previously been thoroughly washed and asepticized by a solution of perchlorid of mercury 1:2,500. This precaution was taken for fear of lice or other insects, as I intended the Sayre's jacket to remain in position for at least six weeks.

Over the position of the original deformity a pad of cotton-wool was placed, over which the plaster-of-paris bandages were adapted—these being saturated in hot water, as I wished them to set while the patient was on—or rather off—the table.

And here comes the slight departure from the procedure usually (always, I may say) adopted. Instead of using the swing, I applied the jacket while the tension on the patient's spine was never being relaxed for a moment from the operative stretching till the jacket was in position and set.

The traction, after reduction, was sufficient to keep the body just touching the table in order to maintain the spine in its extended position, rendering the bandaging a practically easy task at the same time that the necessity for keeping the body only "in touch" with the table (so to speak) kept the assistants on the alert during a somewhat fatiguing pull.

So far as I could judge, there must have been, for reduction purposes, a pull of at least 70 kilos. (140 lbs. avoirdupois), the assistants at the leg making counter-traction to the three engaged with the head and the arms, three pulling against two.

There was a good deal of grating and "crackling," and this continued and increased during my manipulation; then suddenly stopped, when I gave the signal that the force applied was enough. With the exception of a slight knobby swelling, the deformity seemed to have disappeared. The latter was situated in the lower dorsal spine, encroaching on the lumbar. The deformity—one might call it a disfigurement—was very great, and I regret two things—that I did not have a photograph taken of the case before operation and that I took no measurements. The position the lad assumed in walking reminded me very much of that adopted by the late Edmund Booth when playing the hunchback in "The King's Jester" (I think that was the name of the play).

For three days and three nights there appeared to be a continuous aching pain. On the fourth day after operation the patient was raised by his armpits, but was unable to stand upright alone or with help.

Orders were given that he was not to lie in one position, but might be rolled over on his stomach or sides, and that he was to be lifted by his armpits and by his chin and back of his head three or four times a day. On the sixth day he was able to stand alone and walk a few steps with support.

As the organs of circulation and respiration had not apparently accommodated themselves to their new surroundings, nor to one another, I thought it better to restrain the patient's desire to "get up and walk." Nevertheless, on calling to see him on the seventh day after operation I found him walking about the room. His pulse was rather rapid, small, and weak; but the respiration was normal, so far as the jacket would permit.

On the 1st of March—three weeks after operation—I found (in opposition to my instructions, I may say) he had gone out with his father, who is a vendor of oranges. No harm seemed to have resulted; but I put my *veto* on this procedure.

It is now a month since this patient's spine was rectified, and the lad is going about now apparently straight and well, but with the Sayre's jacket on. His father, contrary to my orders, persists in taking the boy about with him, saying that now his son is well [sic] he must assist him in earning his living.

These are some of the factors we have to contend against in insuring ultimate good results in cases such as this. The father has been importuning me to take the jacket off, so that he and his son may go to their work on the mountains. Just as I am writing I have received replies from Drs. Jones and Tubby to my notes informing them of the immediate result of this case.

Mr. Jones says: "One's experience in straightening spines has at least done this good, that one ought in the future to prevent deformities from arising." And Mr. Tubby adds to his letter: . . . "The great difficulty has been to keep it (the spine) straight." . . . "Another point of great importance we found was to take as much of the weight of the head and shoulders off the back as possible . . . they are practically the gist of our own experiences.

A Sensitive Anti.—Mr. Stephen Coleridge, one of the loudest of the antivivisectionists in England, recently brought upon himself a well-deserved rebuke from a judge and jury. He brought an action for libel against a clergyman who had replied to some of his abusive letters in the press. The jury stopped the case and said the action ought not to have been brought. The judge fully concurred, and said Mr. Coleridge indulged in hard hitting himself and should not be thin-skinned.

DIAGNOSIS OF INCIPIENT CARCINOMA OF THE ENDOMETRIUM.

By J. A. SCHMITT, M.D.,
NEW YORK.

It is not unusual to see patients suffering from uterine carcinoma at such an advanced stage of the disease that an operation with a view to cure cannot be undertaken. It would be unjust to place the responsibility exclusively upon the patient or upon her physician, for cancer of the uterus may exist for a length of time without presenting any symptoms of sufficient gravity to attract attention.

Of the three subdivisions, *viz.*, carcinoma of the vaginal portion of the cervix, of the cervical canal, and of the body of the uterus, the last-named is especially marked by the uncertainty and obscurity of its initial symptoms. Let us assume a cancerous growth originating in the endometrium. The congested condition of the mucous lining in and around the affected area may give rise to symptoms of endometritis, *viz.*, a serous or seropurulent discharge, tinged with blood. This disturbance, when it befalls a menstruating woman, does not arouse suspicion, but it becomes highly significant when it occurs in a woman after the menopause. This symptom of a bloody, serous or seropurulent discharge—profuse bleeding is unusual at the early stage—in a woman whose menstruation has ceased months and years ago, is, from a clinical point of view, about the most important we possess for diagnosing a beginning endometrial cancer. All the other signs are so indistinct and general in their meaning as hardly to arouse suspicion, much less to permit of a definite conclusion. The one or the other may even be absent, though the malignant growth has existed for a length of time. Pain and enlargement of the uterus may be mentioned. Patients with carcinoma of the endometrium commence early to suffer from pain; it is varying in character, either continuous, dull, heavy, and probably due to the progressive destruction of the mucous membrane and uterine wall, the nerves of which are irritated and gradually mortified; or it may be spasmodic, labor-like, and apparently attributable to the attempt of the uterus to expel the new growth or articles of it. Both varieties of pain are not infrequently described by the patient as backache, and it is well to remember that painful sensations, though having their source within the uterus, are often referred to some other region, preferably to the back.

With the growth of the tumor a gradual enlargement of the uterus takes place. How rapidly the womb increases in size, and whether the enlarged uterus is of hard or soft consistency, depends upon the histological structure of the neoplasm. It would be preposterous to base the diagnosis of cancer upon a symptom so common to many uterine disorders; nevertheless, when a woman consults us for serous flow and uterine hemorrhages and we discover an abnormally large uterus, our first thought, after excluding pregnancy, is of an intrauterine growth of a possibly malignant nature. In incipient cancer we can hardly expect an enlarged uterus; on the other hand, we are occasionally surprised at the small size of the uterus as compared with the advanced destruction of the endometrium and of the uterine wall. In atrophic uteri, though affected by endometrial cancer, we find an abnormally small uterus.

Two other signs—fetid discharge and cachectic appearance—would give us valuable hints, if they did not make their appearance at so late a stage of the disease. To produce putrefaction, a communication with the outer air and a free passage of putrefactive germs into the uterine cavity must have been established—a condition usually brought about by a widening of the uterine canal from sloughing. The development of the intrauterine growth may have far progressed, and yet a well-preserved, rigid cervix may prove an effective barrier against intruding germs.

When we review the clinical symptoms just enumerated, we must confess that they do not enable us to arrive at a positive diagnosis. Whether we consider them singly or collectively, the result is only guesswork, which may lead us to suspect, where nothing is to be suspected, or to undervalue symptoms and to forego the advantages of early surgical interference. To test the truth of this statement, let me mention a few instances of my own experience.

A woman, fifty-two years of age, last menstruated four years ago, complained of having a sanguinolent purulent discharge of several weeks' duration. The uterus was found enlarged and painful on touch. The suspected intrauterine carcinoma proved to be gonorrhœal infection. A woman, thirty-six years of age, suffered for two months from intense, spasmodic pains and menorrhagia, and in the intervals from a fetid, brownish, purulent flow, which could not be influenced by vaginal irrigations. The examination revealed an enlarged uterus of hard consistency and with a patulous cervix, which admits the introduction of the finger just far enough to feel the lower part of a hard prominence. The patient had occasional chills and fever and an emaciated, cachectic appearance—in fact, a slow sepsis had set in. I was tempted to assume the existence of an intrauterine malignant growth, but a careful exploration disclosed a sloughing submucous fibroid.

Another case was examined and its history followed up by me. A woman, forty-two years of age, complained for three months of an obstinate, odorless sero-sanguinolent flow. Previous to these ailments she had regularly menstruated. She never had hemorrhages or labor-like pains. On examination the cervix was found to be closed and the uterus to have increased to the size of a man's fist and to be of a soft consistency. The question as to the character of the intrauterine disorder was left undecided, though the clinical history was more in favor of an intrauterine malignant growth. The patient withdrew from my observation and later on was admitted to an hospital. Here she submitted to vaginal hysterectomy, which I witnessed. On cutting open the uterus after its removal a well-preserved placenta, corresponding in size to that of a four-months' gestation, was discovered.

About three months ago a robust woman, fifty-six years of age, consulted me. Her menses had ceased six years previously; she had no pains, and was only alarmed at a bloody, sometimes discolored, nonodorous, serous discharge of six months' duration. The examination revealed a lacerated, eroded cervix, a small, retroverted uterus and hanging from the posterior lip of the cervix was a small polypus. It was tempting to assure the patient that she could easily be cured by the removal of the cervical polypus, replacement of the uterus, and an appropriate treatment of the laceration. But the diagnosis of intrauterine carcinoma was made and vaginal hysterectomy, including the removal of adnexa, performed. On splitting the uterus the interior was found to be filled out and the endometrium and parts of the uterine wall to be destroyed by the soft, villous masses of a cancerous growth.

As has been pointed out, various conditions may be mistaken for cancer of the endometrium.

The different forms of endometritis, a retained placenta, a polypus, a submucous fibroid, sarcoma of the mucous membrane, malignant deciduoma, etc. Only the last condition claims a brief consideration. Though a perfect harmony among writers on this newly-discovered disease does not yet exist, the results of careful microscopic study during the last few years goes far to show that malignant deciduoma is a cancerous growth of the epithelial lining—syncytium—of the chorion-villi. Obviously, this form of carcinoma develops in the puerperium or immediately after it, and is clinically characterized by uncontrollable hemorrhages. The practitioner should, therefore, be mindful of the possible presence of deciduoma malignum in patients, who suffer during puerperium, or at a time subsequent to it, from an excessive flow of blood, the appropriate treatment of which had not been successful.

If intrauterine disorders are so easily mistaken one for the other, what measures have we to protect ourselves against erroneous diagnosis? The only safeguard against errors lies in the systematic use of all means at our command for exploring the uterine cavity. These comprise probing the uterus, digital exploration after dilatation, and microscopic examination. It is not advisable to place too great reliance upon the result obtained by the use of the sound, though in the hands of the experienced the sound may reveal the existence of intrauterine growths and raw areas of the endometrium. But small elevations and pendulous polypi easily escape discovery; it is well, therefore, to have the diagnosis, established by means of the sound, verified by digital exploration. This is one of the most important methods of examination at the disposal of the gynecologist, but less generally employed than it deserves to be. In conjunction with microscopical investigation it accomplishes everything that is needful for a correct diagnosis.

The preliminary dilatation of the cervix may be done either by splitting or by the use of tents. The former method is best accomplished by cutting through the posterior cervical wall, including the internal os; it has the great advantage that dilatation, digital exploration, and operation can be proceeded with in one sitting, an advantage that sufficiently compensates for the subsequent trouble of repairing the cervix.

For the bloodless dilatation of the cervix, laminaria is the best; it is easily kept in an aseptic condition, and a laminaria tent of about the size of the little finger should be inserted twenty-four hours before exploration is made. By conjoined manipulation with the index of one hand in the uterine cavity and the other hand on the abdomen, the uterus is pressed against the exploring finger, and any anomalies of the endometrium, namely submucous fibroids, retained placenta, polypi, indurated areas, etc., may be recognized, and an appropriate treatment immediately be added. It is hardly necessary to mention that this method is carried out under strict antisepsis and contraindicated in the presence of inflammatory processes around the uterus.

It is of the utmost importance that the dilatation, whether by cutting or expanding, be sufficiently wide to allow an unimpeded introduction of the finger. A constriction by the cervix, however slight it may be, benumbs the sensitiveness of the finger and greatly interferes with the free movement of the finger within the uterine cavity.

Thus small infiltrations or small, soft outgrowths may easily escape discovery.

Although the digital exploration offers an excellent opportunity of determining the condition of the endometrium, it is by no means devoid of errors. Of all our senses the delicacy and discrimination of the sense of touch are the most poorly developed. Coarse pathological processes are easy of detection by the finger; the difficulty of interpretation arises when delicate changes originate in the endometrium; besides, the most important question, whether or not the detected outgrowth is malignant, is left in abeyance. Here the microscope masters the situation. A thorough curettage, including all areas of the endometrium and the microscopic examination of the removed particles, will, in most instances, decide the question. It may be asked, why not at the outset resort to the microscope as the sovereign means of research? I answer, "A positive diagnosis as to the condition of the endometrium can often be made out only by exhausting all diagnostic resources; it gives comfort and satisfaction to have the diagnosis fortified in several ways, which do not preclude, but supplant each other. Let me illustrate this statement by referring to cases in practice. A woman suffers from metrorrhagia. Curettage and microscopical examination fail to detect any pathological process; we have recourse to dilatation and digital exploration and discover a submucous fibroid or a small polypus, the presence of which had not been revealed by the sound or curette. Women near the climax occasionally suffer from profuse and obstinate uterine hemorrhages. We suspect carcinoma, but repeated curettage and microscopical examination of the scrapings fail to demonstrate malignancy. We resort to digital exploration, in order to control and supplement the microscopic diagnosis; we affirm the correctness of the diagnosis by the inability of finding anything pathological within the uterus.

It is not my purpose to go into details upon the histological characteristics of the different intrauterine affections. The description of the varied inflammatory changes of the endometrium and the differentiation of benign from malignant processes is an interesting subject, the knowledge of which can hardly be obtained by occasional observation and cursory study.

135 E. 61st Street

Inheritance of Recurrent Attacks of Jaundice and of Abdominal Crises with Hepatosplenomegaly.—Sir Thomas Bartlow and H. Batty Shaw report two cases occurring in mother and son, the special points of which are: (1) The chronicity of the affection, lasting in the son at least fourteen years, and being probably congenital, and in the mother for a much longer period; (2) The occurrence of indolent ulcers in both cases; (3) The constant presence of slight jaundice, which undergoes periodic intensification and is then associated with pain in the liver or spleen, or both; (4) The mother's would appear to be a case of Hanot's cirrhosis of the liver, while her son's cannot but be considered as an earlier incomplete stage, possibly of the same malady; (5) Finally, attention is called to the extremely guarded prognostic view to be held in such cases. Mrs. W. has grown to maturity and has had a family of several children, and but for the disturbance caused by the periodical attacks of jaundice and abdominal pains is able to enjoy life.—*Medical Press and Circular.*

Associated Epidemics.—V. Babes cites cases which demonstrate that it is not sufficient in an epidemic to find Pfeiffer's bacillus in order to affirm that we are dealing with influenza, nor does a positive serum reaction enable us to affirm that the disease is typhoid fever, for it is possible at the same time to find both these elements of diagnosis in the evolution of a particular syndrome—an associated epidemic which is neither influenza nor typhoid. From an epidemiological point of view, the facts go to show that every epidemic is not produced by a single specific microbe, but that, on the contrary, there exist particular associated epidemics, provoked either by ordinary causes, or by the associated factors, or by specific germs complicating other equally specific infective states as yet undetermined.—*Medical Press and Circular.*

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OPERATIVE TREATMENT OF APPENDICITIS.

It is somewhat of a coincidence that just at the time when the King of Great Britain was developing acute appendicitis the surgeon who was to operate upon him should have chosen "Some Phases of Inflammation of the Appendix" as the subject of the Cavendish Lecture. The question of when to operate for the affection termed in America appendicitis is so extremely vexed a matter that to pass any definite opinion would be but to step into a storm of controversy, so utterly diverse are the views expressed by various eminent authorities.

On the North American continent, and in the United States in particular, appendicitis has come to be regarded as a disease, in the experience and in the treatment of which our physicians and surgeons are leading authorities. Indeed, so conscious are many of the American medical practitioners of their superiority in this respect that they have not scrupled to criticise the operation upon King Edward in adverse terms, and to offer to Sir Frederick Treves advice which they hope he may profit by on future occasions.

While allowing that in this particular branch of surgery Americans have had greater experience and consequently, perhaps, have attained to greater knowledge and skill, at the same time the fact may be borne in mind that the well-known English surgeon is by no means a tyro so far as appendicular diseases are concerned. During the time that he was surgeon at the London Hospital with its vast field of clinical material, his opportunities were ample to study the malady in all its phases. Treves brings forward the following points in the consideration of the question:

1. In the advocacy of what may be termed indiscriminate operation it is misleading to use the expression "gangrene or rupture of the appendix," perforation of the appendix, and "appendicitis with acute peritonitis" in exactly the same sense as the terms "gangrene or rupture of the bowel," "perforation of the stomach," and "acute peritonitis" are employed in association with urgent operation.

2. The greater proportion of cases of appendicitis recover spontaneously, and it is probable that the general mortality of the disease—if examples of all grades be included—is not above 5 per cent.

3. Operations carried out during an acute attack are attended with a risk to life which is considerable, and which is probably expressed by a mortality of over 20 per cent. Certain hospital records and collections of cases appear to place the death rate even higher than this.

4. It must be remembered that relapses may occur after operation carried out during the acute stage.

5. The removal of the appendix during the quiescent period is attended with a very trivial risk, which may be expressed by a mortality of 1 in 500.

Regarding the above propositions as bases for some sort of definite action in the management of the acute case, Treves says that it has appeared to him that a reasonable course may be established upon some such lines as the following:

(*a*) He ventures to think that our knowledge of the pathology of the disease and its general mortality will not sanction the practice of opening the abdomen in every case of appendicitis as soon as the diagnosis has been established.

(*b*) Immediate operation is demanded, at the earliest possible moment, in all ultra-acute cases.

(*c*) Immediate operation is demanded in every example in which there is reasonable suspicion that suppuration has taken place.

(*d*) In cases outside those above named he thinks that the question of operation may be kept in abeyance for the first few days of the attack, and may usually be left open for decision until the fifth day or after.

Treves ends by saying that he has removed the appendix during the quiescent period over one thousand times with two deaths. The careful and conservative treatment of the case of King Edward has been attended so far with conspicuous success, and until all the facts are known there would appear to be no reason to doubt that the course of treatment taken by the British medical attendants was thoroughly justified.

ARTIFICIAL IMITATION OF LIFE.

THIS is essentially an age of scientific investigation. The mystery of life has ever possessed a peculiar fascination for the student of research, and numberless have been the attempts to discover its origin and cause. The *Academy and Literature* of a recent date contains an article by F. Legge, in which he records experiments made from remote times to now in the direction of artificial imitation of life, beginning with the observations of Paracelsus The first part of the article is taken up with a consideration of the meaning of the experiments of Paracelsus, and the writer suggests that, perhaps, the old-time philosopher, when he laid down rules for forming from certain chemicals a homunculus, which could be nourished, and even be capable of reasoning and speaking, intended to describe experiments imitating vital phenomena. Mr. Legge shows that the words of Paracelsus cannot be taken in a literal sense, as neither human nor any other form of life can be obtained as the result of chemical action, for the reason that all known forms of life, whether vegetable or animal, are not simple, but complex, being made up of cells.

The amœba, the next simplest form of life to the moneron, is a cell having a nucleus of harder albumin, an external body of softer albumin, or protoplasm, and in further evolution an outer cell-membrane which holds together the entire organism.

These cells propagate themselves when they have reached their normal maximum of growth by self-division, each half appearing in turn with the full equipment of nucleus, protoplasm and membrane, and it is from cells like these that the bodies of plants, animals and, finally, man, are compounded. If the body of man were a simple entity, as Paracelsus believed, and not a republic of cells aggregated together as it really is, it might be possible to produce a human being on the plan suggested by Paracelsus, but with our present knowledge of the composition of a living body, such an event seems the height of illusion.

Mr. Legge goes on to say that if we analyze the substance of which these cells are composed, we find that the albumin is not a simple substance or element, but is in itself a compound, made up of carbon, nitrogen, hydrogen, and oxygen, with, it is said, always a trace of sulphur and phosphorous.

But there is nothing in these elements, consisting, as they do, of the three gases and the three solids which are most widely diffused through the universe, to account for the phenomenon of life, the explanation of which must, therefore, be looked for elsewhere.

What is it that gives to the cell the mysterious powers of growth, of movement, and of reproduction? Many answers have been made to this question but it cannot be said that any of them are satisfactory.

"One small corner of the veil which covers this mystery has now, however, apparently been lifted. In a communication lately made to the Congress of Physical Science, held at Ajaccio, Dr. Leduc of Nantes asserted that he had discovered a way of forming cellular tissues artificially, and not in the way of nature. If, he says, you cover, a perfectly clean glass plate with a very thin layer of gelatin and sprinkle it with a few drops of ferrocyanid of potassium, you will see start into life a collection of cells having a regular polyhedric form, and containing each a nucleus, a sac of protoplasm, and a membrane exactly like the cell of a plant or animal. He does not, indeed, say that these artificial cells have the power of growth, movement, or reproduction that we have seen in the lowest forms of animal life, nor do I know what precautions he took against the infection, to use a convenient phrase, of those bacteria of which gelatin is the favorite field of culture. But assuming that these cells are really produced by the saline solution and the gelatin without any extraneous aid, we have, even if they be lifeless, a sort of hint of the process by which the first moneron took life. It has always been supposed that the albumin of the cell-plasm possessed a highly complicated molecular structure, although this has never been demonstrated, so far as I know, by microscopical or other examination. But cyanogen, which is one of the elements of the salt used by Dr. Leduc, in his experiment, is one of the most anomalous substances known to chemistry, because, while it behaves in all respects exactly like an element, it is nevertheless found by analysis to be decomposable into carbon and nitrogen, a solid and a gas that we have already found present in albumin. Such a quality of origin in an otherwise elemental body is found in only one other substance, namely, the hypothetical metal, which is the base of ammonia, and which, although behaving like its related metals, sodium and potassium, is known to be a compound of nitrogen and hydrogen. In this connection, too, it must be noticed that the first 'organic' substance artificially produced, viz., urea, was manufactured from the union of these two anomalous substances—cyanogen and ammonium. It may, therefore, be that at some period in the earth's history, of which they form almost the sole record, the elements known to modern chemistry were themselves formed by the union of yet simpler bodies, and that this process was, for some reason, favorable to the development of organic life. If this speculation, suggested rather than supported by Dr. Leduc's experiment, turns out to be well founded, the homunculus of Paracelsus, although it may never come to us in visible form, may yet not be such an impossible dream after all."

Experiments of the nature conducted by Dr. Leduc, while serving no directly practical purpose, are, nevertheless, highly valuable and instructive. The homunculus dreamed of by Paracelsus will never be evolved by any effort of the human brain, but such investigations are by no means useless, as all tend to the increase of knowledge, and, incidentally, may lead to valuable practical discoveries.

GREAT INCREASE OF CANCER IN GREAT BRITAIN.

A WRITER in the *Medical Magazine* for June, dealing with the causes of the death among the assured in the Scottish Widows' Fund, draws attention to the remarkable increase—exhibited in the statistics of the company—of mortality from cancer.

From 1861 to 1870 the mortality of all ages among 10,000 males was 2.42; from 1871 to 1880, 3.12, and from 1881 to 1890, 4.30.

Thus the rate of mortality for all ages was nearly twice as great from 1881 to 1890 as it was from 1861 to 1870.

Two points of interest are apparent from these tables: (1) That, as measured by the total deaths from all causes, there has been a very considerable increase in the mortality from cancer among our members during the twenty-one years. It is worthy of note that the actual number of deaths from 1888 to 1894 was more than double that from 1874 to 1890. (2) That there was a very serious decrease in the average age at death from 1874–1880 to 1881–87, and a very slight recovery in age from 1881–87 to 1888–94. This is contrary to the experience of the company for death from all causes, the average age at death for the total mortality in each septennium being 57.083, 58.105, and 59.192 years respectively.

For the twenty-one years, 1874 to 1894, from group fifty-five to sixty-five upward, the death rate of the Scottish Widows was very considerably higher than that for England from 1881 to 1890.

The following conclusions are reached by the writer:

1. The registered increase in the number of deaths from cancer is undoubted. This is proved by the statistics of the Scottish Widows' Fund, and corroborated by all other authorities.

2. After allowing that this increase is not wholly real, but may be accounted for, to some extent, on the assumption that the true nature of obscure

cases of malignant disease has been recognized with ever-increasing certainty in recent years, and that, as a consequence, the statement of death has been made with greater precision than had been formerly the case, there remains a large real increase to account for the large and progressive mortality from this disease.

3. The age period at which death from cancer is most frequent is gradually declining, according to the Scottish Widows Fund returns.

4. The average age at death from cancer among its members declined by two years in the two decades from 1874 to 1894, as contrasted with a rise in the average age at death from all causes of a little over two years.

5. The office returns mark a decrease in death from internal cancer of 7.70 per cent. and an increase in deaths from external cancer of 18.89 per cent. of the percentages in the first septennium as contrasted with the third.

The most salient point in these statistics is the demonstration of the fact that cancer as a cause of death between the ages of forty-five to sixty-five has made rapid and startling progress.

Longevity Increasing in Chicago.

Chicago enjoys the services of an excellent health officer in the person of Dr. Reynolds, a gentleman of great versatility, who is not only an energetic sanitarian but also a skilful statistician. He is a believer in the value of figures and knows how to use them in support of the arguments which he advances from time to time in the entertaining weekly bulletins issued by the department of which he is the head.

In one of the recent bulletins, that for the week ending July 5, some interesting statistics are presented showing, despite the adverse testimony afforded by the increasing number of suicides, that the inhabitants of Chicago are, on the whole, becoming more resigned to life there, now that the railroads have brought the town within twenty hours of New York.

A tabulation of the ages of 443,920 residents of Chicago, who died between January 1, 1869, and December 31, 1898, enabled the health department in its April, 1899, bulletin to show that the duration of human life in that city had increased from an average of 13.9 years at the beginning of the thirty-year period to an average of 29.4 years at the close. This is an increase of duration of life of considerably more than double—111.5 per cent.—in less than a single generation. It was further shown that if those who died in 1898 had lived only to the same average age as those who died in 1869 their aggregate ages would have amounted to 318,268 years; whereas their aggregate ages actually amounted to 672,540 years—a gain of 354,272 years in the lives of the 22,897 persons who died in Chicago in 1898.

Dr. Reynolds also shows that people live longer in the city itself than formerly. Nearly one-fifth of those who now die have survived to be upward of sixty years of age. Out of the total of 453 deaths recorded during the week ending July 5 eighty-seven averaged 72.2 years each, the youngest being 60 and the oldest 94 years 6 months 9 days. The aggregate lives of these eighty-seven decedents was 6,272 years. There were forty-six between 60 and 70, twenty-one between 70 and 80, fourteen between 80 and 90 and six over 90 years of age. Of forty-eight whose length of residence in Chicago was given the average was a little over 74 years and their average length of residence in the city was 32.7 years. The longest period of residence was seventy-two years, the decedent being 85 years 5 months 14 days old at date of death. The proportion of those who live to reach three-score and beyond is steadily increasing; the proportion of those who die under 5 years of age is even more rapidly decreasing.

The Exact Seat in the Brain of the Highest Intellectual Faculties.

Whether the prefrontal lobes of the brain contain what we term the mind, or whether the lobes in back of the head perform the best part of our thinking, is a disputed point with scientific investigators. The mass of evidence, however, is in favor of the former view, and, as pointed out by the *London Standard*, recent researches and observations by Dr. Phelps would appear to assist in strengthening the opinion that the most important portion of the brain is its anterior region. In the course of Dr. Phelps' investigations some 295 cases of brain injury and disease were examined. In all save two it was noted that interference of an extensive nature with the prefrontal region resulted in serious disturbance of the mental faculties. Less severe injury produced less marked effects.

As to the relative importance of the two lobes of the cerebrum, it is well known that each half governs the opposite side of the body, and that the left brain is superior in mental faculties to the right. Dr. Phelps not only calls attention to the unquestioned superior functional importance of our left brain, but also insists that it is the intellectual half. The fact is pointed out that the right half is capable of sustaining severe injury without the sequence of marked mental ill-effects, and instances are quoted in support of this assertion. Cases of this kind have been, on many occasions, a puzzle to physiologists, insomuch as the injury to the brain has not been attended with commensurate mental disturbance.

If it can be shown conclusively that the left brain is the seat of the intellect, and proceeding upon the hypothesis that severe injuries to the head which do not produce utter mental wreck really involve only the right lobe, then a partial explanation will have been afforded of conditions attending brain injuries which have long puzzled physiologists.

While Dr. Phelps' theories are ingenious and plausible, they are not conclusive, and much has yet to be learned concerning the brain and its working ere the last word has been said. There are, says the *Standard*, physiologists who declare that we have really two brains, and that while the left lobe is the Jekyll of the intellect, the right, on occasion at least, is apt to play the part of Hyde.

Immigration's Menace to the National Health.

An article with this title is contributed to the July *North American Review* by Mr. T. V. Powderly, Commissioner-General of Immigration The aliens, says Mr. Powderly, who give the immigration authorities the most trouble are those who come "suffering from a loathsome or a dangerous contagious disease," and of these, persons afflicted with favus and trachoma are the most numerous. Until recently the people of the United States were not familiar with either favus or trachoma; and until the tide of immigration swelled up and began to flow in on us from the countries of Southern Europe and the Orient, these diseases were not very prevalent.

While the law expressly prohibited persons suffering from such diseases from landing, it was also held that, until an alien had been examined, pronounced entitled to admission, and actually passed inward to this land of liberty, he was constructively on shipboard, and, as a consequence, not landed. The hospitals in and around New York City were not long since crowded with sick and disabled immigrants during the months of August and September, as a result of the burning of the Ellis Island Immigrant Station and hospital in the previous June. Examining the reports sent in from these hospitals, Mr. Powderly noticed that a great number were held to be treated for favus and trachoma, and for the first time he learned what these diseases actually were.

It was then decided by the Commissioner-General of Immigration to prevent, as far as possible, not only the landing of diseased aliens, but their embarkation at foreign seaports, with the intention of landing in this country, and stringent regulations were put into force to bring about these results. The agents of the steamship lines in Europe and Asia were notified that they should not sell tickets to persons suffering with either favus or trachoma, and the traffic in diseased immigrants fell off to a large extent. Nevertheless, under one subterfuge or other, or through influence exerted for sentimental reasons, a considerable number of persons, who, though suffering from infectious disease, have no right to be allowed ingress to this country, continue to gain access, to the consequent menace of the inhabitants at large, and especially to those of New York.

The Commissioner-General is certainly well advised to prevent by every means in his power those afflicted with favus, trachoma, or any other infectious malady from taking passage for this country. He aptly says that, because America is regarded as the asylum of the world, there is no reason that it should also be looked upon as the hospital.

The type of immigrant has materially altered within the past thirty years—no longer do the sturdy, clean-blooded inhabitants of Germany, the British Isles and other northern countries come in shoals to these shores. In their stead a crowd of Southern Europeans and Orientals, accustomed to living in dirt and insanitary surroundings, and often the victims of pestilential infectious complaints, herd to America, and, indeed, are a distinct menace to the national health. Every individual suffering from a disease which may be likely to infect the community should be excluded.

CHEMICAL PRESERVATIVES IN FOOD.

A writer in the *National Druggist* of St. Louis discusses the question of the harmfulness of chemical preservatives in food. A portion of this article which is of much interest to the medical profession is copied by the *Literary Digest* of July 12. It is contended that common salt and other preservatives with which we are familiar are harmful in large quantities, and that, in fact, the innocuousness of a preservative is a matter of quantity. The writer goes on to say, "Apparently, most of these journals—which have been discussing the subject—do not include sodium choride among chemicals, or imagine that there can possibly be any question as to its absolute harmlessness." Those acquainted with chemistry, however, can see no reason why $NaCl$ is any less a chemical than H_3BO_3 or $Na_2B_4O_7 10H_2O$; yet such is the force of habit, that when common salt is spoken of as a preservative of food, to nine men out of ten the idea of its true nature never occurs. That it is, under certain circumstances, a poisonous substance, and that its prolonged use may cause the most horrible sufferings and death, is also apparently forgotten, even by those who read in the daily papers of the ravages of scurvy on board whaling and other vessels short of fresh food.

Admitting that education on these points is extremely desirable, the *National Druggist* editorial is, however, not by any means in favor of leaving the investigation to the experts of the Department of Agriculture, holding that the question of food preservatives is one in which the whole world is vitally interested, and should be settled by an international commission of scientific men, appointed by the leading nations of the world.

There should not be allowed on this commission any man who is, in any manner, connected with the manufacture or sale of preservatives, or who has ever announced an opinion, as an expert, of the virtues or demerits of any substance that may be brought before the commission. If such a plan were found feasible it certainly would tend to enlighten the general public as to the use and abuse of food preservatives. The authorities would be performing a public service by taking steps to thoroughly ventilate the matter.

STATISTICS OF CREMATION.

Sir Henry Thompson, who has been for long a staunch advocate of cremation, and who has written some most able articles in support of the practice, contributes to the *Lancet* of July 5 some statistics bearing on the matter.

It appears from these figures that Germany possesses seven crematories. The total number of cremations performed at each during the year 1901 being 693. A petition signed by over 3,000 medical men has been presented in the Reichstag within the past few months with a view of rendering compulsory the cremation of persons who have died from infectious diseases.

England possesses seven crematories, in which during the year 1901 445 persons were cremated. Italy possesses twenty-two crematories, but statistics as to the number of persons upon whom cremation was performed in 1901 are lacking in some of these. There are three crematories in Switzerland, at one of which 127 cremations were performed in 1901. Sweden possesses two and Denmark one. In Austria-Hungary societies for the promotion of cremation continue to be formed under the influence of the Vienna Society. "Die Flamme" and branches exist in many towns, but the practice of cremation has not yet been legalized.

In Madrid the right of cremation has been conferred by a royal decree, while even in Russia, in spite of the protestations of the Procurator of the Holy Synod, the government proposes to issue a decree in favor of making cremation optional. In France a large crematorium is situated in the far-famed cemetery of Paris, Père la Chaise, in which since its opening, 2,299 bodies have been cremated.

In the United States are twenty-six crematories, twenty-four of which are in operation. A larger number of persons are cremated yearly in this country than in any other. In Canada, notwithstanding the opposition of the Roman Catholic clergy, the Legislature of Quebec has declared the legality of cremation, and a crematorium has just been built at Montreal.

It will thus be gathered that cremation is upon the increase in all civilized countries. The practice is in the interests of public health and sanitation, and will gain in popularity as its merits are more widely understood.

News of the Week.

Cholera.—There has recently been an increase in the number of cholera cases in the various parts of the world where it now prevails. In Manila, where it had been gradually diminishing and hopes were entertained that the outbreak was at an end, the number of cases suddenly increased to seventy-eight on July 24, the largest since the outbreak. It was feared that the city water was infected, but an analysis showed that it was not polluted. The removal of the quarantine on fruits and vegetables, which had recently been effected, possibly accounted for the renewed outbreak. In Cairo and at Moucha, near Assioot, there is an epidemic of virulent character now prevailing. In the ten days of July 15-24, inclusive, there were 307 cases with 227 deaths. There were 18 new cases in Cairo on July 25, 20 new cases on the following day, and 35 on July 28. Many of the natives die in the streets. The drinking-fountains have been shut off and other sanitary measures are being instituted. The disease also prevails extensively in Manchuria, and it is announced officially that cholera is raging at Mukden, in that province. There were 757 cases between July 3 and 14, and 81 Russians and 363 Chinese died from the disease. Between July 15 and 23 the deaths numbered 106 Russians and 276 Chinese.

A Physician Sues for Services.—Dr. John R. C. Thompson of Bridgeton, N. J., has brought suit against the township of Downe, Cumberland Co., for $2,000 for professional services in connection with an outbreak of smallpox. The claim is resisted on the ground that the contract was made on Sunday.

The American Electro-Therapeutic Association.—The annual meeting of this association will be held at the hotel Kaaterskill, Catskill Mountains, N. Y., on September 2, 3, and 4, 1902. Full particulars regarding the meeting can be obtained by writing to Dr. Robert Newman, 101 West Eightieth street, Chairman of Executive Council, or Dr. William Stevens, 70 West Fifty-second street, New York, Secretary Committee of Arrangements.

An Ohio Physician Imprisoned in Nicaragua.—Dr. Russell Wilson, a physician of Milan, O., is in a Nicaraguan prison charged with taking up arms against that government, and his friends are making every effort to obtain his release. The State Department has telegraphed the United States Consul at San Juan Del Norte (Bluefields) to care for the interests of Dr. Wilson and to send a full report about his case. Dr. Wilson was one of a party of Nicaraguan insurgents landed near Bluefields. A storm prevented the landing of the entire number and those who went on shore were captured. Dr. Wilson was taken to Bluefields, where he was tried by a court-martial, and condemned to death, but the President of Nicaragua commuted his sentence as a mark of courtesy to the United States. His case was made worse by the belief of the Nicaraguan Government that he participated in a former filibustering expedition in 1899. This, however, is disproved by the fact that he was a student in the Medical Department of the Ohio University in that year and was not graduated until 1900.

A Medical Flyer.—A physician of Winchester, Tenn., Dr. E. L. Drake, is reported to be the inventor of a flying machine which will cleave the air at a speed of over two hundred miles an hour. A number of Chicago capitalists are said to have formed a corporation with a large capital to finance the invention and build a machine to compete in the aerial races at the St. Louis Exposition.

The Health Department of Manila.—Colonel Maus, who has had a long term of service as chief of the Department of Health of the Philippines, has been relieved and ordered to Washington. He will be succeeded by Major Carter, an experienced sanitarian.

Dr. George H. Simmons.—We are very glad to learn that Dr. Simmons, Secretary of the American Medical Association and editor of the *Journal* of the same, who was operated upon recently for gallstones, is making a good recovery. Dr. Simmons had not been in good health for some time previous to the operation.

Consolidation of Medical Societies in Detroit.—A consolidation has been effected of the Wayne County (Mich.) Medical Society and the Detroit Medical Society.

McKinley's Surgeons to Be Paid.—Secretary Cortelyou, at the request of President Roosevelt, has taken charge of the settlement of the surgeons' bills and other expenses incidental to the assassination of President McKinley last September. A lump appropriation of $45,000 to meet all claims was made by Congress, and it has been arranged that Mr. Cortelyou is to make requisitions upon the Treasury for the several amounts, and that these requisitions shall be honored without delay in the Auditor's office.

A Bill for Medical Services Reduced.—By a decision of the Orphan's Court of Allegheny County, Pa., the claim of Dr. Wm. C. Browning of $340,000 against the estate of the late Senator Christopher Magee was recently reduced to $25,239.25. Of the total amount the sum of $190,000 was for professional services rendered and one of $150,000 for profits accruing from certain transactions in stock which he had failed to receive.

The Automaniac.—The editor of *The Horseless Age* felicitously suggests the word "automaniac" to designate "the new terrors of our streets, those speed-crazed paranoiacs who are now doing so much to bring the automobile into disrepute." Various and many epithets, most of them in the language of the street, and nearly all unprintable, have been bestowed upon these wretches, but a new and distinctive term would, as our contemporary well says, be desirable.

The Physicians of the Queen of Holland.—The physicians who attended Queen Wilhelmina in her late illness have been receiving honors at her hands. Prof. Rosenstein has been promoted to be a commander of the Order of the Lion of the Netherlands, and Prof. Kouwer and Drs. Roessingh and Pot have been appointed knights of the same order.

Obituary Notes.—Dr. JOSEPH BIDDLE WILKINSON of New Orleans died in that city on July 21, at the age of eighty-five years. He was for many years before his retirement one of the leading physicians of Louisiana, and was also prominent politically, serving many successive terms in the State Legislature.

Dr. CARLO DE'R. IMPERATORI of this city died suddenly on July 24, at the age of seventy years. He was born in Venice in 1832, and studied in Paris under Claude Bernard and Majendie. In 1859 he came to New York. Later he took a course in medicine at the Bellevue Medical College, from which he was graduated in 1874. Since that time he had practised on the east side. Dr. Imperatori was a member of the Greater New York Medical Association, the New York County Medical Association, the New York State Medical Association, and the American Medical Association. He is survived by a widow and two sons, one of whom is also a physician.

Dr. **Charles D. Martin** died at his home in Allentown, Pa., on July 15, at the age of fifty-five years. He was a graduate of the Bellevue Hospital Medical College in this city in the class of 1867.

Dr. **Washington Righter** of Philadelphia died of apoplexy at Atlantic City, N. J., on July 16. He was born at Lancaster in 1845, received his preliminary education at Philips Academy, Andover, and at Princeton College, and he was graduated from Jefferson Medical College in 1866. He never took up the practice of his profession, but he entered into partnership with his father in the wholesale lumber business at Columbia. He removed to Philadelphia in 1886.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S CONVALESCENCE—FÊTES—HOSPITAL BAZAARS, ETC.—MR. CHAMBERLAIN'S WOUND—FIRE IN A HOSPITAL—IMPERIAL VACCINATION LEAGUE—DEATH OF DR. CURNOW.

London, July 18, 1902.

"Out of danger"—that was the announcement for which the public were anxiously waiting when I last wrote, and that was the bulletin issued by the King's surgeons on Saturday. By a happy coincidence this announcement appeared on the morning that the King's dinner to half a million poor Londoners was given; for the dinner was one of the celebrations not postponed by his Majesty's illness. In the several localities the enthusiasm was unbounded when members of the Royal family arrived with the latest news and a message from the King hoping they were having a happy time. People of all ranks took part in the preparations and in waiting on the King's guests, and the success of the entertainment was a triumph of organization.

From that day onward the progress of the King has been uninterrupted, and the bulletins have daily declared that his Majesty's condition continues satisfactory. Consequently various forms of thanksgiving for this rapid recovery have been duly celebrated and many anticipations of the coronation indulged in. It is known that the King desires that the ceremony may take place as early as possible, and it is now understood that, provided no drawback interferes, it will take place on August 9, and the Houses of Parliament will rise on the day preceding. Meantime there is the period of convalescence, during which you will recognize the need of care, though the public with the reaction from anxiety, have been talking most of the week of the certain cure. Of course, at present, he is an invalid and must be treated as such, but his surgeons have no difficulty, as he implicitly follows their advice. The recumbent position is irksome but patiently endured, and the simple diet enjoyed. His Majesty has good nights without narcotics, and his constitution is believed to be sound. Some of the sensational journals take delight in circulating sensational false statements on this point. I repeat, therefore, that his Majesty's advisers have never detected any sign of malignant disease, and the circulation of reports to the contrary is a disgrace to those newspapers which spread them.

The wound is still dressed with gauze, granulation is going on well, and the Royal Yacht is being made ready in the expectation that early next week his Majesty may be conveyed in an ambulance to the sea and complete his convalescence during a short voyage, for the sea has always agreed with him. Among the festivities postponed with the coronation, but now going on, I may mention as interesting and unique, though not medical, the Queen's tea to 10,000 maids-of-all-work. The girls are being entertained on different days, in various places, and the number will soon be completed. Each batch of "guests of the Queen" has received a special message from her Majesty and replied with hearty wishes for the King's speedy and complete recovery. The arrangements were carried out without a hitch by the societies which take special interest in servants. Another well-managed feast was that of 12,000 school children in Kensington gardens. This was a fairly large entertainment, but yesterday 30,000 children were regaled in another park.

A successful fête on behalf of St. George's Hospital was held last week in the Royal Botanic Gardens. The entertainment included a *haka* or war dance by a number of Maori warriors, now in London, with the New Zealand premier and his family looking on. Chiefs of high degree took part in this performance, which concluded with a "chant of joy," composed for them to sing at the sight of the great white King for whose intended coronation they had come to England.

Yesterday the same gardens were the scene of the most brilliant spectacle of the season—the opening by H. M. the Queen of the great coronation bazaar on behalf of the hospital for sick children. The Queen was accompanied by many royalties, both British and foreign, and the crowd of spectators was probably greater than any similar assembly. The only one to be compared with this is the National bazaar of 1900, and that is pronounced to be the lesser function by some who were present at both. The Queen visited the several stalls and made purchases at all. At the first a cheque was presented to her Majesty for £1,000 to endow a cot to be called after herself. Accompanying this precious bit of paper, which was enclosed in a beautiful silver case, with an inscription in enameled letters, was a silver model of the intended cot. Other models were on the stall and sold freely. At the American stall the Queen bought President Roosevelt's last book, Charles Dana Gibson's sketches, and other works of art. The children's hospital will greatly benefit, and some hope is felt that its debt may be defrayed.

The Prince and Princess of Wales opened the new nurses' home at Guy's Hospital on Monday. This home is a memorial to the late Mrs. Henriette Raphael, her husband having given £20,000 for that purpose. He did not survive to see the splendid result of his munificence, but his son was present on this occasion, and the family retain the deepest interest in the memorial. The £20,000 was not enough to complete it in the style that Guy's authorities or the architects determined upon, and it is said that nearly £70,000 has been expended. The amount seems suggestive of extravagance, and will increase the misgivings of those who complain that the managers of our great charities seem always to be spending money in bricks and mortar.

The cable will have told you of the nasty cab accident sustained by Mr. Chamberlain, the Colonial Secretary, on Monday. The wound is on the upper part of the forehead, about 1$\frac{3}{4}$ inches long, and extends to the bone, which is grazed along the whole length, but there is no fracture. Three or four small vessels were ligatured and five stitches used. The wound was cleansed with sterilized water and dressed with cyanide wool. The Right Honorable gentleman was kept in the hospital until Wednesday as a matter of precaution, but no cerebral symptoms appeared. His pulse, usually slow, intermitted a little, at first, from shock and hemorrhage, but soon became steady, and no fever or inflammation has occurred. The wound is healing well.

There was an alarming outbreak of fire at the London hospital last Friday. Not much damage was done, but the occurrence points to the necessity of every precaution being taken at hospitals, as to which many misgivings have lately found expression. In this case appliances are being fitted for the supply of filtered air to the operating theatres. The great sheets of cotton wool used as fillers took fire and enormous quantities of smoke passed through the pipes. So dense were the fumes in the corridors that men could not stand upright, but some crawled along on hands and knees with hose and quickly extinguished the fire. The engine arrived in four minutes, but the amateur firemen had rendered it unnecessary.

The Imperial Vaccination League was formally established on the 30th ult. The Duke of Fyfe has accepted the presidency and Lord Avebury the treasuryship. There are several vice-presidents, the primate being one. The provisional committee includes several well-known doctors. The new organization will circulate literature and promote lecturing, meetings, and all methods of making known the truth about vaccination, and so neutralize the pernicious agitation of the antis. The Jenner society, which has done excellent work in this direction, is not to be superseded, but will continue its valuable efforts; its provincial position is a disadvantage, and the new league will, therefore, co-operate with it, and act in a wider sphere as well. Opinions will be collected as to what changes in the law are desirable, so that when amendments to the acts are proposed the league may be able to influence the government. Such questions as revaccination at school age, the transfer of the duties of the Poor Law under the acts to the sanitary authorities, the establishment of laboratories, and the supply of lymph will have early attention, and it may be hoped that the league may do much to enlist public opinion on the side of science and common sense.

Professor J. Curnow of King's College died on the 5th inst. from acute pneumonia. He was in his fifty-seventh year and had been connected with King's throughout his career, which has been exceptionally brilliant. A memorial service was held in the chapel of the college on Wednesday, and the funeral followed on the same day at Highgate. From 1873 to 1897 he occupied the chair of anatomy at King's. In 1874 he was elected on the staff of the hospital and became full physician in 1890. For a considerable time Dr. Curnow was Dean of the Medical Faculty, and he also held other appointments, in all of which he secured the esteem of his colleagues, students, and others.

THE SO-CALLED CARGILE MEMBRANE.

To the Editor of the Medical Record:

Sir: In the Medical Record of May 17 I find a very interesting article by Dr. R. T. Morris, entitled "A Report of Experiments Made with Cargile Membrane for the Purpose of Determining Its Value in Preventing the Formation of Peritoneal Adhesions." I take the liberty to enclose a reprint from the *Journal of the American Medical Association* of August 11, 1894, which I hope will establish, beyond question, my right to priority concerning the preparation and the use of the animal peritoneum for the prevention of adhesions in abdominal sections. Since 1893 I have been using this animal membrane in all laparotomies where adhesions were to be feared, with such success that I think the value of this method is completely established. It has never entered my mind, of course, that Dr. Charles H. Cargile of Bentonville, Ark., knew of my article and of my work and experience with this animal membrane previous to his own experiments. I am writing these lines only to protest against calling the method "Cargile." I can give a report of a large number of cases in which I have been using my prepared animal peritoneum to prevent adhesions in abdominal sections. Do I ask too much if I request you to give these lines a modest place in the Medical Record. Thanking you in advance for your kind courtesy, I remain,

Yours respectfully,

F. Baum, M.D.

Rome, July 9, 1902, No. 14 Via Quattro Fontane.

THE UNITED STATES PUBLIC HEALTH AND MARINE HOSPITAL SERVICE BILL.

To the Editor of the Medical Record:

Sir: I read in the Medical Record of June 12, 1902, on page 61, regarding the U. S. Public Health and Marine Hospital Service Bill: "The object of the Bill, it was explained during the closing debate, was to enable the Federal Government to take charge of the quarantine service of the country, in compliance with a growing public demand. Heretofore it had been rendered impossible of achievement because of the lack of co-operation between the Health Officers of the States and the Nation."

This statement of one of the speakers on the bill is not correct. Kindly permit me to set the matter right before the many readers of the Medical Record.

There is not a word relating to quarantine in the bill; on the contrary one of the strong arguments brought up in favor of it was that it respected the quarantine powers of each State. The salient feature of the bill, as regards State Health Officials, is Section 7, which reads as follows:

"Section 7.—That when in the opinion of the Surgeon-General of the Public Health and Marine Hospital Service of the United States the interests of the public health would be promoted by a conference of said service with State or Territorial Boards of Health, Quarantine Authorities, or State Health Officers, the District of Columbia included, he may invite as many of said health and quarantine authorities as he deems necessary or proper to send delegates, not more than one from each State or Territory and District of Columbia, to said conference.

"*Provided*, That an annual conference of the health authorities of all the States and Territories and District of Columbia shall be called, each of said States, Territories, and the District of Columbia to be entitled to one delegate.

And *provided further*, That it shall be the duty of the said Surgeon-General to call a conference upon the application of not less than five States or Territorial Boards of Health, Quarantine Authorities, or State Health Officers, each of said Boards or Quarantine Authorities joining in such request to be represented by one delegate."

It is not provided that the expenses of the delegates to these conferences shall be borne by the United States. It is not intended that they shall be junkets, but that they shall be attended by those who have at heart the health interest of their people and shall represent people who are willing to bear the expense of such service.

The Senate Committee in reporting favorably upon the Bill said: "The Committee has been impressed with the conviction that in the general public interest some recognition by Federal legislation of the State Health Authorities, in the way of consultation upon subjects of vital consequence to the localities, and as to the rules to be put in operation by both State and Federal Authorities in accomplishing the same end, would of necessity bring about better understanding, and a co-operation which would inevitably promote a fuller accomplishment of the great purpose desired by both the Federal and State Authorities. The Federal jurisdiction is exercised primarily in the interest of commerce. The local or State jurisdiction is exercised primarily for the protection of life and health in the communities, and, secondarily, in the interest of commerce. In the hope and belief that good results will come from it the Committee has inserted Section 7, above set forth."

To my mind this co-operation of the State and Federal health authorities, replacing the feeling of antagonism existing heretofore, marks one of the most important eras in the evolution of health matters in our country. Much of its future development, however, will depend upon the wisdom and spirit and diplomacy of the Surgeons-General, present and future, of the United States Public Health and Marine Hospital Service.

It is the first time that State health officials have ever received any recognition whatever from the Federal health authorities, and this was due mostly to a conference of State health officials held in Washington City, upon the invitation of the writer, on March 13, 1902, and to Senator Spooner, who instilled the spirit of the proposed "Spooner Bill" into the United States Public Health and Marine Hospital Service Bill.

Respectfully,

Edmond Souchon, M.D.,

President Louisiana State Board of Health.

Progress of Medical Science.

Boston Medical and Surgical Journal, July 24, 1902.

Operation for Cancer of the Uterus.—Edward Reynolds says in regard to the choice between the abdominal and the vaginal route, that the former is the easier, neater, more complete, and more satisfactory procedure It affords the opportunity of making an exact diagnosis of the extent of the disease at the beginning of the operation. The dangers of hemorrhage and subsequent infection are less than in the vaginal operation. It is not so likely to be followed by painful adhesions. The subjects of malignant disease, even in its early stages, stand operation badly however, and the majority of deaths are the result of shock. Vaginal hysterectomy is attended by almost no shock, and should therefore be the operation of choice in enfeebled women.

Cancer of the Uterus.—W. M. Conant states that in cases of so-called inoperable cancer four possible results may be obtained from a radical operation: (1) A cure. This is rare, but with improved methods there will probably be better statistics, and we are justified in advising a panhysterectomy; (2) Relief from present sufferings from hemorrhages, from foul vaginal discharge, impossible to live in the same room or house with the patient; (3) A condition that in some respects is worse, because the disease seems to spread more rapidly after operation; but because it is removed from the vagina there is not the danger of hemorrhage or of foul discharge, so that although the disease may be more active, it is not, all things considered, so distressing; (4) Death.

The Present Status of the Operative Treatment of Cancer of the Uterus.—W. L. Burrage concludes that absolute cure of cancer of the uterus is rare. By the best methods of operating thus far produced, only 5 to 10 per cent. of cases are well five years after operation, and a smaller proportion ten years after. The results in the case of cancer of the body are much more favorable than those for cancer of the cervix. All cases of uterine cancer, except those advanced ones which have developed vesicovaginal or rectovaginal fistula, should be operated on to prolong life and relieve suffering. The abdominal operation of Werder is the best in the early days of cancer where the disease has not gone outside the uterus and the patient is in good condition. In advanced cases and in very stout persons, vaginal hysterectomy or curetting and cautery are to be chosen.

Remarks on Cancer of the Uterus.—Maurice H. Richardson says that permanent relief by extirpation of the uterus may reasonably be expected when the disease is confined to the uterus. The removal of a malignant growth is not advisable when a cure is not reasonably to be expected. The extirpation of the carcinomatous non-prolapsed uterus is to be considered as one of the duties of the surgeon. The author is in favor of vaginal hysterectomy when the uterus is movable, when the disease is distinctly confined to the cervix, and when the vagina is capacious. When the disease is confined to the fundus he prefers abdominal hysterectomy. When it is necessary to dissect carefully the cervix and the vaginal mucous membrane, and to excise with the cervix a broad margin of vagina, and when the uterus is more or less fixed and the vagina small, he performs the combined vaginal and abdominal operation. The cervix is first thoroughly freed from below as far as the peritoneum, and the operation is completed from above. If, at the end of three years after the operation there is no evidence of recurrence, a permanent cure seems probable. If at the end of five years there is no recurrence, the disease may be looked upon as permanently cured.

Journal of the American Medical Association, July 26, 1902.

Pruritus Ani.—A. J. Byerly refers to a recent article by Edmund Andrews advocating the use of strong heat in the treatment of pruritus ani, and takes exception to some of the latter's conclusions. Andrews referred to the common practice of treating chilblains by holding the affected part before as intense dry heat as can comfortably be borne, but Byerly states that the strong heat makes the treatment disagreeable, and the chilblain is left tender and sensitive. He has therefore modified this domestic custom and immerses the chilblains in water of a temperature of 105 to 110°F. for about ten minutes (until the itching is subdued), and the result has been a treatment entirely agreeable, and one which removes the pruritus and soreness from the chilblain. Two applications usually effect a cure, but in chilblains of the feet, tight stiff leather boots must be avoided. Now, if a milder heat is more effective in chilblains than strong heat, will not a milder heat properly applied for a longer period of time prove more effective in the treatment of pruritus ani than strong heat? That is, will not water at a temperature of 105 to 110° F. properly applied for about ten minutes (until the pruritus ani is subdued) be more effective in the permanent cure of pruritus ani than water at a temperature of 130 °F.?

Medical News, July 26, 1902.

Tobacco Heart.—Frank D. Maine describes the pneumogastric as the longest nerve coming from the base of the brain, which supplies, by means of its branches, the motive power for the functional activity of the lungs, heart, and digestive apparatus. Tobacco injures this nerve throughout its ramifications, causing relaxation and more or less complete paralysis of the involuntary muscles of these organs, in proportion to the extent of its use. The characteristcs of the tobacco heart are irregularity of the heart's pulsations, rapidity of its strokes, nervous palpitation, waste of vital force, and irritability. Hypertrophy, or thickening of the left ventricle is produced by the prolonged use of this weed. Even the whole heart may be enlarged. The treatment is in general negative—that is, total abstinence. Complete recovery may occur, and hypertrophy may even disappear after the continued disuse of tobacco. The laws of hygiene should be observed, and strychnine may be prescribed.

A Few Notes on Syphilitic Bubo.—A. Ravogli states that the lymphatic glands are affected by the syphilitic virus constantly, and their engorgement is not due to the presence of the secondary eruption or to the abraded patches, as they are enlarged without these manifestations. The glands are enlarged before any eruption has yet appeared. The process affecting the glands is an irritative one, and in consequence hyperæmia and swelling are the necessary results. The swelling is caused by an increased flow of serum from the blood vessels. The pathological alterations differ from those of suppurating adenitis of chancroidal origin and also from those of syphilitic gumma. The syphilitic bubo is not a genuine inflammatory process of the inguinal gland, but is produced by the same infiltrating process which is characterstic of syphilis. It is a process especially affecting the vascular system, with an enlargement and thickening of its tunics. The lymphatic vessels are also implicated. The lymphatics are the channels best adapted for the passage of the syphilitic germs. In the treatment of syphilitic bubo, the writer speaks of the removal of the infiltrated glands. There is no necessity for antiphlogistic treatment. Mercurial applications are of great benefit.

American Medicine, July 26, 1902.

A Rare Form of Skin Disease.—Donald Parker reports this case. The patient was a little girl aged two and one-half years. The personal and family history were negative. The writer sums up the most noticeable features of the case as follows: Low fever until the last two days (the illness lasted for eight days), and even then a cool, moist skin. Rash limited to the hands and feet and lumbar region, no spots occurring elsewhere. The rash ran the course of macule, vesicle, scale, and pustule in the order named. The tongue was not swollen, but very red, as was also the throat. The mouth was blanched and cankered; there was no sign of strawberry appearance. The hands were rubbed upon each other and held in the mouth if she was not watched. There was no cough or other signs of cold at any time and the face and body were not flushed. The kidneys seemed normal. No urine could be obtained for examination. There had been no exposure to measles or scarlet fever for six months. The house was in good sanitary condition. The writer states that the diagnosis of this case is an open question.

Lobar Pneumonia in Infants.—William Fitch Cheney declares that the physical signs of lobar pneumonia in infants are often indefinite and misleading. This is especially so at the onset. Auscultation should always be relied upon more than any other method of investigation. In the first stage, the breath sounds over the congested area are distant and feeble as compared with the normal side. The quality of the sounds is often harsh, tubular, and bronchial; this is frequently the feature that first attracts attention, but it is more apt to be found after the first twenty-four or forty-eight hours. The diagnostic point is the prolongation of expiration until it equals or exceeds inspiration. This distinguishes the diseased area, even though its intensity of sound is decreased. Probably the most important point of all is the discovery of adventitious sounds. Clicking, crackling râles at the end of inspiration should always be looked for. This sign clinches the diagnosis and is often present quite early. The prognosis is almost invariably good. The treatment is simple, for the disease is self-limited. The main object is to maintain the strength.

Reconstruction of Finger-Tips by Sponge Eduction.—George E. Abbott says no method will so quickly change an abscess cavity, or an ulcer, or any part that has been curetted because of a depraved base, into a healthy granulating surface, as the sponge graft or sponge eduction method. By it, lost surfaces and lost finger-tips may be restored to the extent of half an inch or more. The essentials of a sponge graft are a fine-grained, stiff sponge. The sections must be cut transversely to the pores of the sponge. This may be done with the scissors, or with a carving knife. The sections should be one-eighth, one-sixteenth, or one-thirty-second-inch thick, and should be thoroughly sterilized. After they are applied they should be kept wet with sterilized salt solution. Eduction sponges or mastoid portions for filling cavities must be cut transversely to the tubes of the sponge, so that the granulations may grow up into them by capillary attraction, as it were. The outer side of the sponge is placed against the granulating base and sides of the cavity. These must be removed every few days, or they may be held so closely by the new granulations as to be removed with difficulty, while at the same time their removal tears the new-formed tissue. The writer has had excellent success in the treatment of injured finger-tips with this method. The sponge graft is placed in close contact with the denuded end of the finger, and is held in place with adhesive plaster and bandaged with gauze. The sponge is syringed out every day with pyrozone and boric-acid solution. A glass dropper is used as a syringe. The sponge is renewed every three days.

New York Medical Journal, July 26, 1902.

Excision of the Knee for Vicious Deformity and Tuberculous Disease in the Adult.—The clinical histories of three cases are given in detail by V. P. Gibney. He contends that excision is a remedy which may be employed in certain stages of disease, in which fixation and protection apparatus are regarded as all-sufficient, but at the same time he insists upon its insufficiency as a means of relief in the growing bones of young children. He notes that works on surgery usually recommend excision for a badly suppurating knee, but it is still the custom among surgeons to advise against excision in that obscure class of tuberculous knees in adults not attended by suppuration. The general impression prevails among surgeons that prolonged fixation in plaster of paris or any immobilizing apparatus is conducive to ankylosis, and that an ankylosed knee is just about as good as one that is synostosed. His own experience contradicts this flatly. He is personally familiar with a number of cases in which a partial ankylosis, or even an ankylosis almost complete, has proved very annoying to the patients. A number of falls and sprains have made them excessively timid, and they will become devotedly attached to a posterior splint, bound securely by a roller bandage, and will insist upon wearing this throughout life. On the other hand, when good bony union has been secured by operation, they have no fear of disturbing this union, they are relieved of the use of appliances, and they wonder why they were so long opposed to the operation.

Spinal Cord Conditions in Severe Anæmias.—Archibald Church says that while nutritional defects due to anæmia showing themselves in syncopes, mental disturbance, insomnia, and even hemorrhages into the brain and retina as well as into the spinal cord, have been well established as clinical possibilities for a long period of time, but degenerative processes secondary to or associated with anæmias have been recognized only in very recent years. While at first it was contended that these changes were largely confined to the posterior half of the cord, sparing the gray matter, it was afterward asserted that the gray matter was equally likely to suffer. Examination of a large number of reports will confirm to the unprejudiced investigator that the changes in the cord are, in a sense, mechanically located. That is, those portions of the cord which are less well supplied with blood are the first to suffer. Owing to the arrangements of the blood vessels supplying the anterior portions of the cord, especially the anterior horns of gray matter, this portion of a cross section shows comparatively few pathological changes in these cases, while the posterior half of the cord, embracing the sensory and the motor-conducting tracts, being less vascular, supplied as it is by a number of small terminal arteries, in the lowered circulatory conditions of the anæmias, undergoes nutritional reduction and consequent retrograde changes. These show themselves in sclerotic conditions. In cases of long duration and extreme degree, the other portion of the cord, including the anterior horns of gray matter, are involved with corresponding functional disturbance and physical signs It is also believed that in addition to the anæmia, a toxic factor furnishes a very active element. These changes occur not only in the classical pernicious anæmias, but in cachectic states of long duration, attended by toxic factors. The symptoms often suggest locomotor ataxia, spastic paraplegia, or multiple neuritis. As the posterior half of the cord is involved the case may present, clinically, the indications of locomotor ataxia, but if the lateral portions of the posterior half of the cord, including the crossed pyramidal motor tracts, are principally or primarily affected, spasticity and rigidity with weakness may give rise to the supposition that the patient primarily has myelitis or an ataxic paraplegia. In the course of these cases one is likely to encounter fluctuations in the symptoms, so that a case which at one time is spastic with rigidities, cramps in the lower extremities, and increased reflexes, later on may present a flaccid paralytic state with abolished knee-jerks and even lost control of the sphincters. Almost invariably these patients complain in a major degree of disturbance of sensation.

Philadelphia Medical Journal, July 26, 1902.

The Summer Diarrhœa of Children.—W. L. Harris concludes that summer diarrhœa is to a great extent a preventable disease, and it is our duty to do all we can to instruct the mother and nurse in the care and feeding of children. In our treatment of this disease we should always stop the milk, give a purge, and then carefully regulate the diet for a few days, even in the simplest and mildest cases, and in this way prevent many a case of the more serious forms of diarrhœa. The treatment of the first few days is the most important in all cases, and even the simplest cases should never be neglected under the delusion that it is natural for a teething child to have diarrhœa.

The Treatment of Summer Diarrhœa in Young Children.—Maurice Ostheimer, after considering the prophylaxis of the disease, states that the most important treatment is absolute withdrawal of food, no matter what the infant is taking. The child should be kept in its carriage out of doors, or if this is not possible, in the largest room in the house with the windows open. Few drugs are necessary. In case of vomiting, calomel is given. When there is no vomiting, castor oil is indicated. If frequent bowel movements persist, bismuth subnitrate with a little salol is given. During convalescence, a few drops of tincture of nux vomica will often be of service. As the health boards of the large cities continue to distribute hygienic regulations for the care of babies, the poor are gradually learning how to care for their children.

The Treatment of Acute Milk Poisoning—Summer Diarrhœa.—Thompson S. Westcott holds that the cardinal principle of prophylaxis is the use of pure cow's milk, as a basis of the infant's food. In many instances the danger of serious milk poisoning may be avoided if, at the slightest sign of disturbance of the stomach or bowels, milk is withdrawn and a good dose of castor-oil given. In those cases with a tendency to greenness and curdiness of the stools, this is well followed by small doses of calomel. As to the dietetic treatment, the first principle is to forbid cow's milk. Water is most important. Albumin water, salted or sweetened barley water, acacia water, rice water, or sometimes Vals or Vichy water may be given. Beef-juice is useful. As to drugs, castor-oil, or the oil combined with spiced syrup of rhubarb, should begin the medicinal treatment of summer diarrhœa. Following the clearing of the bowels, an intestinal irrigation with salt solution should be ordered. Stimulants are often needed in the severer cases. As to complications, much can be done to prevent the severer ones by prompt and rational treatment in the early stages of the intestinal disease.

The Treatment of the Infantile Diarrhœas of the Summer Season.—James H. McKee offers the following classification of these diarrhœas: (1) Dyspeptic; due chiefly to improper or to imperfectly-digested food. Bacteria may or may not play a part; acute intestinal indigestion; dyspeptic diarrhœa; (2) Infectious; in which bacteria of different kinds play the important rôle. Such organisms are almost invariably introduced in food, and nearly always in cow's milk. (*a*) Fermentative diarrhœa; mild gastroenteric infection; (*b*) Ileocolitis, enterocolitis, acute or chronic; (*c*) Cholera infantum. The first consideration in any form of diarrhœa is the diet. In the case of a bottle-fed baby, unless the trouble is mild dyspeptic diarrhœa, it is safer to withdraw milk. In dyspeptic diarrhœa of mild grade, the weaker milk formula or peptonized milk is advisable. In case of a milk infection, milk is withdrawn. Boiled water should be given frequently for the first twenty-four hours, but no nourishment. Barley water may then be given. If the baby will not take it a few drops of aromatic spirits of ammonia will often make it acceptable. When the diarrhœa has been caused by an excess of carbohydrates, barley water is contraindicated. Beef-juice is usually well borne. Animal broths may be given on the third day. Milk feeding should always be gradually resumed. A purge should always be given as a preliminary. Castor-oil and calomel are the best. In some cases an astringent, such as the salts of bismuth, or silver nitrate, is indicated. The writer has had good results from salol as an intestinal antiseptic. Some form of opium is indicated in certain cases. Enteroclysis and hypodermoclysis are indicated in some cases. As stimulants, when necessary, brandy, old whiskey, atropine, and strychnine, are valuable. The cold pack is valuable in the treatment of fever. The most frequent complication is catarrhal pneumonia, which is to be treated as it is when occurring under ordinary conditions.

The Lancet, July 19, 1902.

A Series of Cases of Jaundice in the Fœtus.—G. F. Smith relates the histories of five cases, all children of the same mother. Only the first-born survived; the second was still-born, and each of the remaining three lived but a few days. In none of the fatal cases was their obstruction to the flow of bile into the bowel, for the first and subsequent passages were deeply bile-stained. The mother had an attack of jaundice, while carrying the child that was still-born; otherwise her history was negative. The father was healthy and the family history on both sides was negative. The author is at a loss to account for these cases and expresses ignorance as to the cause of the jaundice, or, rather, the excessive bile secretion which in each case was present before birth and was the direct cause of death.

Six Cases of Meningitis in One House with Two Deaths.—The cases reported by E. H. Sweet all occurred within a period of two months. No autopsies were permitted. The house stood on a sandy loam and was detached. Part of the floor of one sitting-room was damp for a long time, but this matter was relieved by drainage. The brick floors of the lower rooms were laid directly on the surface of the ground without any air course and the soil was full of decaying vegetable matter. The father of the children was tuberculous and the same diathesis was present in the mother's family—she herself being not very strong, but with no definite disease. The meningitis cases presented many points of difference from the conventional descriptions of either cerebrospinal or posterior basic cases. There was no retraction of the head, irritability or photophobia squint, convulsions or screaming, except that in one of the fatal cases convulsions were present in the right arm and leg. The main symptoms of onset were violent headache, vomiting, stiffness about the neck, and constipation. Several of the adults in the house were thus attacked, but all recovered. The author attributes the infection to the house or soil, but could find nothing wrong, except as above stated.

Some Rare Cases of Sarcoma of the Thyroid.—Four cases are reported by P. L. Daniel. In this series the ages were respectively fifty-seven, fifty-nine, sixty, and sixty-nine years. The two younger patients were males, the two older were females. The patient who was sixty years of age had the symptoms of myxœdema, and the one who was aged sixty-nine years had the affected lobe extirpated. The histological varieties of sarcoma found in the thyroid were either spindel- or round-celled; in three of the following cases the cells were round and of medium size. In the fourth the structure was that of a giant-celled sarcoma. The duration of life in malignant thyroid is variable, from nine weeks to two and a half years being the limits, although in those cases grafted on to pre-existing simple growths the date of origin of maligancy is uncertain, and its duration may be considerably longer. These four cases terminated fatally in eight, nine, twelve, and seventeen months respectively, from the period of earliest observation of the growth, and, being primarily malignant, the history is fairly accurate. The immediate cause of death in each case was recorded as follows: The first patient died suddenly from heart and respiratory failure five or six hours after tracheotomy; the second from syncope on the day upon which he was prepared for tracheotomy; the third, five days after extirpation, from exhaustion; and the fourth from general suppurative peritonitis, pleurisy, and pericarditis. The clinical histories are given in full.

Injuries of Nerves.—A. A. Bowlby reviews the history of experimental nerve degeneration and regeneration. An injured nerve regenerates to a great extent, but never completely without union with the proximal end. The nerve-fibers, newly formed, undoubtedly undergo a second atrophy, if they do not join the upper end and if they are not used for a long time. If when injured nerves are united, the two ends are in close apposition, there are formed two new axis cylinders, and new permanent tissue uniting the ends, much as callus unites a fracture. If the nerve ends are more than an inch apart, no useful union ever results. The author then proceeds to study the changes in the muscles, supplied by the injured nerves—as evidenced both by inspection and by electrical reaction; also the changes in the hair, skin, and joints. As to actual suturing, the author believes that the individual fibers get very much mixed up. Hence, upon recovery, the patient may possess good tactile sensation, and yet be unable at first to distinctly localize the same. As to motor fibers, it is evident that many of them do not necessarily get properly joined at all, and the result is, that though we may talk of successful union of a nerve, it is most likely that even in the most successful cases all the sensory fibers do not get joined up, nor do all the motor fibers. As a practical result, surgically speaking, as far as patients are concerned, there is evidence that even in these successful cases there is not that complete restoration of nerve tissue which would be implied in the term "cured." The patient is not usually cured completely, for the part is often not innervated as it was before the injury.

A Case of Rheumatic Hyperpyrexia Followed by Symptoms Resembling Those of Disseminated Sclerosis.—The patient of W. Allen and J. W. Russell was a butcher, aged thirty years. He had an acute rhematism running its course in three days, but after exposure developed a very high temperature—107°-108° F.—with violent delirium. It was controlled by cold packs, but rose again next day, the thermometer register reaching its maximum, 115°. He became delirious, later unconscious with cyanosis and shallow and irregular breathing, and was apparently moribund. The pulse was good, however, and cold water vigorously applied again brought down the temperature. During the packs he had several convulsions. There was a slow return to consciousness, lasting over several days, with some intermittent and partial return of the high temperature. On his regaining consciousness it was found that he articulated with great difficulty and that he was extremely ataxic in the legs. Eight months later he was unable to walk or stand without support. With help he walked with short steps, putting each foot forward with great care and much unevenness of movement. On standing with the feet together and the eyes shut there was complete loss of balance. The coördination of the upper extremities was similarly, though to a less extent, affected. The movements of the hands and fingers were unsteady, and writing was almost impossible, the pen spluttering and catching on the paper and the attempt being given up in despair. When examined some eighteen months after the original attack, symptoms resembling in a general way those of disseminated sclerosis were present and a similar finding followed an examination two years after. Reference is made to a similar case previously reported by Foxwell. In this latter case the suggestion was made by the author that the symptoms pointed to a diffused inflammation occupying the substance of the medulla and the lower half of the pons.

British Medical Journal, July 19, 1902.

The Functions of the Epiglottis.—Knowles Renshaw concludes that the only function performed by the epiglottis during deglutition is to act as a slight lateral protection to the glottis. The main function of the epiglottis is to prevent the secretions of the upper air passages, etc., from entering the larynx when in a state of rest. By its means these secretions are deflected into the pyriform fossæ, and so find their way into the œsophagus. The influence of the epiglottis over phonation is at present undetermined and uncertain.

Acute Non-suppurative Perinephritis—David Newman divides into three classes inflammation of the cellular and adipose tissue surrounding the kidney: The lipomatous, the sclerosing, and the suppurative. In the large number of cases of perinephritis consequent to the extension of infective material from distant parts, the disease culminates in suppuration. In a few instances it does not. Great induration may take place without any suppurating foci forming. The writer describes a case in which the patient suffered from an acute pleurisy, which spontaneously recovered without going on to empyema. That an infective process extended from the cavity of the thorax to the renal tissue around the right kidney seems to be the plausible explanation of the case. For an attack of acute pleurisy which lasted for over four weeks, was followed by severe pain in the right lumbar region, unassociated with fever or any symptom of renal disease. The physical signs showed great enlargement in the right renal region. At the last examination of the patient, the renal swelling had decreased to about one-third its original size and there was no pain. There was, however, a sense of weight in the lumbar region.

Some Anomalous Cases of Tabes Dorsalis.—James Taylor divides these cases into two classes: Those in which ocular symptoms or symptoms attributable to disease of the optic nerve are the chief ones, and those characterized by various unusual conditions, such as gastric crises, joint troubles, perforating ulcer, or other trophic changes. In the first class, the most common form have either paralysis of some ocular muscle or some optic atrophy. The levator palpebrarum is most often affected. It is common to find defects in other muscles supplied by the third nerve. Ptosis, alone, is rare if unilateral. There may be paralysis of either one or both sixth nerves. Generally those ocular palsies which occur in tabes are transcient in character, and usually clear up under the influence of iodide and mercury. Sometimes they disappear when neither drug is taken. There is a class of cases in which the Argyll-Robertson pupil may be the only sign of any importance. As to the treatment of gastric crises, there is nothing which controls these except the hypodermic use of morphine. There is a class of crises in which the larynx is affected. These crises are really choking attacks. There is great distress with cyanosis. Sometimes tracheotomy has to be performed. The most striking thing about the so-called Charcot joint is the deformity of the affected joint, which is produced without any pain. In these joint cases drainage seems to be occasionally beneficial. The writer then reports several cases.

Squamous Epithelioma of the Larynx in a Man Aged Twenty-four; Thyrotomy; Excision of the Larynx.—G. Victor Miller reports this case. The patient was a locomotive engineer and suffered from difficulty of breathing. The writer, on examination discovered a large growth occupying the region of the right cord, and almost completely blocking the glottis. Tracheotomy was performed, while the patient was unconscious from impeded respiration. The onset of the trouble had begun with hoarseness. A fortnight after this first operation, thyrotomy was performed, and a large growth, springing from the right cord, was found filling the larynx. The growth was rough on the surface and firm in consistence. It was cleared out and a large abscess in the hyoid region evacuated. Examination microscopically showed the tumor to be malignant papilloma. Obstruction to breathing again developed and thyrotomy was again performed. The denuded area was cauterized. The patient would not submit to having the larynx removed till some time later, when the entire larynx with the muscles attached to it was taken out, as well as the anterior wall of the pharynx, which was extensively diseased. The epiglottis was also removed. In two months the wound was almost healed. About five weeks after this there was recurrence in the scar, apparently in the region of the external wound. The patient lost flesh and strength rapidly, and died in about six months.

Deutsche medicinische Wochenschrift, July 3, 1902.

Effect Produced by the Inoculation of Specific Substances Obtained from the Bodies of Typhoid Bacilli.—Albert Schütze, by the repeated inoculation of substances extracted from the bodies of typhoid bacilli, has produced in rabbits and guinea-pigs a specific agglutinating serum of high power. Such a serum, however, possesses no immunizing power, and it is certain that no relation exists between the agglutinines and immune bodies. This serum when mixed with one-third of the amount of the fluid employed for the inoculation and maintained at 37°C. for half an hour produces a precipitation provided that the serum is of high agglutinating power.

Presence of Specific Substances in the Bodies of Typhoid Bacilli.—L. Brieger, by a special process, has been able to obtain from the bodies of live typhoid bacilli a substance which, upon inoculation into rabbits, gives rise to a specific agglutinating serum of considerable power. No immunity is, however, produced in the animals so inoculated. Typhoid bacilli which have been submitted to this process are able, upon inoculation, to give rise to a specific agglutinating serum of low power, so that it is evident that the process does not extract from the bodies of the bacilli all of the substance which gives rise to the agglutinating serum. The extracted substance itself does not produce agglutination or hinder the growth of the typhoid bacillus. So far as these experiments go they substantiate the view that agglutinating and immunizing substansce are distinct and separate bodies.

Berliner klinische Wochenschrift, July 7, 1902.

Minimal Narcosis in Minor Surgical Operations and Reduction of Fractures.—Riedel says that in small surgical operations in which local anæsthesia is not sufficient to produce the desired result and in all cases of reduction of fractures, chloroform is much to be preferred to ether for producing general anæsthesia. In these cases the amount of chloroform necessary is from 80 to 100 drops. This amount should be administered inside of two minutes and preferably upon a fasting stomach. The patient is not under complete narcosis, but operative procedures and manipulation, if promptly begun at the expiration of the two minutes and quickly completed, cause the patient no pain. In cases in which chloroform is absolutely contraindicated ether may be used, but considerably more is necessary and a longer time is required to produce the desired result.

Paralysis of the Ulnar Nerve Following Typhoid Fever.—K. Liepelt's case developed the paralysis during convalescence from an attack of typhoid of medium severity. The involved muscles soon became atrophied and permanent deformity resulted. Six months thereafter, no electrical treatment having been used in the interim, the circumference of the affected hand was 1 cm. less than that of the sound hand. Electrical reaction was entirely absent in the muscles of the ball of the little finger, the interossei and the m. adductor pollicis. Hyperæsthesia against temperature was still present, but cutaneous sensibility to the faradic current was absent in the involved territory. No improvement has taken place, and the lesions are believed to be permanent. Including this case, literature contains twelve cases of paralysis of the ulnar nerve following typhoid. Three of these entirely recovered, three showed some improvement and the others remained permanently paralyzed. This number of cases, however, is too small to permit final conclusion with respect to prognosis.

Münchener medicinische Wochenschrift, July 8, 1902.

Widal Reaction in Weil's Disease.—Theodor Eckardt reports two cases in which the clinical symptoms corresponded accurately with those observed in Weil's disease, but in which the blood serum of the patients produced a pronounced agglutination of the typhoid bacillus. In the first case two observations were made, and in each instance a positive reaction was obtained in a 1 : 100 and a 1:1000 dilution, after one-quarter of an hour and two hours respectively. In the second case only one observation was made, the reaction being positive in a 1:100 dilution in one and one-half hours. In a 1:50 dilution a like result was obtained in three-quarters of an hour. The author regards the diagnosis of these cases as somewhat in doubt, but is inclined to consider them as types of typhoid infection accompanied by icterus and enlargement of the liver.

Finsen's Light-Treatment in Lupus, Rodent Ulcer, and Vascular Nævi.—Arnold Sack says that the primary effect of this treatment is to be observed in the walls of the blood vessels, and consists in a swelling and growth of the endothelium. This is most readily observed in simple angioma, but can also be plainly detected in lupus lesions. The favorable results produced are in no way due to a cauterizing effect of the light, as is supposed by many. This is shown by the clinical course of the case, the late appearance of the light reaction, and the entire absence of any coagulation necrosis. The retrogressive changes of a cellular character, which are observed and are of a necrobiotic nature, are purely elective in that they involve the less resistant cells of the diseased tissue, while the healthy cells of the surrounding sound tissue are stimulated to the increased activity. Histological research shows that photo-chemical properties of the light play a greater part in the results obtained than does its bactericidal power, although the latter effects are not to be entirely ignored.

Itching Eruption in Children.—F. Siebert considers those various cutaneous eruptions which occur in children and which are described by different authors under various names, as urticaria papulosa, lichen urticatus, strophulus, varicella pruriginosa, prurigo infantilis, etc. The eruption may be either macular, papular, or vesicular in character, and is usually accompanied by intense itching, although infrequently very few subjective symptoms are present. It may appear any where upon the body, limbs, or face, but is most frequently seen upon the buttocks and extensor surfaces of the extremities. It is not uncommonly observed upon the soles of the feet and external malleolar regions. Its chief clinical characteristic is that it occurs in successive crops, each crop being of two or three days' duration. The etiology is not clear, but in most instances is thought to be dependent upon a poor general condition of the patient. The diagnosis is somewhat difficult and principally rests upon the appearance of successive crops, as mentioned above. Local treatment appears to be merely palliative, and the best final results are obtained by the internal administration of ichthyol.

French Journals.

The Sphynx Facies in Myopathy.—Gilbert Ballet and Delherm report two cases of patients affected with myopathy in whom the peculiar facies was caused by enlargement of the base of the neck. This enlargement was bilateral in the first patient but unilateral in the second. The enlargement was caused by the prominence of the trapezius muscle. The neck resembled that of the Egyptian statues, particularly that of the Sphynx, the trapezius recalling the appearance of the lateral fillets which in the statues fall from the coiffure. This classic form of the neck in the myopathies the writers propose to designate as the facies of the Sphynx.—*Archives de Neurologie*, July, 1902.

Ganglionic Fever.—Grattery and Merigot de Treigny speak of the connection between ganglionic fever and infection of the nasopharynx. The infection seems most often to be due to the streptococcus and to enter the system by the way of the nasopharynx, but can also apparently be due to other microorganisms and invade the organism by another route. A form of evolution almost cyclic, with intermittent febrile manifestations, appears to be very characteristic of the disease. The ganglionic system of children seems especially sensitive to this infection, and is attacked most often through the nasopharynx. The true malady is an angina. This disease, as observed in two adults and in one child, caused insignificant manifestations in the former, but in the child it excited a very intense reaction. For the lymphatic system of a child is very active and the mucous membranes of the nasopharynx are very susceptible.—*Journal des Praticiens*, July 5, 1902.

Headache and Neuralgia of Nasal Origin.—H. Lavrand speaks of various reflex nasal neuroses, such as cough, glottic spasm, asthma, neuralgia, tic, migraine, visual troubles, vertigo, epileptic attacks, mental disturbances, exophthalmic goiter, etc., which are due to certain nasal lesions. These lesions are swelling and turgescence of the mucosa of the inferior turbinates, or, indeed, mucous polypi, foreign bodies, spurs or deviations of the septum. Some of these lesions are temporary and some are permanent. Besides these, is the existence of hyperæthesic zones. Exploration of the nose with the use of cocaine will demonstrate these. When these troubles present themselves, then, as exact a diagnosis as possible should be made and the precise part of the nose responsible for the trouble should be determined. Then treatment both special and general should be instituted, based on the diagnosis. The writer then reports cases in support of his statements.—*Journal des Sciences Médicales de Lille*, July 5, 1902.

Aneurysm of the Ascending Aorta in a Syphilitic Subject Treated by Injections of Gelatinized Serum.—Louis Spillmann declares that the efficacy of treatment of aneurysms by the use of coagulating injections has not been perfectly demonstrated. He reports the case of a man of forty-two years who presented himself for treatment with a sacculated aneurysm of the ascending aorta. He had suffered from syphilis. A swelling was noted in the right anterior thoracic region. It was very painful on pressure. The voice was rough. This dated from the appearance of the swelling. The patient suffered from vertigo and vision was feeble. The patient was emotional. He was treated with injections of gelatinized serum. Besides this he was given specific treatment. He improved so much that he was able to resume his work. At the end of twenty months he entered the hospital again with an attack of pneumonia, to which he succumbed. Autopsy demonstrated the correctness of the diagnosis that had been made. There was a large sacculated aneurysm of the aorta, the sac of which was almost obliterated. From an anatomical point of view, then, the aneurysm at the time of death was not dangerous. The case is recorded to add evidence to that already existing that medical treatment as decribed in these cases is capable of producing excellent results.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, July 6, 1902.

Annals of Surgery, July, 1902.

Bony Cysts of the Middle Turbinated Body.—Two cases are reported by G. E. Shambaugh, who reviews the conflicting views as to the pathology of this condition. He also adds the findings in another case discovered in the post-mortem room. He believes that the concha bullosa (middle turbinate) represents merely an enlarged ethmoid cell. This enlargment may be due to distention from the pressure of inflammatory products in a cell, the outlet of which has become closed, but this theory cannot, according to the author, be accepted as universal in its application. Many cases are merely anatomical variations, the result of developmental anomalies.

Traumatic Rupture of the Spleen; Splenectomy; Death on the Sixth Day.—E. A. Balloch reports the case of a colored girl, aged seventeen, who was knocked down and kicked in the left side. She was unconscious for ten minutes and was without treatment for three days. When brought to the hospital and examined a diagnosis was made of peritonitis with intraabdominal hemorrhage and probable rupture of the spleen. A cold coil was applied to the abdomen, saline purgatives given freely and enough morphine to control pain and restlessness. Operation was undertaken at the earliest practicable moment. A long laceration of the spleen was found running the entire length of the organ posteriorly. Two double handfuls of clots were turned out. There seemed to be no chance to save the spleen, so it was removed. Death ensued in six days. Autopsy showed the following conditions: Brain, vessels, and membranes normal. Thorax: beginning hepatization lower lobe of left lung. Right pleura slightly adherent. Red hepatization upper lobe right lung. Heart normal. Abdomen: wound area in good condition. No blood in abdominal cavity. Gangrenous peritonitis, involving chiefly colon and lower portion of ileum. Spleen absent. All other abdominal organs normal, except that they were soft and anæmic.

Gangrenous Intussusception in a Child Four Years Old; Intestinal Resection; Recovery.—C. N. Dowd reports the case, dwelling especially on the value of end-to-end suturing with an inner row of stitches through all the layers of the intestine and an outer row through the outer layers. His patient was a boy four years and four months old. The symptoms began with abdominal pain and discomfort continuing for ten days, during which he had no movement of the bowels, though enemata were repeatedly given. For five or six days the vomitus had the appearance of small intestinal contents. Abdominal incision revealed an intussusception about the middle of the ileum. It was about two inches and a half long. The bowel below this point was empty. On gentle manipulation, an opening appeared through the intestinal wall, which was gangrenous at the site of intussusception. The intussusception, two or three inches of intestine at each end of it, and a gangrenous piece of the mesentery were excised. A circular enterorrhaphy was then done. The first row of stitches passed through all the layers of the intestine and brought the peritoneal surfaces into close apposition at the margin. At the mesenteric border they were so placed as to obliterate the dead space there and hold broad peritoneal surfaces together, well supported by intestinal wall. A second row of Custhing stitches was then taken outside of this, and this was in certain places reinforced by a third tier of similar stitches. The intestine was then returned into the abdomen, and thorough irrigation with hot saline solution given. The abdominal incision was closed with tier sutures. Intravenous infusion of hot saline solution, one and a half pints, was given, and the patient put to bed in a fairly good condition. The bowels moved on the next morning and recovery was uneventful, excepting for a small mural abscess. The child ate ravenously, gained strength rapidly, was out of bed in four weeks, and two weeks later went home. He has continued well ever since.

Intestinal Polyposis and Carcinoma.—J. Niemack reports a case of the rare condition known as intestinal polyposis. His patient was a girl of twelve years with obscure abdominal symptoms. Rectal examination revealed large numbers of polyps, ranging in size from a pea to a walnut, the pedicle of some of them being so much thinned that they fell off with hemorrhage. At three different times about one hundred polyps were removed with the galvanic snare. The dulness and resistance of the abdomen disappeared; it became flatter; but after having removed all the tumors as high up as twelve inches, the author realized that beyond his reach there were a great many more. About this time there could be felt spread through the whole abdomen what seemed to be enlarged mesenterial glands. The urine continued normal, the bowel movement dysenteric and foul smelling, frequently containing necrotic polyps. Every treatment utterly failed and she soon died from emaciation. Post-mortem examination showed general anæmia, flabby, pale heart, mesenterial glands slightly enlarged, the mucosa of colon and several inches of lieum were more or less beset with polyps. Some of them were little nodules of pea size just standing out from the mucosa, others had pedicles up to an inch in length. The largest one, of cauliflower shape, was in the ileum. The microscopical diagnosis was "adenoma papillosum." Several months later the father of the girl began to have rectal hemorrhages. The subsequent progress of his case led to a diagnosis of adenocarcinoma and a radical operation was done. The patient made a good recovery. In reviewing the two cases the author notes that the presence of other polyps near the carcinoma suggest strongly the malignant degeneration of primary simple papilloma. The latter disease was the daughter's fatal sickness. By the patient's first examination two years ago the fact was ascertained that the father became affected with rectal polyps after his daughter's death. These facts would suggest a possible infectiousness of intestinal polyposis, and the difference of the ages would account for the malignant character by "intensity" in the father by "extensiveness" in the girl.

Motor Aphasia Due to a Small Cortical Hemorrhage in the Region of Broca's Convolution; Trephining; Recovery.—The patient of L. W. Hotchkiss was a man aged thirty-nine years who had fallen backward down stairs a distance of nine feet, striking presumably on the back of his head. He remained unconscious for eight hours. On recovery he was dazed and had great difficulty in talking, but was able to walk to the hospital. When examined no paralysis was found, but he appeared to feel weak and to be much distressed over his inability to talk. He recognized objects presented to him, and if asked if he knew what the object was, responded with "Yes," "Certainly," but could not name it. He could not speak his own name, but could write his first name, or rather the first part of it, fairly well. He could say "Yes," "Certainly," "Sure," and some other words not noted, and used these frequently and instead of the words he wanted to use. It was also noticed at this first examination that when a question was put to him he would make great efforts to answer it, as shown by the expression of his face, and after a struggle give it up without articulating a single word. The later development of right facial palsy was present, and this, with the condition of speech above described led to a diagnosis of pressure over the speech area of the cortex. Trephining revealed the dura beneath the opening black, tense, and pulseless, There was no hemorrhage outside the dura, nor any evidence of fracture of the skull in that region. The trephine hole was enlarged in a forward and downward direction, and the field occupied by the clot clearly exposed. The dura was opened by a curved incision and turned down, exposing the clot beneath. Some dark fluid blood had already been withdrawn by an aspirator-needle before opening the dura, and a little more escaped as soon as it was incised. The hemorrhage, so far as could be observed, did not come from the vessels of the dura, but from some small cerebral branches. The clot was firm and moderately adherent to the cortex of the brain, and had to be washed away with a stream of salt solution, and some of it was detached carefully with a smooth blunt instrument. Two or three small fragments of brain substance came away with the washings, and there was, perhaps, a slight cortical laceration near the anterior edge of the trephine opening, but its extent was not clearly made out. Some slight oozing of red blood occurred after removal of the clot, but soon ceased. The operation was finished in the usual manner. The patient made a complete recovery both as to health and speech restoration.

The American Journal of the Medical Sciences, July, 1902.

Fecal Impaction in Typhoid Fever, with Report of Cases.—John Norman Henry reports a number of cases of fecal impaction in typhoid fever, and calls attention to these facts; this condition is not so uncommon as the paucity of the literature on the subject would lead one to suppose. Diarrhœa may accompany impaction, and thus divert suspicion from the real state of affairs. Overdosing of milk, especially in the case of children, is an important etiological factor.

Primary Carcinoma of the Urethra in Women.—Hiram N. Vineberg states that this affection in women is very rare. Secondary involvement of the urethra by extension of the carcinomatous growth is not uncommon. This is pre-eminently a disease of middle and advanced life. The first symptom may be a burning sensation attending the act of voiding urine. Hemorrhage and discharge are very late symptoms. The conditions from which it must be differentiated are: Urethral caruncle, prolapse of a part of the urethral mucosa, and fibroid mucous polypi. The prognosis will depend upon the extent of the disease. As to treatment, total extirpation when feasible should be performed.

An Extensive Outbreak of Food Intoxication.—A. P. Ohlmacher describes this outbreak among over 200 epileptics in a hospital at Gallipolis, Ohio. The symptoms were characteristically those of food intoxication. And investigation was instituted, and suspicion finally centered on oatmeal used for a certain breakfast. The oatmeal was cooked in a steam-table. There was no provision for the escape of steam, except through doors and windows. Quantities of dust collected on the ceilings, which were dampened twice a day by steam, and thus gave favorable conditions for the growth of bacterial inhabitants of the dust. The plaster finally became loosened and was knocked down. Although the steam-table was covered at the time, the plaster dust insinuated itself everywhere, and in this way it reached the warm oatmeal. This offered a culture medium for the microorganisms, which multiplied and produced their toxic products. Laboratory experiments confirmed this conclusion.

Hypertrophy of the Lymphoid Tissue at the Base of Tongue as a Cause of Cough. Herman Jarecky calls attention to hypertrophy of the lymphoid tissue at the base of the tongue as one cause of cough. The symptoms are: Feeling of foreign body in the throat, loss or impairment of singing voice, huskiness, radiating pain in the ear and chest, tickling and feeling of fulness in the throat, dysphagia, vomiting, glottic spasm, and cough. Many patients have no undue symptoms. Effective treatment consists of removal of the tissue by means of the usual instruments or cautery. In cases in which operation is refused there may be applied a solution composed of iodine crystals, potassium iodide, glycerin, and ol. menth. pip., for the purpose of shrinking the growth. The growth can also be removed by chemical caustics, astringents, and silver nitrate fused on a probe. The after-treatment consists of antiseptic sprays, pieces of ice, cocaine spray, or lozenges in case of pain. The food should be soft.

The Clinical Association of Cancer and Tuberculosis, with Report of a Case.—G. W. McCaskey concludes: (1) Cancer and tuberculosis are so rarely associated in the same individual as to indicate a mutual antagonism between the two diseases. Autopsies on 281 cancer patients revealed only 1¼ per cent of cases of tuberculosis. In the non-cancerous its frequency is nearly twenty times as great; (2) The antagonism is not "diathetic," but is probably due to the chemical products of the two morbid processes, that of each being inimical to the other; (3) There is a rather intimate relationship existing between the two diseases in certain families. The existence of either appears to favor the occurrence of the other, probably by a lowering of "resistance power" in the individuals of such families; (4) The two diseases are not absolutely incompatible. They may very exceptionally exist in different parts of the same individual. Still, more rarely, they may exist in the same organ, and even in identically the same tissue. In the latter case it is probable that the primary disease was quiescent when the secondary one developed; (5) In view of these apparent antagonisms, and the occasional retrocession of cancer after the use of tuberculin (though very doubtfully attributable to the latter), it would seem worth while in properly selected inoperable cases of cancer to try the systematic local injection of tuberculin in the cancerous tissue.

A Case of Jacksonian Epilepsy Caused by Tumor of the Brain.—Charles W. Burr and William J. Taylor report a case of brain tumor, the first signs of which manifested themselves in an epileptic attack. These attacks were repeated from time to time. Later, he complained of headache, which came on suddenly and passed off gradually. His eyesight rapidly failed on account of the rapidly increasing choked disk in each eye. Diagnosis of brain tumor was made. Its location was more difficult to determine. There was entire absence of palsy, so the motor cortex could scarcely be the primary seat of the disease. Sensibility in all forms, and the stereognostic faculty were preserved, so the region immediately posterior to the motor area was excluded. But it seemed that the tumor must be situated near the motor cortex or the convulsions would not all have begun locally. Hence, the tumor was located for operative purposes, in the prefrontal lobe, adjacent to but not invading the motor area. At operation a large osteoplastic flap in the right parietal region over the Rolandic area was made. There was great tension, and when the dura was cut a mass of brain tissue came out in the pre-Rolandic region. This mass had no distinct outline. A large mass, about the size of a hen's egg, was removed. There was total palsy of the left side, following the operation. Surgically, the patient was well in ten days. Microscopical examination of the tissue removed at operation failed to reveal any evidence of tumor. Still the writer thinks a tumor was present, but deeply seated. This disease lasted for seven years, and it was almost six years before any other symptoms than the fits appeared. Generally cerebral disease is much more rapid. Necropsy could not be obtained. Another interesting point was muscular wasting of the palsied side, which came on acutely. The error at operation was the removal of inflammatory tissue, while the tumor was left behind. This was due to the pathological appearance of the brain by which the operators were misled.

The Journal of Tropical Medicine, July 1, 1902.

Epidemic Dysentery in Grenada During the Latter Months of the Year 1901.—A Consideration of Its Cause, Symptoms, and Treatment.—A. B. Duprey says that there were 260 cases of dysentery treated between August 7 and December 29, 1901, of which number 224 are recorded as giving positive results one way or the other; the remaining thirty-six being doubtful as to their termination. The number of cases treated with sulphur and Dover's powder was 193, with a mortality of 8.4 per cent. The immediate result of the treatment with sulphur was in all cases a stoppage of the blood and mucus; the straining was much lessened and the motions were less frequent and more fluid. The griping pains were just as severe, but subsided at once on giving morphia. The treatment of dysentery by sulphur, whether in an acute or chronic stage, deserves the highest recommendation. Ipecacuanha gave less good results, owing to constant retching and vomiting.

Yaws.—J. Numa Rat, in considering the differences between yaws and syphilis, gives the following as the most important ones: Yaws is limited to the tropics; it may be either a general or a local disease; its microorganism may exist in the soil; it is not hereditary; it is rarely contracted by sexual intercourse; it is rarely observed in infancy; it is commonly met with between the end of infancy and the tenth year of life, as many as 51 per cent. of the cases occurring during that period Only about 8 per cent. of the cases occur between the twentieth and the thirtieth year of life. Its primary lesion is a soft ulcer and never an indurated chancre; its primary lesion appears two weeks after inoculation; its secondary eruption does not show itself until about ten weeks after the appearance of the primary lesion; its secondary eruption is not symmetrical, it is monomorphous the squame, papule, and tubercle being stages in the development of the characteristic fungating growth. Its secondary eruption is characteristically fungating; its second stage is never attended by lesions of the mucous membrane of the fauces. It never produces any eye affections. It never invades the viscera or the nervous system. It attacks bones not from within but from without by extension of the inflammation excited in the neighboring cutaneous tissues It presents histopathological differences from syphilis which the writer enumerates, the chief ones beside hyperkeratosis being the absence of fibrillation in the growths of yaws, and of any intracellular hyaline degeneration or colloidal degeneration of the fibrous stroma.

Medical Graduation of Foreigners in France.—In 1897 a circular was issued by the French Minister of Education relative to the granting of medical degree of French faculties to foreigners. It was ordered that after the date of the ordinance foreigners might obtain a degree of Doctor of Medicine which should not carry with it the right to practise medicine within the territory of the French Republic. The number of such degrees granted since that time is given in a recent report as eight, a fact which shows that the purely decorative distinction offered to foreigners by the French faculties is not in great demand.—*British Medical Journal.*

Society Reports.

THE MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Thirty-sixth Annual Meeting, Held in Atlantic City, N. J., June 24, 25, and 26, 1902.

JOHN D. MCGILL, M.D., OF JERSEY CITY, PRESIDENT.

FIRST DAY—TUESDAY, JUNE 24.

THE meeting was held in the New Rudolf Hotel, Atlantic City, under the presidency of Dr. John D. McGill of Jersey City.

Honorary Membership.—Dr. J. LEONARD CORNING of New York was elected an honorary member of the society.

Report of Committee on State Sanatoria for Tuberculosis.—This committee reported that, although the bill that they drafted passed the Legislature by a large majority, it was only at the last moment, and with the greatest difficulty, that they succeeded in securing an appropriation of $50,000 to make it effective. Had it not been that the bill received the cordial support of Governor Murphy and of Mr. John G. Horner of the Legislature, even this modest appropriation would probably not have been made. It was estimated by Dr. C. J. Kipp, one of the committee, that there were at least five hundred indigent consumptives in the State, and that, in order to care for consumptives systematically throughout the State of New Jersey, the sum of $200,000 would be required. The society urged the committee to continue the good work, and endeavor to obtain a sufficient appropriation for both the erection and maintenance of a State sanatorium for tuberculosis.

The Septicæmia Clause in Accident Insurance Policies.—Dr. DANIEL J. STROCK of Camden called attention to a very general misapprehension existing among physicians regarding the true import and value of the septicæmia clause so commonly attached to accident insurance policies issued to physicians. It was well known that many physicians took out accident insurance largely because of the supposed protection that this clause gave them; hence, the speaker thought, it was but right to disabuse their minds regarding much of this so-called protection. It was true that the wording of the clause was such that one could legally claim identity under it only when the septic matter had been "introduced into the system *through any wound received by him while performing a professional operation* on a person or body of some one other than himself," but it was quite generally believed to protect the physician who becomes septic through the entrance of infective matter through any slight abrasion, such as often exists on the hand, and is unrecognized at the time of the operation. Dr. Strock said that having become infected in the latter manner, he applied for indemnity to the Preferred Insurance Company of New York, and was surprised when informed by that company that he was not entitled to any indemnity because the sepsis had not arisen as a result of his having wounded himself during an operation, but because the septic matter had entered through a previously unrecognized abrasion—the common method, by the way, by which a physician becomes infected.

Dr. WILLIAM J. CHANDLER of South Orange remarked that it was also the ruling of this company, that if the surgeon operates upon two cases the same day, and he cannot tell from which one he received the infection, they may decline to indemnify him.

Abuse of Medical Charities.—Dr. T. Y. SUTPHEN of Newark presented the report of this committee. He read a communication from the Cooper Hospital, Camden, stating that the managers of that hospital and of the Camden City Dispensary had been making an effort in the past few months to lessen the abuse of medical charity by making a personal investigation into the financial status of the applicants. It was found that many undeserving ones were deterred from applying, or from making more than one visit. A report from the Essex District Medical Society estimated that one in every five of those applying for medical charity were undeserving. Dr. Sutphen said that his committee still felt that legislation would afford the best and most speedy remedy, but in view of the radical differences of opinion on this subject existing among the members of the State society, his committee would not bring up any draft of a bill at this time.

Milk as a Food and a Means of Contagion.—Dr. R. C. NEWTON of Montclair presented the report of the committee having this subject under consideration. He said that while the weight of authority was against the declaration of Koch that there was no danger of infecting human beings with bovine tuberculosis, there was still a good deal of evidence on the other side. The report advised that the temperature of milk be taken when delivered to the creamery by the dairymen, when leaving the creamery for the cars, while on the cars, and when delivered to the consumer. If the temperature of the milk rose at any time above 55° F., or if the bacteria amounted to over one million per cubic centimeter, an inspection should be made to determine who was at fault. The committee recommended that the society issue circulars of information on the milk supply, and have them printed in the secular press, as the great point, after all, was to educate the public as to what was needed. Milk should not contain any preservatives or have an acidity over 2.1 per cent., and should not be over thirty-six hours old when it reaches the consumer.

President's Address.—The Nervous System in Its Relations to Medicolegal Medicine.—Dr. JOHN D. MCGILL of Jersey City delivered this address. He said the subject was conveniently divided for study into two great divisions, viz., (1) Physical and (2) psychical. The muscular reflexes constituted the most important class of symptoms by which to determine the character and localization of nervous diseases. However, reflexes might be inhibited as well, and hence this introduced a common and important source of error. Disease or injury to a particular nerve might be determined by the limitation to areas supplied by the nerve. Functional disease of the nervous system being founded on subjective symptoms was the cause of much trouble in medicolegal practice. There were many mental perversions which could not be classed under any of the usual forms of insanity. The definition of insanity generally accepted by medical scientists differed from that accepted by the law as competent and valid. A careful examination into the patient's physical and family history was essential. It was well, as a general rule, to determine the existence of any diathesis, and also to test the functions of the various organs, particularly those of the special senses, and this examination should include an exhaustive inquiry into the condition of the nerves and muscles. The presence of a delusion or a hallucination did not in itself prove the existence of insanity. In the insane the process of mental action was illogical, since it was founded on a false basis. An action for damages had been held to be valid if the evidence showed the existence of psychical shock as a result of the injury.

Progress in State Medicine and Hygiene.—Dr. EDWARD E. WORL of Newark presented this report. He said that the time was ripe for the establishment of a system of sanatoria for consumptives.

A New Treatment for Tuberculosis.—The Newark Board of Health was experimenting with a new method. It was known that a certain proportion of tuberculous persons die from the direct effect of the germs. Acute miliary tuberculosis was an example. In the new method of treatment toxins are taken from selected portions of tuberculous sputa, placed in an incubator for five days, and sterilized with 5 per cent. carbolic acid and filtered through porcelain. This preparation has feeble toxic power. Small doses are first injected into horses and the doses are gradually increased, and at the same time tuberculin is injected in increasing doses. After some weeks some of the blood is drawn and tested on guinea-pigs to prove that the preparation is harmless. Upward of sixty patients had been treated by this method during a period of six months, and all but three had shown physical improvement. Of course, this method of treatment was as yet in an experimental stage, and it was most important that the cases should be selected. The object of the treatment was to overcome at first the effects of the mixed toxins, and then to seek to immunize against tuberculous infection *per se*.

Smallpox.—The smallpox introduced into this country recently from Cuba had been of an unusually mild type, even among unvaccinated persons, and the black race had been favored by it. Since its introduction, however, the disease had become more severe. He had taken the histories of 200 cases and had carefully examined their vaccination marks. It was found that ninety-nine had not been vaccinated. Out of the 209 cases, thirty-six died. There were twenty-seven who had never been vaccinated; six had been vaccinated in childhood; twenty-six were white and ten were colored. It should be noted that smallpox does not always protect against itself. The fact that one was unable to be vaccinated even after several attempts did not necessarily mean that the person could not take smallpox, for the protection conferred by vaccination is in proportion to its efficiency. The time had certainly come when vaccination should be made compulsory The antivaccinationists should be placed in a colony by themselves that they might enjoy having smallpox without danger to others, and at the same time they should be allowed to pay their own expenses

Medical Inspection of Schools.—Out of 7,413 children excluded from the schools as a result of medical inspection it was found that 50 per cent. were excluded because of vermin, while only 2 per cent. were excluded because of having measles or scarlet fever. A study of the records showed that the results were certainly disappointing as regards the early detection of infectious diseases.

Progress in Diseases of the Nose and Throat.—Dr. B. A. Waddington of Salem read this report. He recommended the use of pure ichthyol as the best application in that most intractable disorder, atrophic rhinitis. The Roberts and Gleason operations seemed to give the best results in cases of deviated septum. The use of supports afterward was considered useless, and probably harmful. Where suprarenal extract or adrenalin was not at hand, epistaxis could often be promptly controlled by filling the nostril with vaselin.

Progress in Diseases of the Eye and Ear.—Dr. Talbor R. Chambers of Jersey City presented this report. He said that it had been recently claimed, as a result of experimental study, that the fluid in the anterior chamber of the eye comes from the anterior surface of the iris, and that the ciliary body is not a secreting organ. The value of removal of the superior cervical ganglion for glaucoma was receiving very serious consideration, and in the early part of the present year it had been reported that seventy-four cases had been so treated with only one death. It was not indicated in acute glaucoma except when iridectomy was refused or had been done on the other eye, and had not proved successful. A careful investigation as to the effect on surgical instruments of boiling them had demonstrated that there was little liability to rusting if the instruments were boiled in an alkaline solution, preferably one of carbonate of soda, and that the temper would not be injured if the instruments were not directly in contact with the bottom of the vessel. The dulling of knives by wiping them after boiling was greatly underestimated. With regard to the treatment of cataract it was asserted that the stimulation of the circulation by massage and electricity and heat were methods only possessing theoretical value. The importance of preventing mastoiditis was to be inferred from the fact that the four thousand deaths in this country annually from abscess of the brain were attributed to this cause, and that 50 per cent. of deaf mutes were so afflicted from the same cause, and that 20 per cent. of the pupils in our schools had defective hearing. Lumbar puncture had been recommended as a means of detecting the presence of a complicating meningitis. The presence of meningitis was indicated by the fluid being more or less cloudy.

Progress in Bacteriology.—Dr. Mazyck P. Ravenel of the University of Pennsylvania presented this paper. He said that a great deal of interesting work had been done recently on the differentiation of various kinds of blood by their agglutinating reactions. He believed it was already possible to differentiate between human blood and the blood of the lower animals, and also to distinguish between different kinds of meat. thus enabling one to detect substitution in the markets of one kind of meat for another. Certain bacilli had been isolated from cases of dysentery in widely separated parts of the world, and this had settled pretty clearly the cause of certain forms of dysentery. There could be no doubt that the mosquito was the true conveyor of yellow fever from the sick to the well, although the cause of this disease had not yet been discovered. The greatest honor and credit should be given to Dr. Walter Reed, U.S.N., and his co-workers in connection with this highly important and original work. With regard to rabies, the speaker said that the cause of rabies had not yet been discovered, but a positive diagnosis could be made in from twenty-four to thirty-six hours, and in urgent cases even in twelve hours. With regard to tuberculosis, Behring maintained that Koch was wrong in his statements of a year ago, and that bovine and human tuberculosis are intercommunicable, and at the live-stock laboratory in Pennsylvania they had obtained from two children, dying of intestinal tuberculosis, tubercle bacilli, which would kill grown cows in eighteen days. From the evidence that could be gleaned from the literature he was compelled to say that the local infection of bovine tuberculosis was far greater than that produced by human tuberculosis; hence, man certainly has something to fear from bovine tuberculosis, and this subject merited more attention than had ever been given to it before.

Some Diseases of the Fallopian Tubes.—Dr. Philander A. Harris of Paterson presented this report with lantern slides.

The Pathology of Appendicitis.—Dr. George E. McLaughlin of Jersey City had intended in this paper to give the results of a histological research in fifty cases, but, owing to the lateness of the hour, he contented himself with brief comments upon a series of lantern slides.

Second Day—Wednesday, June 25.

The Rural Surgeon; His Place, Privilege, and Duty.—Dr. A. W. Taylor of Beverly presented this essay. He declared that anæsthesia, antisepsis, and the trained nurse had revolutionized surgery. The general practitioner in the country should attend not only to his medical cases but to all ordinary minor surgery. The author described how easily even major surgery might be carried out by the rural surgeon. For the rural surgeon to send all of his surgical cases to the city surgeon or to a hospital was a shirking of duty and an imposition upon the charitable persons who support such institutions. and often in this way, moreover, the rural surgeon did not give that prompt and careful aid which his patient had a right to expect from him. A clear-headed and clean-handed woman could be found in almost every district, and would be found in an emergency an excellent substitute for the trained nurse, though the latter, when within reach, was an excellent aid. The country physician must consult his library by night and meditate by day. The author said that his faith in the country doctor was very great, and he was positive that too little was thought of the judgment, pluck and ingenuity of the country doctor. It was true that the country doctor would hear a little more of his failures than the city surgeon, but he would also hear a great deal of his successes, and the latter would aid him a great deal more in a financial way than the hard-fought battles with pneumonia and other diseases in the shade and obscurity of the sick room. The city surgeon comes, operates, and quickly departs with both the glory and the cash.

The Present Methods of Education from the Standpoint of the Physician.—Dr. Joseph Tomlinson of Bridgeton was the author of this essay. The observations of Dr. Robert W. Lovett of Boston on fatigue in school children were quoted. These show that school children very quickly exhibit mental fatigue, and that the mistakes occurring in dictation were 30 per cent. greater in the afternoon than in the early morning. The work of the school child, taking into consideration both school and home work, closely approximates the legal day's work of the laborer. The author pointed out that the limitations of sex were totally ignored in the present school system. A great defect in this system was the multiplicity of studies. The acquisition of facts rather than mental discipline was considered of chief importance. The baneful influence of examinations over school life was dwelt upon and strongly emphasized. The classification of pupils, he thought, should be made partly on a psychological basis. This would exclude certain pupils who really should be in institutions for the feeble-minded. The multiplicity of studies, the system of examinations, and the lack of classification of pupils were considered to be the three most important defects of our school system. The remedy was to be found in the private efforts of physicians and by appropriate legislation.

Dr. R. C. Newton of Montclair said that he had long felt that our entire educational system was defective in that there was too little individualization. Uniformity was the bane of the modern school teacher. But another very serious defect was the foolish desire to excel. A boy's development into manhood was slower than the development of the girl into womanhood, and hence the drain on his physical powers by our school system was not so great. The girl was not only naturally more feeble in her physical being, but her training, dress, and environment, all tended to aggravate this.

Dr. Dowling Benjamin of Camden said that he had noticed that chorea and other nervous disorders were particularly prevalent just after the promotions of the public schools. The great trouble with the schools was their faulty grading and the lack of uniformity in text books and methods of teaching in the different classes, thus throwing a great and unnecessary strain upon the pupils on passing from one class to another. The medical inspection of the schools at Camden was unsatisfactory because the matter of diagnosis was left to the teachers, and every physician knew that diagnosis was not the easiest part of his work.

Dr. E. J. Ill of Newark called attention to the foolish straining to raise the standard of our medical schools above a practical and reasonable level, and commented upon the fact that four students at a New York medical school had recently committed suicide.

The subject matter of this paper was referred to a special committee of five, with instructions to report at the next annual meeting

Valvotomy as a Surgical Measure for the Cure of Obstinate Constipation.—Dr. William M. Beach of Pittsburg presented this paper, and demonstrated the valves upon a patient. The author defined obstipation as "the inability to evacuate the bowels by reason of intrarectal obstruction due to valvular obstruction." The number of valves varied; he had observed six. The rectal valve, he maintained, was a definite anatomical structure, though Mathews and Bodenhamer denied that these valves possessed the essential structure of valves. The difficulty experienced in certain cases on attempting to inject a quantity of water into the rectum was due to an effort of these valves to prevent the entrance of the water. This could be demonstrated by inspection with the proctoscope. A dried specimen of these valves was exhibited. The physiological evidence of the rectal valve in man was the support of the fecal column with the person in the erect position. Rectal colitis, due to sigmoid procidentia, was, in his opinion, responsible for more reflex disorders than any other rectal trouble, and was especially difficult to treat. The systemic symptoms observed were usually dependent upon intestinal toxæmia. There was a general impression that simple divulsion of the sphincter ani would cure obstipation, but a simple trial would convince any one of its inefficiency. On the other hand, valvotomy would prove effective. The technique of this operation was simple, but like other operations a certain amount of experience was necessary to insure complete success. The patient is placed in the knee-chest position, and a four-inch proctoscope having a caliber of 1⅛ inches is inserted. The valve is brought into view and is sprayed with a 1-per-cent. solution of eucain, and then with a 1-per-cent. solution of suprarenal capsule. By means of a test hook the depth of the valve is determined. Two incisions are made in each valve, and one suture is used on each side to unite the broad wound and prevent a large granular surface and possible peritonitis. The dangers are hemorrhage and peritonitis. The tissues are very vascular, but the free use of suprarenal solution followed by tamponade will usually suffice. Considerable judgment was required in determining the requisite depth for the incision. After the operation the patient should receive a daily enema and a saline for a short time. He had met with a number of cases of amenorrhea and dysmenorrhea in which relief had been afforded by valvotomy, a fact which, so far as he knew, had not been noted heretofore.

Further Report on the Use of Ethyl Bromide as a Primary Anæsthetic.—Dr. Emery Marvel of Atlantic City read this paper. The method employed by him consists in pouring a fluid drachm of ethyl bromide on a piece of gauze in the palm of the hand, and holding this over the patient's face. Unconsciousness is soon produced, and after that either ether or chloroform is substituted. The advantages claimed were: a shorter time to secure anæsthesia, less discomfort to the patient, a smaller amount of ether used, a more rapid return to consciousness, and a decreased tendency to vomiting after etherization. He had employed this method in thirty-three operations, thirty of which were laparotomies. The ages of the patients ranged from five to thirty-seven years. Women were much more easily affected by ethyl bromide than were men, but the same seemed to be true of ether and chloroform. The average quantity of ethyl bromide required was two drachms, and the average time to secure unconsciousness was twenty-five seconds. One person proved not to be susceptible to the influence of ethyl bromide, but subsequent inquiry showed that the ethyl bromide had been exposed and was probably not in proper condition Only occasionally were dyspnœa and cyanosis produced, and in only one instance was cough excited.

The Cause of Sore Arms During the Recent Vaccinations.—Dr. Alexander McAllister of Camden presented this report. He said that a period of twenty years or more of growing indifference to vaccination had suddenly terminated by an urgent demand for vaccination, and never before in the history of the world had so many been vaccinated in a like period of time. The remarkable proportion of "takes" and the mildness of the sore arms, which the literature led us to expect, were not realized in these recent vaccinations. In every recent instance in which tetanus complicated vaccination it was shown that secondary infection had taken place. The most common cause of excessively sore arms was skin cocci, which may be present in the vaccine virus, or might be introduced at the time of vaccination. It could not be guaranteed that glycerinized virus would be free from these cocci. The most carefully-shielded arms were usually the sorest. Antiseptic precautions usually ended with the insertion of the virus, even when shields were used. In view of these facts, it seemed to the author little short of miraculous that so few vaccinations do not heal kindly.

Dr. A. K. **Rogers** of Paterson thought if very little blood was drawn and the scarification was small there would seldom be a very sore arm.

Dr. A. I. **Hunt** of Hamilton Square said that when he had used glycerinated virus in tubes there had been no sore arms, but there had been more occasion to revaccinate.

Dr. **Cornelius Shepherd** of Trenton said that during the greater part of his forty years' experience he had made use of human virus, and although he had attended almost one hundred cases of smallpox this mode of vaccination had effectually protected him against the disease. With the use of human virus he had almost never seen unnecessarily sore arms, or other complications, but his experience in recent years with bovine virus had not been quite so favorable, and he was inclined to think that the continued use of bovine virus might ultimately lead to great opposition to vaccination. He had not used shields, or resorted to antiseptic or aseptic treatment.

The Cure of Cancer by the X-Ray.—Dr. **Dowling Benjamin** of Camden read this paper. He said that, so far as could be ascertained from published cases, about twenty undoubted cases had been cured, and four others had remained over two years without relapse. Since the *x*-ray could pass through six inches of wood and burn the human body without burning the wood, this powerful agent must necessarily influence cancer, even if deeply situated.

Dr. **Talbot R. Chambers** of Jersey City said that while his personal experience with this new method had been limited and not favorable, he had recently been informed by Dr. J. E. Stubbert that it was possible to pass the *x*-ray through a speculum and then bend the ray to focus it on a particular part. This should prove a valuable addition to the technique.

Radical Operation for the Relief of Chronic Purulent Disease of the Middle Ear.—Dr. F. C. **Ard** of Plainfield was the author of this paper. Four illustrative cases were reported, and the point insisted upon that there was practical uniformity of opinion among the best authorities regarding the seriousness of a chronic purulent otorrhœa and the necessity for prompt operation. Such a discharge might be odorless and still be highly infectious. Preventive treatment was, of course, the best of all, and this involved the proper treatment of otitis media.

The Cause and Treatment of Sterility in Women.—Dr. **Edward** J. **Ill** of Newark presented this paper. He said that about 12 per cent. of his own patients were sterile after two years of married life, and that about one-sixth of all the cases presenting themselves were absolutely or partially sterile. The woman should not be pronounced sterile until assured of the normal functional condition of the husband. Having excluded the husband as the source of the sterility the physician should inquire into the sexual relations of the husband and wife. It was frequently stated that an acid secretion of the vaginal secretions would result in the death of the spermatozoa, but he had been unable to verify this statement. Nor had he been able to substantiate the assertion that the discharge of semen from the vagina was any greater in sterile than in fertile women, and he would not lay any stress upon this. Of all sterile women, 18.3 pêr cent. had myomata. The subserous variety of fibromata was associated with the largest percentage of sterility, and the interstitial form with the lowest percentage. The author was not partial to myomectomy done through the vagina, the scar being decidedly objectionable, as well as the fact that the uterus was often drawn from its position. There would be less wounding of the pelvic cellular tissue when operating through the abdomen. Tumors near the horns of the uterus and such as produce extreme displacements promise well for the cure of sterility by the removal. The operation was not advised for the cure of sterility when there were many nodules. In his own experience 17 per cent. of the cases of sterility were due to inflammatory disease of the tubes and ovaries, most frequently of gonorrhœal origin. Gonorrhœa, and more rarely septic infections, were the chief causes. Thickening of the tunica albuginea and hypertrophy of the cellular tissue of the ovary were apparently the chief pathological conditions in the ovary connected with sterility. Dr. William M. Polk had deliberately recommended laparotomy for the sole purpose of relieving sterility, and while such a procedure might be proper in the hands of Dr. Polk, one should be careful about recommending indiscrimately such radical surgery. So far as he could learn the cases in which other surgeons had, for the most part, practised conservative surgery on the tubes and ovaries he had been accustomed to refrain altogether from operating.

Dr. **George** H. **Balleray** of Paterson directed attention to what he called "relative sterility," *i. e.* the condition in which a woman is sterile while married to one man, and afterward becomes pregnant with a second husband. Of all the varieties of displacement causing sterility, congenital anteflexion had proved the most rebellious in his hands. Cases of posterior displacement could be successfully treated by the proper application of a pessary. Infantile uterus as a cause of sterility was far from uncommon. Many of these women present a healthy appearance, and good development of the breasts, and in most instances menstruation is regular, though scanty.

Report to the State Society of the Cases of Tetanus Following Vaccination in Camden.—Dr. A. E. **McAllister** of Camden presented this report. There were ten cases of tetanus in persons recently vaccinated. Eight cases ran a short course and terminated fatally; the other two ran a more protracted course. The cases all appeared in the limits of Camden during the month of November, 1901. The ages ranged from five to sixteen years, and all were white with one exception. In at least seven cases glycerinated virus from tubes had been employed, and in all antiseptic precautions had been taken. In one case tetanus complicated a gunshot wound of the foot. In several instances portions of the packages of virus from which the vaccinations had been made were secured, and they were submitted to the bacteriologist of the State Board of Health. In cases Nos. 1, 4, and 9 another member of the family was vaccinated at the same time with the same virus and in the same manner, and only a typical vaccination sore was the result. In one instance the second vaccination was made from the same tube, yet no tetanus developed in this second party. In every instance in which tetanus occurred, the vesicle had been broken. The tetanus invariably broke out in from two to three weeks after the vaccination, while the period of incubation of tetanus is from two or three days up to, but not exceeding, ten days. The bacteriological examination showed the virus used to be free from tetanus or other pathogenic germs. The committee on investigation was of the opinion that the shifting winds and dry weather, prevalent at the time of the outbreak of tetanus, favored the dissemination of the tetanus germs over the city of Camden.

A Plea for the Early Diagnosis and Treatment of Cancer of the Uterus.—Dr. **George** H. **Balleray** of Paterson read this paper. He said that nine-tenths of the cases of cancer of the uterus begin as cancer of the cervix, the result of traumatism. He did not believe that there was an authentic case on record in which carcinoma of the cervix had developed in a virgin cervix; the cases reported as such had probably occurred in women who had concealed the truth. The preventive treatment of cancer of the cervix should begin in the lying-in room. The os should be allowed to dilate normally, and when dilatation was slow and difficult, hot vaginal douches should be used, or morphine administered. If, in spite of care and skill, laceration of the cervix should occur, the patient should be kept in bed for four weeks, using large, hot vaginal douches, three times a day. Ninety per cent. of cases of recent laceration of the cervix would heal under this treatment. Rest alone was not sufficient because the lacerated surface would not properly heal if constantly steeped in the lochia. He had no confidence in the immediate operation for repair of the cervix, believing it to be impossible to properly coaptate the parts by suture. Next in importance to the preventive treatment of cancer of the cervix came that of early diagnosis. When cancer of the cervix was limited to the portio vaginalis amputation of the cervix gave good results. When the disease involved the vaginal walls no operation was of value. In cancer of the body of the uterus, hysterectomy, if early performed, was of great value.

Brain Abscess of Otitic Origin.—Dr. Wells P. Eagleton of Newark read this paper, reporting two cases. He said that a search through the literature showed that chronic suppuration of the ear was responsible for 84 per cent., and acute suppuration for the remaining 16 per cent. of the cases. Cerebellar abscess, for some reason, was apt to be multiple, and this fact explained many failures of operation. A large proportion of the cases were chronic, often remaining quiescent for months or years, and giving rise to few, if any, symptoms. In one case the only symptom was pain in the head over what proved to be the seat of the abscess. In another case, severe neuralgia of a molar tooth was the only symptom for a long time, and subsequently each dressing produced this same pain in the tooth. The brain tissue surrounding the abscess was sometimes the seat of multiple hemorrhages. Among infants, slight fever and gradual loss of flesh were often the only symptoms. The so-called localizing symptoms were unreliable. Outside of aphasia, which was present in 30 per cent. of the cases of tempero-sphenoidal abscess, these symptoms should not be relied upon. Operation should be done just as soon as the diagnosis has been made. The urgency of such cases was well illustrated by one of the cases reported, and by the fact that, in a number of other cases, the patients were already in the hospital, and the operation was fixed for the following day. In operating, the fact that, in the majority of cases, it is exploratory should be kept constantly in mind. Thus, in about 10 per cent. of the cases operated upon, the symptoms caused the surgeon to suspect the abscess to be localized in one fossa, when, as a matter of fact, it was in the other fossa. Of the cerebellar abscesses, 32 per cent. gave symptoms, such as paralysis of the arm, eye, hand, or leg. Out of the one hundred and one operative cases, failure to locate the pus on exploratory operation occurred in 21 per cent. This was owing to the fact that the pus was so thick that it would not pass through the aspirating needle, or to the fact that the capsule of the abscess was unusually thick and resistant. In some instances, even a director had passed through an abscess cavity without pus being detected. The surgeon was, therefore, justified in passing his finger into the brain substance when the abscess could not be detected by other means. It was important in operating to make a sufficiently large opening to secure perfectly free drainage. The opening in the brain should always be large enough to admit the finger of the operator for the purposes of exploration, and this having been done, it should be further enlarged in whatever direction would secure the best drainage.

Further Notes on the Hot-Water Douche for Aborting Mastoiditis.—Dr. Talbot R. Chambers of Jersey City presented this paper. He said that if the douche were used for twenty minutes at each seance, the water being at 120° F., it would very often abort purulent otitis media and acute mastoiditis, or exacerbations of chronic mastoiditis. It was necessary to use a bath thermometer to gauge the temperature, and the use of the return current ear douche was absolutely necessary to avoid blistering from the very hot water. Cases were reported showing the good effect of this treatment.

Dr. Walter B. Johnson of Paterson said that he questioned very much whether mastoid disease, once started, could be cured by any treatment which came no nearer to it than the drum membrane. It did not follow that a given case was one of true mastoid disease simply because pain and tenderness were present in the mastoid region, with inflammation of the ear and a certain amount of fever. The treatment advocated was, however, very useful in acute otitis.

Dr. N. L. Wilson of Elizabeth said that when there was acute congestion in the antrum, or perhaps in some of the mastoid cells, the condition might sometimes be aborted, but he had never known this favorable result to occur when pus was actually present in the mastoid cells. He often found it difficult to persuade his patients to submit to the use of the hot water ear douche when the water had a temperature of only 115° or 110° F.

Dr. Cornelius Shepherd of Trenton said that the hot ear douche was only intended to be used before abscess formation, and the condition for which it was used was comparable to tonsillitis where even a very severe attack may subside without suppuration.

The Surgical Treatment of Gastroptosis.—Dr. H. D. Beyea of Philadelphia was the author of this paper. He said that, according to our present knowledge, gastroptosis might be said to be a common cause of chronic invalidism. The causes were said to be tight lacing, changes in the intraabdominal pressure and relaxation of the recti muscles, and it was also thought to be sometimes a congenital condition. The patient was usually profoundly neurasthenic and suffered from severe atonic dyspepsia. Cold and hot intra-gastric douches were of some benefit. Both medical and mechanical treatment gave relief, but they were not curative, and hence he suggested a surgical treatment. At the suggestion of Dr. William Pepper, he had devised and practised in 1898 for the first time the operation described in this paper. Three rows of silk sutures are placed up and down and from side to side in the gastrophrenic omentum. Three cases had been operated upon by this method by him, and four had been operated upon in Germany by a similar method. In every instance the form of gastroptosis was the subvertical, and was pronounced, without relaxation of the abdominal wall or diastasis of the recti muscles. In every instance convalescence had been normal. The patients were kept in bed for from four to six months after the operation, and kept on a special diet. The improvement in health had been most remarkable, and the relief of symptoms complete. The danger of the operation was little more than that of an exploratory laparotomy, and was estimated to be about one-fourth of one per cent.

Dr. Emery Marvel of Atlantic City said that as gastroptosis was associated with dilatation of the stomach and atony of its walls there was a predisposition to gravitation and consequent stretching of the contracted ligament; hence, he thought, there might possibly be a secondary elongation of the shortened ligaments.

Dr. M. Lampson of Jersey City said that as six out of the seven patients were females the condition of gastroptosis was fairly comparable to that of prolapse of the kidney, a condition which had not yielded very satisfactory results from operation. Like all other efforts to correct a relaxed condition, often dependent upon faulty dress and general habits of life, the results of this operation must be uncertain.

Dr. Philip Marvel of Atlantic City suggested that some of the good result noted might be due to prolonged rest in bed and a special diet. It was for the surgeon to formulate the degree of gastroptosis and gastric dilatation which should be looked upon as an indication for this operation. In some severe cases of gastroptosis that had not been subjected to operation, great benefit had been known to follow the long-continued use of the lavage tube, at night especially. One of his patients had been subjected to the operation of suspension of the stomach, and since the operation, though possibly not as a result of it, there had been prolonged and uncontrollable vomiting.

Dr. R. C. Newton of Montclair called attention to the fact that, in health, the size, shape and position of the stomach were subject to considerable variation.

Dr. Beyea replied that his first patient had been treated by all the recognized methods for a long time before the operation, and that the improvement in her condition since that time had been remarkable and permanent. An examination made one year after the operation showed that the stomach had not descended one inch. Operations for floating kidney had been unsatisfactory largely because of a faulty technique in the past, though, he thought, this had now been remedied. Again, gastroptosis and prolapse of the kidney were often associated, and the anchorage of the kidney without correction of the gastroptosis, had led to disappointment. When the stomach was restored to its natural position by operation the normal tonicity of its walls returned. At the present time he only recommended his operation in cases characterized by severe symptoms, which are not relieved by a sufficiently long trial of medical and mechanical treatment. He thought most physicians would admit that, in most cases of gastroptosis, such treatment must be kept up indefinitely. No evil results had followed his operation, though they had been known to occur in connection with other operative methods which restrict the mobility of the stomach. Elevation of the stomach by shortening its natural ligaments was very different from fastening this organ to the abdominal wall.

Officers and Place of Meeting.—*President*, Dr. E. L. B. Godfrey, Camden; *First Vice-President*, Dr. Henry Mitchell, Asbury Park; *Second Vice-President*, Dr. A. W. Taylor, Beverly; *Third Vice-President*, Dr. W. B. Johnson, Paterson; *Corresponding Secretary*, Dr. E. W. Hedges, Plainfield; *Recording Secretary*, Dr. William J. Chandler, South Orange; *Treasurer*, Dr. Archibald Mercer, Newark. The next annual meeting is to be held at Asbury Park, on June 23, 24 and 25, 1903.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Eleventh Annual Meeting, Held in Washington, D. C.
June 5, 6, *and* 7, 1902.

Remarks by the President of the United States.—In opening the meeting President Roosevelt remarked upon the dual relations of the military surgeon as a soldier and physician. He referred to his personal observation of the high character of the surgeon's work in war, and especially commended the organization of an association with purposes such as this, remarking that "without this work of the Association you cannot give the highest expression to individual endeavor; and it would be a great misfortune if the military members of the surgical and medical professions did not take every advantage of their opportunities," and closed by commenting upon the necessity of cultivating the administrative side of the military surgeon's character.

Addresses of Welcome were made by Hon. H. B. F. MacFarland, President of the Board of Commissioners of the District of Columbia, and Dr. Samuel S. Adams, President of the District of Columbia Medical Society.

The President's Annual Address.—Under the caption of "The Broader Mission of Our Association," the President, Lieutenant Colonel John Van Rensselaer Hoff, U. S. A., discussed the recent unusual growth of the organization, and pointed out other lines along which its efforts should be extended. The need of continued improvement in the state forces, which should render the medical departments of all a uniform and progressive body, was emphasized. For the regular establishments, improvement also should be inspired, demanding of their personnel, commissioned and enlisted, the highest degree of efficiency; the Association must see that their organization and equipment must be even more perfect than those of any other nation; it must provide a means, through our medical schools, for the dissemination of a knowledge of military sanitation in the profession at large, so that every physician will know something of the work of the medical officer. Referring to the need for military medical schools on the lines of West Point and Annapolis, he remarked upon the necessity for the formulation of plans by which private aid may be made to supplement, not supersede, the public services in time of war or other stress, and closed with a reference to this function of the Association in affording common ground upon which the military humanitarians of the world might cooperate in mitigating "the horrors of war"—touching, by the way, upon the newly-adopted international feature in its membership.

The Most Practicable Organization for the Medical Department of the United States Army in Active Service.—This was the subject for the Enno Sander prize essays, and the gold medal was awarded to Lieut.-Col. Valery Havard, U. S. A., and honorable mention with a life membership in the Association was awarded to Captain Frederick P. Reynolds, U. S. A. Col. Havard's essay was a comprehensive treatise upon the subject in all its aspects, beginning with a general survey of the lines of surgical assistance on or near the battle-field, and discussing the casualties of battle and the transporation and the hospital accommodations required. He then took up the personnel, insisting that the sanitary personnel should number at least 4 per cent. of the strength of the command engaged. The material, including ambulances, litters, and other means of transportation, and the conduct of the medical department on the march and in camp were then taken up. After a full consideration of the principals of the first aid on the battle-field, he took under consideration the lines of surgical assistance in operation and the service of the rear, concluding with some remarks on foreign service.

Captain Reynolds began with a consideration of the field personnel of the medical department as a whole, including medical officers, contract dental surgeons, the hospital corps, companies of instruction, for which he laid down a comprehensive system of organization and training, female nurses, civilian employees, and ambulance companies. He then took up the field hospital and pointed out the best organization for the medical department on the lines of communication and at the base, including hospitals, transports, supply depots, and reserve personnel. Based upon the conclusions thus deduced, he presented a detailed outline scheme for the medical department in active service, in camp, on the march, and in action. The paper was particularly remarkable for its grasp of the vast detailed work of the military medical officer, details little understood by the civilian, but essential to the success of the work of the military surgeon.

Education of Medical Officers for the Public Services.—Medical Director John C. Wise, U. S. N., gave a full decription of the military medical schools of France at Rochefort and later at Toulon and Brest; the English schools at Netley and Hasler for army and naval medical officers respectively; and the Friedrich Wilhelms Institute for German medical officers. From the history and character of these institutions, he concluded that modern circumstances demanded a high degree of special knowledge upon the part of the military officer, requiring the facilities already offered by the post-graduate medical schools of the army and navy to be greatly expanded, and opened to surgeons of the national guard and naval reserve, as well as to the officers of the regular establishment.

The Executive Element in the Training and Skill of a Military Surgeon.—Dr. John N. Goltra, U. S. A., held that: (1) The duties of an army surgeon are largely administrative; (2) The duties and requirements of the army surgeon demand and justify the widest practical authority it is possible to give him; (3) To the greater degree of authority should be added a better executive training.

In discussion, Colonel Havard, U. S. A., commented upon his experience while Chief Surgeon of Cuba, where but three or four out of twenty-five hospitals were under the command of trained medical officers, and remarked upon the great improvement that would have attended the sanitation of the forces had the remaining medical officers possessed the requisite executive training.

Major Appel, U. S. A., described the discipline of the army sanatorium for tuberculosis organized by him at Fort Bayard, N. M., and dwelt upon the great importance of a strong administration in the treatment of such cases.

Colonel Nielson, Surgeon General of Canada, spoke of the difference between the conditions existing in the regular forces of the United States, and those prevailing in militia of Canada. Newly-appointed militia surgeons are required to take a course of special instruction of ten hours a day for seven days. These courses are repeated every year, and ultimately result in a very considerable degree of efficiency.

Captain Munson, U. S. A., referred to and emphasized the remarks of President Roosevelt along this line in his opening address.

Lieutenant-Colonel Jarvis, N. Y., remarked upon the recognition of the necessity for administrative training in the newly-commissioned medical officers in the New York City brigade of the national guard, in the examination of whom military hygiene plays a very prominent part.

Captain Jarrett, N. Y., commented upon the danger, in military service, of losing sight of the professional side in over-consideration of the executive side of the work of the medical officer.

Major Ames, U. S. V., emphasized the equal need for professional and executive qualifications, and warmly endorsed the views of Dr. Goltra, deprecating a tendency in some quarters to undervalue them.

The Ideal Relation for the Medical Department of an Army.—Major William O. Owen, U. S. A., observing that the greatest loss of life in military operations was due to the neglect of line officers in command to carry out the sanitary recommendations of medical officers, proposed the enactment of a law that will enforce upon the commander a direct legal personal responsibility for his refusal to allow proper sanitary precautions to be taken, leaving him always the absolute right to refuse all sanitary suggestion whenever there is, in his judgment, a military necessity requiring it; allowing him to be the sole judge of when and under what conditions it should be done; holding him to a legal responsibility that his results are good ones; but not leaving him such a latitude as will allow him to go unpunished when he deliberately set at defiance all the rules recognized by sanitarians the world over, or when, by his deliberate personal example, he encouraged his men to violate them.

Character Study in the Examination of Persons for Military Service.—Medical Inspector F. B. Stephenson, U. S. N., advocated the inclusion of the indications of character in the examination of recruits. The experienced eye detected in the physique of a man and his manner of using the various parts of his body indications of his mentality, and of his moral and intellectual qualities. The form of various portions of the body indicated the innate trend of the person—mental and moral. The effects of environment might be seen in the expression, not only of the face, but of all other parts of the organism—the head, hands, feet, various postures of the body, the gait, gestures, and the like. The value of adding a consideration of these points to the physical examination of recruits as now conducted, the author believed to be very great.

The Recruit.—Lieutenant S. C. Stanton of Chicago particularly emphasized the danger of youth, especially in commands destined for tropical service. He believed, moreover, that the experience of medical officers of all countries and in all climates had shown that soldiers of mature age are much less susceptible to disease and possessed of greater resistance to the hardships of field service than less-developed individuals. Lieut. Stanton was examiner of recruits for the army at Chicago, and a proposed blank for the physical examination of recruits for the National Guard, which he submitted, carried the weight of large experience with it.

Colonel Exham referred to the importance of defects unimportant in civil life, but the source of much military disability; in South Africa such defects caused no less than 30 per cent. of some organizations to be sent home. The extent of disability from defective teeth was something enormous.

Medical Inspector Dickson especially endorsed the point taken concerning defective teeth, a defect which is particularly embarrassing in the naval service, and to which more attention should be paid by examining surgeons.

Colonel Almy thoroughly endorsed what had been said concerning the teeth, and referred also to the importance of defects of the feet.

Medical Director Wise emphasized the disadvantage of varicocele in the recruit.

Major Borden believed that any person having a predisposition toward disability should be rejected by an examiner of recruits. He pointed out the injustice to the government of accepting men with slight disqualifications who might afterward become candidates for pensions and a burden upon the nation; in case of discharge for disability, the man should be given the benefit of any doubt that may arise, but in the case of enlistment the government should be given the benefit of the doubt.

The Nurse Corps of the Army.—Dr. Anita Newcomb McGee, who organized the body of female nurses during the Spanish War, gave a brief account of the development of the army Nurse Corps, consequent upon that work. She recommended the utilization of the woman nurse as an instructor of hospital corps men in that branch of their duty, advised post-graduate work in a military hospital for regular graduate nurses, and urged the employment of a permanent teaching force, including perhaps 100 nurses, appointed for life and stationed for service at certain large hospitals, where they may also be available for detached service if needed. In addition to this, provision should be made for a war reserve, to be gradually created by admitting trained women nurses to army hospitals in a constant succession of squads, of such size as might be desired, for a military post-graduate course, each nurse upon finishing the course to become a permanent member of the reserve, until the suggested number of two thousand was reached.

Colonel Exham spoke of the increased demand for women nurses in the British Army, and referred warmly to the value of their services.

Captain Standish commented upon the advisability of utilizing trained women nurses as teachers of nursing, and expressed himself in favor of specialization in instructing the enlisted hospital men, training some as cooks, others as nurses, etc.

Colonel Havard commented upon the work of the woman nurse in Cuba and advocated their employment in large hospitals, but considered their presence inadvisable at post hospitals and impossible at ambulance stations and on the firing line.

Colonel **Weaver** referred to his experience with women nurses at Camp Meade and took a position strongly in favor of them.

Colonel **Hoff** considered the woman nurse as an indispensable feature of military hospital work in war, and believed that during peace women nurses should be kept in constant training to serve as a nucleus of instruction and direction for the greatly-expanded corps that will be required upon the declaration of war

Organization and Conduct of a Medical-Supply Depot.—Colonel J. Morris Brown, U.S.A., the chief medical supply officer of the army discussed the subject of army medical supplies under the heads of organization, purchases, storage and issues, and closed with a brief account of his own experiences, during, and since the Spanish war. The absorbing character of the work was shown by the execution of an order to ship at once to Montauk Point four division hospitals complete with a large amount of additional articles. Work was begun on the order at noon, and at six o'clock the next evening 309 packages were shipped, many of them of large size and containing thousands of articles. An interesting list of articles supplied during the war was given, including twenty-five million quinine tablets, nearly two million compound cathartic pills, and other articles in similar amount.

The Army General Hospital and Sanatorium for the Treatment of Pulmonary Tuberculosis at Fort Bayard, N. M.—Major Daniel M. Appel, U.S.A., described in detail the Fort Bayard Sanatorium, organized and equipped by him under the direction of the Surgeon-General of the Army. The climate of Fort Bayard permits of comfortable out-door life during the entire year, with the exception of a short period of high winds during the spring. The patients are divided into three classes: (1) A febrile without tubercle bacilli in the sputum; (2) A febrile with tubercle bacilli in the sputum, and (3) Permanently febrile with tubercle bacilli in the sputum; the first class have separate dormitories and the third class are confined to the infirmary. It was designed to admit to the sanatorium all cases from other army hospitals, regardless of the stage of the disease or their desire to come. The results of treatment were largely modified by the difficulty of retaining patients after discharge from military service and by the excessive use of alcohol. Abundant nutritious food and entire rest were inculcated, and a uniform course of breathing exercises was required. Pocket paper spit-cups and frequent cuspidors were abundantly supplied and frequently cremated. Life in the open air was the keynote of the treatment. Hæmoptysis was rare as compared with lower altitudes, and night sweats were unusual and readily amenable to treatment. Continued observation encouraged the conviction of the increasing number of cases amenable to treatment in a high, dry climate.

Military Medical Conditions in the South-African War.—Colonel Richard Exham, C.M.G., the delegate from the British Army, referred to the effect of the use of long-range heavy guns throwing large shells, upon medical field arrangements, in increasing the distance of the field hospitals from the front, and in extending the field from which the wounded have to be collected. The latter condition was also contributed to by the fact of the majority of the Boer forces being mounted, all of which demanded a relative increase of the bearer companies; the increase need not necessarily be in specially trained medical corps men, but might consist of specially enlisted bearers or, preferably, men of militia or volunteer staff corps. He thought that in future the bearer company and the field hospital would be consolidated into a single unit, divisible into two or four complete sections in case of necessity, whose duties would consist of the care of the wounded only until a permanent field hospital capable of accommodating 200 beds should arrive. These should, in turn, evacuate into general hospitals rapidly established along the lines of communication as the army advances. In South Africa great inconvenience was endured on account of insufficient service of this kind. He dwelt upon the importance of having suitably-fitted hospital railway trains and ambulance ships available for use. Convalescent camps along the lines of communication were of the greatest assistance in South Africa. He referred to the need of an ambulance adapted to roadless country, and stated that prizes were offered by the British government for the best vehicles for this purpose. The difficulty of obtaining suitable drinking water was shown by the fact that it was necessary to clean the water by filtration through ordinary sheets, but its sterilization could not be satisfactorily effected either by filtration or by boiling. He concluded by briefly alluding to the questions of (1) the rules governing the retention of captured field hospital, and (2) the carriage of the arms of the wounded in ambulances, which were to be brought before the next meeting of the Geneva Convention.

A Canadian Transport and Ambulance Wagon.—Colonel J. H. L. Nielson, Surgeon-General of Canada, described a combined transport and ambulance wagon devised by him for the tenth field hospital of the Canadian Military Medical Corps. The wagons were very light, readily taken apart and packed for transportation, and carried four recumbent patients and a considerable number of important accessories. These wagons were tested in the South-African operations and met the test excellently. The author also briefly described the water cart and a forage cart used under his directions.

The Army Cartridge Belt.—Major Louis L. Seaman, U. S. V. E., objected to the wearing of a belt full of cartridges about the abdomen without other support than that afforded by contact with the abdominal walls, contending that the present practice was a prolific source of intestinal catarrh and diarrhœa. He recommended the attachment of some form of suspension from the shoulder.

A New First-Aid Packet.—Assistant Surgeon J. C. Thompson, U. S. N., who was on duty with the United States forces during the China relief expedition, found the first-aid packets furnished the troops to be unsatisfactory, and proposed as a substitute a stout muslin bandage four yards long and two and one-half inches wide. At a distance of eight inches from the end was incorporated a pad four and a half by seven inches, and just beyond this pad was another not fastened but run on a slide, which allowed it to be moved along the bandage, so that its application to a wound of exit at any distance could be made with the utmost rapidity, or, should there be only a single lesion, it might be applied overlapping the permanent pad, thus giving a dressing of considerable stability. The compresses had a backing of stout waterproof material and were lined with several layers of sublimated gauze, which was folded upon itself many times over its middle third, so as to form an extra padding of absorbent material. The outer third of each compress formed two flaps, which were folded around, one over the other, thus protecting until the last moment the surface intended for application to the wound.

A New Field and Navy Litter.—Passed Assistant Surgeon C. Alexander Crawford, U. S. N., demonstrated a new litter of his invention, with a frame work of steel tubing, which was complete in itself, all its parts firmly united and ready for instant use, and yet of a suitable shape and of a sufficient lightness to be carried for hours, like a knapsack, upon the shoulders of one man; in addition it could be raised and lowered through any hatch, slid along deck, or employed singly or in tiers, as a swinging-cot in the sick-bay with perfect safety to the wounded. The litter, folded in the middle, had straps for retaining the patient in place and attachment for lowering and raising through hatches, and was equally well adapted to be carried by two, four, or six bearers.

The Management of Smallpox.—Passed Assistant Surgeon C. P. Wertenbaker of the Marine Hospital Service presented a sharply-drawn picture of smallpox as usually found, with directions for its care, in such shape that they could be easily remembered and utilized in time of need. He had no set method of treatment to propose, preferring to meet the symptoms as they might arise. He dwelt upon the value of orange juice as a diet, remarking that he had kept a patient in excellent condition for thirty days on this diet. The management of smallpox in detail and at large was carefully considered, the entire subject being compressed in conclusion into the three words, "isolate, vaccinate, disinfect."

The Vaccination of Porto Rico—Lesson to the World.—Major Azel Ames, U. S. V., gave a vivid account of the extirpation of smallpox in Porto Rico, under the direction of Colonel Hoff, and by means of lymph produced under the direct supervision of the author. He summarized the work by stating that in October, 1898, smallpox was endemic in Porto Rico; in December it was epidemic; in January, 1899, it had honeycombed the island; by February there were over 3,000 recent cases, and the disease was spreading at a gallop. In February systematic compulsory vaccination, carefully and scientifically conducted and recorded, was begun simultaneously and with pretty equal efficiency in all parts of the island. It was vigorously prosecuted for four months only, till July 1, when 860,000 vaccinations had been made in a population of about 960,000. Of these $87\frac{1}{2}$ per cent. were successful. The work then ceased—because completed; the disease had practically disappeared; the fuel for it to feed upon had been consumed by the "head fire" of vaccination In the two and a half years that have since passed, instead of the former annual death rate of 621 the mortality from smallpox has been but two per annum in a population of nearly a million. Vaccination, in four short months, drove smallpox from its wide and long-time reign in Porto Rico, and has since kept it out—a brilliant illustration of the adequacy and efficiency of the general compulsory application of such treatment.

Yellow Fever.—Dr. James Carroll, U. S. A., who was not only a member of the Army Yellow Fever Commission which brought the mosquito theory of transmission before the public, but offered in himself the first case of experimental yellow fever produced by the sting of the Stegomyia fasciata, read a scholarly paper upon that subject. He reviewed the history of epidemics of the disease from the middle of the seventeenth century to the present time, discussing the work and results of Freire, Sanarelli, Sternberg, Finlay, Reed, Agramonte, and himself and its progress to the present assured etiological situation, and concluded that yellow fever was contracted only through the bite of an infected mosquito twelve days or more after feeding upon a patient in the early stage of the disease. Fortunately, many of the mosquitos of the genus Stegomyia did not appear to live long enough after biting the patient to be capable of communicating the disease to other individuals. After feeding upon blood they soon proceeded to deposit their eggs and, in performing this function or soon afterward, a large proportion of them died. The duration of life of the insect, exclusive of hibernation, was probably not more than seventy-five days under the most favorable conditions. It might be capable of infecting as early as twelve or fourteen days after biting, and might retain its power to communicate the disease until the fifty-seventh day after the first feeding upon a yellow-fever patient.

Some of the Experiences of the Navy with Yellow Fever Aboard Ships.—Surgeon F. W. F. Wieber, U. S. N., after a careful search of the reports of the medical officers of the navy upon the cases of yellow fever observed on shipboard, arrived at the following conclusions: (1) Persons on board of a ship anchored some distance from shore in a yellow-fever port may become primarily infected with yellow fever without having set foot on shore; (2) The infection thus caused can be traced directly or indirectly to the taking in of stores and provisions; (3) Secondary cases have frequently happened on board ships anchored at a considerable distance from shore; (4) Epidemics on board men-of-war have been prevented by the timely isolation—sending on shore—of early cases; (5) In some cases an epidemic has not developed on ship after yellow fever had appeared, even when it was impossible to send the sick away from ship in the very beginning of the outbreak; (6) First cases have occurred from the sixth to the twelfth day after leaving port; (7) Transferring a ship's crew from an infected vessel to an uninfected vessel would put a sudden end to the epidemic; (8) The sick transferred from an infected vessel did not necessarily cause new foci; (9) Freezing a ship for an extended period, combined with repeated fumigations under special conditions, did not necessarily kill the morbific agent.

The Result of Mosquito Work in Havana.—Major W. C. Gorgas, U. S. A., chief sanitary officer of Havana during the military occupation, contributed an interesting account of the extirpation of yellow fever and the great reduction of malaria by the campaigns against the Stegomyia fasciata and the Anopheles mosquitos in that city and its vicinity. He organized three sets of mosquito workers: the Stegomyia Brigade, for working in the built-up portions of the city; the Anopheles Brigade, for working in the suburbs and neighboring swamps; and the Yellow-Fever Brigade, for killing mosquitos that might have become infected. The city was divided into inspection districts and every dwelling inspected for breeding places of mosquitos. The first inspection showed nearly every house to have some such place, the last revealed but 187 out of 16,338 houses. The work of the Anopheles Brigade consisted largely of drainage, as the oil treatment could not be effectually applied. The work of the Yellow Fever Brigade was performed in infected houses, which were promptly screened and fumigated with pyrethrum powder. The results of this system of inspection and treatment have been progressive and continuous, until the present condition has been reached.

Original Medical Investigations of the Surgeons of the Imperial Japanese Army.—Surgeon-Captain K. Tamura of the Japanese Army gave an account of the investigations of Surgeon-Major Teuzuki upon the connection between mosquitos and malaria in Japan, including detailed descriptions of three new species of Anopheles—jesoensis, tsuzuki, and foromosænsis I and II, Tsuzuki; these he regards as the transmitters of malaria in Japan. The experiments of Tsuzuki demonstrated that (1) The three species of Anopheles could transmit malaria from man to man; (2) The Plasmodium vivax could develop in the body of Anopheles jesoensis; (3) An infected Anopheles jesoensis could produce malaria by its sting in a healthy person; (4) Laverania malariæ could develop in the bodies of all three species; and (5) The so-called estivo-autumnal fever and tertian fever were found in Japan, but the quartan variety was never seen. The author is also referred to the researches of Surgeon-Major Okada in demonstrating that the poisonous power of the plague bacillus was greatly increased by passing through the bodies of insects. This he followed by a brief account of the suppression of malaria among the troops in Formosa by systematic operations against the mosquitos which infected the island; and closed with a discussion of the hygienic value of paper as a building material in the climate of Japan.

Remarks Suggested by Three Years' Service in Cuba.—Captain John Hamilton Stone presented an interesting survey of various features of note observed during three years' service beginning with the landing at Daiquiri and terminating with the evacuation of Cuba. From experiences at San Juan he was particularly impressed with the value in the order named, of the first-aid packet, drinking water, bandages, splints, brandy, and morphine. His observation of yellow fever confirmed the theory of Reed and Carroll, and he spoke most warmly of the enormous progress of the island in hygiene and health as cause and result, during the American occupation, finally concluding: (1) The great dangers to health, so long ascribed to the tropics, have failed to prove so dreadful when actually tried under favorable conditions and with the help of modern sanitary science; (2) Even the strongest constitution will feel the effects of tropical service after about two years of service; (3) Those with existing cardiac or pulmonary affections should not attempt to combat the physical vicissitudes of the tropics under any circumstances; (4) Those predisposed to tuberculosis should avoid the cities on account of the widespread place infection; (5) The drinking of boiled water and the protection from bites of mosquitos are the most important measures of personal prophylaxis.

Typhoid and Malarial Fevers at Chickamauga in 1898.—Major Edward C. Carter, U. S. A., who organized and commanded the Leiter General Hospital at Chickamauga during the Spanish war, described the work along these lines, which constituted the most important part of the service of that hospital, concluding that (1) The waters of Crawfish spring and of Chickamauga river were contaminated; (2) The contamination was greatest probably in June and the early part of July, 1898, due to storm water; (3) The flies, which were very numerous in the tents during the period of the rains, contaminated the food; (4) While typhoid fever generally exists near Chickamauga Park, it hardly arises to the dignity of an epidemic; (5) Many cases diagnosed as of malarial fever, at Camp Thomas and among the rural population in the vicinity, were cases of typhoid fever with no malarial complications; (6) Malarial fever did exist to some extent at and near the general hospital at Crawfish Springs; (7) Malarial and typhoid fever may coexist in the same patient, but this rarely occurs; (8) A diarrhœa or flux existed, at the hospital at any rate, not connected with typhoid fever.

Pathological Anatomy of Cerebral Concussion.—Professor H. Nimier of the Military Medical School of Val de Grace, the delegate from the French Army, submitted some remarks upon the pathological anatomy of cerebral concussion, based upon the case of a suicide in which the bullet entered at the center of the suprahyoid region and escaped at the vertex, the bony apertures thus produced in the calvarium presenting numerous radiating fissures. In the cerebrum, the bullet destroyed the optic chiasm and part of the right optic layer, perforated the corpus callosum and grooved the internal face of the right hemisphere; the subarachnoid space and the two lateral and fourth ventricles were flooded with blood. Microscopical examination of the cerebral tissues adjacent to the injured tissues was negative, a bullet endowed with a high degree of energy passed through the brain, causing an abundant effusion of blood around and within the cavities of that viscus, without any diffusion of its energy to the nervous tissue, or at least without such diffusion producing any appreciable histological lesion. The author inquired then if we should conclude that the clinical phenomena of cerebral concussion are not dependent upon any anatomical lesion, but perhaps simply the effect of a transient retraction of the neura, with subsequent suppression of nervous contacts.

Effects of the Luger and Colt's Automatic Pistols.—Major Louis A. LaGarde, U. S. A., exhibited a valuable series of skiagraphs showing the effect of automatic pistols which employ smokeless powder and jacketed bullets, and commented particularly upon the penetration and stopping power. While the former is undoubtedly greater, the latter is less except in case of involvement of the diaphyses of a long bone or a vital organ. As a pistol is designed for use at short range, where stopping power is a most important element, the author believed that army surgeons should be very guarded in their recommendation of these weapons in place of the older and more effective revolvers.

Treatment of Venereal Diseases among the Garrison of Vera Cruz.—Colonel Zacarias R. Molina, delegate from the Mexican army, remarked that at Vera Cruz the bubo occupied the first place in order of frequency, followed successively by chancre and chancroid, gonorrhœa, and finally secondary syphilitic manifestations He treated gonorrhœa with the local application of sulphate of zinc, chancre by the employment of the classic black wash, or of salicylic acid in case of an indolent or phagedenic ulcer, returning to the black wash afterward. Suppurating bubo he treated by evacuation and compression with a boric-acid compress. Secondary syphilis he treated with mercury and iodide of potassium combined; the tertiary forms he treated with a saturated solution of iodide of potassium in progressive doses.

Abscess of the Liver.—Lieutenant-Colonel Alfred C. Girard, U. S. A., reported twelve cases of hepatic abscess, eight of which were amœbic and four non-amœbic. From the study of these cases, he concluded: (1) Amœbic abscess of the liver occurred in a very small percentage of the cases of amœbic dysentery observed at the Presidio General Hospital; (2) The recognition of cases of amœbic abscess of the liver is by no means easy, as of the eight cases observed only one presented any clinical symptoms which could not have been referred to the accompanying dysentery; (3) Abscess of the liver may occur without the action of the amœba of dysentery; (4) The symptoms presented in non-amœbic abscess of the liver do not differ materially from those in the amœbic cases, but in all the cases observed at the Presidio Hospital, those of non-amœbic character seemed to have presented symptoms of more severity, as a much larger percentage of these cases were recognized; (5) Operation in well-selected cases of abscess of the liver may be expected to be followed by success where the abscesses are not multiple. As shown in the post-mortem findings of the amœbic abscess cases, operation would have been of no benefit to the patient in those which presented multiple abscess of the liver.

Volvulus of the Small Intestine.—Major George Tully Vaughan exhaustively discussed the subject in the light of sixty-one cases reported in full. Recognizing the difficulty of diagnosis, he considered evident intestinal obstruction ample reason for laparotomy, with a view to completion of the diagnosis and relief of the obstruction. He remarked upon the difficulty of detecting the condition even with the gut exposed. Gangrenous intestine should be removed and an end-to-end anastomosis made. In operating upon hernia, with symptoms of obstruction, the possibility of volvulus in the abdomen should always be borne in mind. No case of strangulated hernia should be reduced without careful inspection, unless there are good reasons for not operating.

The Laws of Physics and Ballistics the True Explanation of the Lodgement and Deflection of the Majority of Modern Small-arm Projectiles, Not the Ricochet Hypothesis.—Major Charles B. Nancrede, U.S.V., held that when the long axis of a projectile, which has lodged, lies at a distinct angle with that of the track of entrance, it has been too readily assumed that it must have had its course altered and its speed retarded by single or repeated contact with extraneous objects during its flight. If, however, such missiles entered in the direction their position of lodgement would indicate, the skin opening would be of a corresponding form, while if they had their course changed after entrance, the skin wounds would be round and of about the same caliber as that of the projectile, or at most be slightly oval in outline, if the missile struck somewhat obliquely. Even when a bullet did enter exactly sideways, making a keyhole opening, there was no certainty that this was due to ricochet, because the ball at the time of impact might have been either revolving around its shorter axis, the "spin" of the ball being nearly spent, or, this latter force being weakened and the ball striking obliquely, this combination of influences might have determined the lateral passage of the projectile.

Immediate Cœliotomy in Penetrating Gunshot Wounds of the Abdomen in War.—Captain CHARLES E. B. FLAGG, U.S.A., presented a paper supplementary to one read last year, in which he replied to some criticisms made at that meeting, fully reviewed the literature of the subject, and concluded that in military surgery, as in civil surgery, immediate exploration of all gunshot wounds of the abdomen and immediate cœliotomy in all cases found to be penetrating were demanded as the only rational treatment and the only treatment calculated to reduce the high mortality in abdominal wounds certainly known to be perforated. No operation and late operation are as direful in their results in military practice as in civil, and it remains for military surgeons to furnish suitable operators and suitable conditions for the treatment of these cases. If civil surgeons could secure a recovery of 66 per cent. by immediate operation upon these cases in hospitals in the homes of the patients, and sometimes with unfavorable surroundings, then military surgeons with their sufficient government supplies and trained nurses should see that their general, base, post, and other stationary hospitals were at all times in such condition as to secure equally favorable results. They should prepare all movable hospitals likewise for these emergencies and, if bound to work under unfavorable conditions occasionally, they should meet them.

Important Actions were taken in making the secretary a permanent officer, establishing the Journal of the Association as a monthly, taking steps toward incorporation by Congress, and moving in the matter of a public service medical school.

Officers and Place of Meeting for 1903.—Boston was selected as the place of meeting for the following year and the following officers were elected: *President*, General Robert A. Blood, Surgeon-General of Massachusetts; *First Vice-President*, Medical Director John C. Wise of the United States Navy; *Second Vice-President*, Surgeon-General Walter Wyman of the United States Public Health Service; *Secretary and Editor*, Major James Evelyn Pilcher of the United States Army; *Treasurer*, Lieutenant Herbert A. Arnold of Pennsylvania.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 26, 1902:

	Cases.	Deaths.
Measles	151	9
Diphtheria and croup	229	22
Scarlet fever	133	8
Smallpox	11	3
Varicella	12	..
Tuberculosis	253	135
Typhoid fever	63	17
Cerebrospinal meningitis	..	..

The Transmission and Prevention of Yellow Fever.—Lieutenant-Colonel V. Havard, among other things, says that the hibernation of the mosquito which transmits yellow fever (Stegomyia fasciata), the hibernation of the larvæ in ice, and the wonderful vitality of the eggs which resist the drought of tropical climates as well as the long winters of northern countries, render their extermination almost impossible. There is more hope in the attempt to prevent the mosquito from becoming infected. Unless it has sucked the blood of a yellow-fever patient, it is as harmless as any other mosquito; therefore one of the measures most clearly indicated is to prevent mosquitos from having access to patients by protecting the latter with window-screens and mosquito bars. Any patient thus protected during the infectious stage (first four days), is entirely innocuous. Fumigation is always necessary as soon as the patient can leave his room, in order to destroy any mosquitos which may have bitten him and may still be lingering in the house. We now know that it is impossible for any house to be "infected" with yellow fever, except in the sense that it may harbor infected mosquitos. Fumigation with either sulphur fumes, formaldehyde gas, or the smoke of pyrethrum powder will be all the disinfection required. The disappearance of yellow fever from Havana is due to the incessant battle of the chief sanitary officer and assistants against the Stegomyia fasciata, and the use of effective screens around the patient.—*The Texas Courier-Record of Medicine.*

A Medical Hive.—One of the large office buildings of Chicago is now (above the first floor) entirely given up to the use of doctors and dentists, there being no less than 222 physicians and thirty-six dentists under the one roof. In this respect it probably stands as the most unique building anywhere in the world.—*The Clinical Review.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended July 26, 1902:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Sacramento	July 5—12	3	
Illinois, Belleville	July 12—19	4	
Chicago	July 12—19	5	
Joliet	July 1—15	15	
Indiana, Indianapolis	July 5—12	12	
Kentucky, Covington	July 12—19	11	
Massachusetts, Boston	July 12—19	8	
Cambridge	July 12—19	7	2
Everett	July 12—19	3	1
Lowell	July 12—19	3	
Medford	July 12—19	1	
Newton	July 12—19	2	
Somerville	July 12—19	13	1
Missouri, St. Louis	July 13—20	11	
Nebraska, Omaha	July 12—19	3	
New Hampshire, Nashua	July 12—19	2	
New Jersey, Hudson County, Jersey City included	July 13—20	3	2
Newark	July 12—19	7	2
New York, New York	July 12—19	15	3
Ohio, Cincinnati	July 11—18	14	
Cleveland	July 12—19	32	6
Dayton	July 12—19	3	
Hamilton	July 12—19	2	
Pennsylvania, Erie	July 12—19	2	
Johnstown	July 5—19	14	1
McKeesport	July 5—12	4	
Philadelphia	July 12—19	13	3
Pittsburg	July 12—19	10	2
Rhode Island, Providence	July 12—19	3	
Washingon, Tacoma	July 7—14	1	
Wisconsin, Green Bay	July 13—20	3	
Milwaukee	July 12—19	2	
SMALLPOX—FOREIGN.			
Austria, Prague	June 28—July 5	3	
Belgium, Antwerp	June 21—July 5	1	4
Canada, St. John	July 12—19	1	
China, Hongkong	May 24—June 14	1	1
Colombia, Panama	July 7—14	4	
France, Marseilles	June 1—30		6
Paris	June 21—28		1
Great Britain, Glasgow	July 4—11	2	
London	June 28—July 5	58	13
Greece, Athens	June 28—July 5	1	
India, Calcutta	June 14—21		1
Karachi	June 15—22	3	2
Madras	June 14—20		1
Italy, Palermo	June 21—July 5	18	4
Mexico, Vera Cruz	July 5—12	1	1
Russia, Moscow	June 21—28	10	4
Odessa	June 28—July 5	4	
St. Petersburg	June 21—28	10	1
Spain, Corunna	June 28—July 5		1
YELLOW FEVER.			
Colombia, Panama	July 7—14	3	1
Costa Rica, Port Limon	July 3—10		1
Mexico, Alvarado	July 7	epidemic	
Cordoba	July 7	present.	
Vera Cruz	July 5—12	22	9
PLAGUE.			
China, Hongkong	May 24—June 14	194	191
India, Calcutta	June 14—21		56
Karachi	June 15—22	20	16
CHOLERA—INSULAR.			
Philippine Islands, Manila	May 25—June 7	132	118
Provinces	May 25—June 7	1018	729
CHOLERA.			
China, Hongkong	May 24—June 14	53	49
India, Calcutta	June 14—21		31
Karachi	June 15—22	45	37
Japan, Karatsu	June 22	41	21

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Original Articles.

A NEW USE FOR THE USELESS APPENDIX, IN THE SURGICAL TREATMENT OF OBSTINATE COLITIS.*

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FOR intractable, ulcerative colitis, whether of amœbic or other origin, surgery has comparatively recently offered its relief. This was at first accomplished by the establishment of an artificial anus in the cæcal region, with the double idea of diverting the the stream of irritating fæces and of also furnishing an opening by which medicated fluids could be employed throughout the whole course of the lower bowel. Keith[1], following a suggestion of White[2] in 1895, resorted to a right inguinal colostomy for a membranous colitis with a good result, and Murray[3] in 1901 reported a case of amœbic dysentery successfully treated by an artificial anus made in the cæcum. Later I twice applied the same procedure, once in the transverse colon and once in the cæcum. In bringing about the cure of an obstinate ulcerative non-amœbic dysentery, others have likewise resorted to this mode of treatment.

But an artificial anus in the right iliac fossa is more incontrollable than when situated on the left side, from the difficulty of a spur formation, and is always a very distressing measure to employ. More lately it has, however, been found that by simply making a fistulous opening in the cæcum, and in this way thoroughly washing out the bowel of its fæces, and then flushing it with a medicated solution, one could accomplish a cure without employing the disgusting artificial anus. This method has been tried by surgeons in Manila and Africa, but Bolton[4] was the first to carry out the plan of Dr. Gibson of St. Luke's Hospital, New York, by making a cæcal fistula in the same way that Kader performs a gastrostomy—that is to say, by placing a rubber catheter of medium size in a small opening made in the bowel and then applying two or three rows of a purse-string suture, so as to invert the adjacent peritoneal coat. This causes a teat-like projection into the lumen of the bowel, which acts later as a valve and prevents leakage to a marked degree. When it so acts, the catheter need only be introduced once or twice a day for the necessary medications. This application of the Kader-Gibson fistula was used by me recently in a man of thirty, who had a long-continued dysentery, non-amœbic in character, with ten to fifteen daily mucopurulent stools, which were occasionally streaked with blood. The patient had contracted the disease in India some two years previously, and had been for a long period under futile medical treatment by mouth and by rectum.

Through the fistula thus made in the cæcum, a tube having been previously passed into the rectum, warm normal salt solution in large quantities was carried from an irrigator (two to three feet elevation into the bowel through the catheter in the fistula, until the rectal outflow became clear. Occasional plugging of the rectal tube was made from time to time, to aid in the complete evacuation of the fæces by a temporary over-distension of the bowel.

The remedies used in irrigation after the cleansing process were a 5 per cent. solution of methyl blue alternated with solution of nitrate of silver 1-5000, or of bismuth ʒ i to the ounce of starch water. Under this management a rapid cure resulted.*

It so happened that on the same day in which the above method of fistula-making was resorted to another case presented itself for treatment in a young man of thirty-one years of age, who had had for nearly three years a persistent diarrhœa, associated lately with profuse dejections of blood more or less unmixed with fæces. He was blanched to a marked degree and his red blood corpuscles had diminished to 2,024,000, and the hæmoglobin to 27½ per cent. His rectal discharges amounted to twenty to twenty-five times daily. When he was first transferred from the medical side of the Roosevelt Hospital to the surgical division, under my charge, I detected on my initial examination of the rectum a broad fibrous polyp just above the prostate, which I thought might be the cause of the hemorrhage, this was removed, but the bleeding continued. There was no ulceration to be seen by the proctoscope, though tenderness and thickening of the intestine were detected in the sigmoid region. As medical means had failed utterly, I made first, in April last, an exploratory incision above the umbilicus, and found there, as well as above and below this point, much thickening and congestion externally of the colon as far as it could be felt and seen. It was determined, as no special tumor was felt within reach, to resort to a cæcal fistula, as had been employed in the case above referred to, whereupon the intermuscular separation of the abdominal wall was employed to carry this out. As the cæcum was exposed the appendix rose so suggestively into view that I determined to employ it to make the desired fistula. It was accordingly fastened to the skin, and the rest of the wound then closed. But as my knowledge of the capacity of the appendical junction with the cæcum was mainly obtained from the abnormal conditions that exists in appendicitis, I was not willing to leave this question untested, so I deemed it wiser after the appendix had been duly sutured in the skin wound to open its tip and pass into its lumen a No. 12 English rubber catheter which entered freely into the cæcum. Then this opened tip was closed beyond the skin level by a temporary ligature, to prevent leakage and the prescribed dressings applied. The next day this ligature was removed, and two days later the irrigation treatment was resorted to with the most satisfactory results. The contrast between the two methods of forming a fistula was very marked. In the first one, by the Gibson-Kader method, more time was occupied in its performance, and there occurred a mishap which, though not common, is yet possible to the most careful surgeon, to wit, the slipping out of the introduced tube, from an unguarded movement of the assistant, and the consequent escape of a small amount of fecal liquid. This took place, and though the infection was promptly checked and remedied by careful irrigation, the next day there was a good deal of tenderness in the right iliac fossa and some anxiety was felt lest there might be serious trouble arising therefrom. This, however, promptly passed off, but it evidenced a risk that could have been avoided by utilizing the appendical tube. Whether in other cases it would be required that the appendix should be opened at the time of the operation, to determine its patency, I cannot yet say, but even if it is then deemed best, its temporary closure by a ligature ensures against infection. The outcome of this experimental case has been a most happy one, not only as to a progress toward a cure by virtue of the irrigations for cleansing and medicating the bowel, but also from the fact that owing to the normal muscularity of the appendical wall, a certain amount of restriction therefrom has prevented any leakage from the, so to speak, normal fistula, which, furthermore, has not had the same tendency to close as had the walls of the peritoneally-formed Kader fistula.

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*Read at the meeting of the American Medical Association, Section of Surgery and Anatomy, June 11, 1902.

*For amœbic dysentery quinine solutions have much repute in the Philippine hospitals.

At this time, June 11, two months after the treatment began by the fistula, the patient's condition has markedly improved. The blood has disappeared from his stools, which have been reduced from twenty-four to five or six daily. His blood count has now reached 3,600,000, hæmoglobin 60½ per cent., and his progress is steadily toward a cure, and he is steadily gaining weight and strength.

In this case the nitrate of silver injections, two grains to the ounce of water, alternated with bismuth, gave the most relief.

When the normal defecation is reached one need only plunge the point of a Paquelin cautery into the lumen of the fistula to bring about the destruction of the mucous membranes, and the subsequent obliteration of its tube by cicatrization, or if its anchorage to the abdominal wall be considered inadvisable, the usual operation for the removal of the appendix, as in the "interval" operation, can be done.

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3. "Surgical Treatment of Amœbic Dysentery," *Annals of Surgery*, May, 1901.
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Hæmatoma of the Sheath of the Radial Artery.—E. Juvara describes this occurrence in three cases, due respectively to a blow during gymnastic exercises, a blow against the edge of a door, and a blow from a cane received while playing ball. Pain is followed by the appearance of a small tumor on the postero-external surface of the wrist. This is circumscribed, well-defined, smooth, regular, spherical, soft, and fluctuating. Under pressure it disappears, but a cylindrical projection several centimeters in length appears toward the root of the thumb, where it ends in a culdesac. This is the sheath of the extensor longus pollicis, the cavity of which is filled with the blood pushed out of the sheath of the radial artery. The rational treatment consists in aseptic puncture and aspiration, followed by the application of collodion to the small wound, and a dressing consisting of a little roll of cotton batting, held in place by a flannel bandage. The hand is placed in a sling, and kept quiet for about six day when the dressing is removed and massage is given two or three times.—*Revue de Chirurgie.*

THE MEDICOLEGAL VALUE OF THE RONTGEN RAYS.*

By CARL BECK, M.D.,
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PROFESSOR OF SURGERY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, VISITING SURGEON TO ST. MARK'S HOSPITAL AND TO THE GERMAN POLIKLINIK, CONSULTING SURGEON TO THE SHELTERING GUARDIAN SOCIETY ORPHAN ASYLUM, FELLOW OF THE GERMAN SURGICAL SOCIETY (BERLIN).

WITHIN the two years which have elapsed since I had the honor of presenting to this society a paper on "Errors Caused by the False Interpretations of the Röntgen Rays" (see MEDICAL RECORD, August 25, 1900), great strides have been made in this new and fascinating field. Accurate knowledge has taken the place of ignorance and doubt, and painful manipulations are no longer a necessity for diagnostic purposes.

Even the most skilful experts in fractures have ceased to deny that there is an enormous number of bone injuries, which, in former years, could not be properly recognized, the general symptoms being either obscure or veiled by the swelling of the surrounding tissues. The mistakes made in differentiating fractures from dislocations, contusions, distortions, or tumefactions were innumerable; but they could be proven as such only under extraordinary circumstances. The Röntgen rays have brought about a revolution. They show the conditions as they are, and are impolite enough to do this without the slightest regard for great authorities. No wonder that such brusque information was received with a feeling of uneasiness, often by the very men who should have been but too glad to learn of their diagnostic errors, in order to correct them. As you know, the errors made in the interpretation of skiagraphs, of which so much was then heard, supplied a favorite argument in defense of their procrastination.

We have learned now that our misinterpretations were caused by insufficient anatomical knowledge, as well as by technical shortcomings with which the rays had nothing to do. Officious friends, inconsiderate and malicious confrères, and shyster lawyers heralded and misapplied the great discovery, and succeeded for a while in discrediting it even among those members of the medical profession who had begun to appreciate its great value. But these times have passed. The Röntgen rays no longer need a gladiator in the medical arena, but their recognition in the courts leaves much to be desired.

Since it is accepted by the medical profession that a plate, which is accurately made by a physician specially trained in skiagraphy, and interpreted by an expert, gives most valuable information which cannot be obtained otherwise, the Court should regard it its duty to acknowledge this fact and avail itself of it in the interest of justice. Especially the judge of the modern era of humanity in contrast to the obsolete representative of the old dogma "*Fiat justitia, pereat mundus!*" must see a valuable ally in this most wonderful discovery of the last century.

What a triumph for suffering mankind are the numerous cases in which veteran soldiers, contemptuously treated as malingerers before the courts, can now show the skiagraphic proof of the presence of foreign bodies. A patient whose body harbors a bullet, has, indeed, a very good reason to complain. The number of patients who submitted to unnecessary surgical operations because foreign bodies were suspected, but not found, and the still larger number of those who were not advised to submit to operations, although they were needed on account of the non-suspected presence of foreign bodies, is legion.

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* Read before the Society of Medical Jurisprudence, May 12, 1902.

Long before the Röntgen era, when I was a young assistant, a woman was referred to me for an obscure swelling along the first phalanx of the left index finger. The anamnesis revealed that the swelling had come on slowly after she had wounded herself with a needle. She reported that the needle was broken, but that the fragment was pulled out by herself. There was but little pain, but much functional disturbance. The impression prevailed that there was an inflammatory process caused by an infected needle. Later, when fomentations and immobilization were of no avail, rheumatism, osteitis, and then tuberculosis was suspected, and, besides the application of tinct. iodi, internal medicines were administered. No improvement being obtained, I studied all the textbooks available for information, but my scientific thirst was not quenched. My old routined chief, whose advice I then sought, suggested that I should make an exploratory incision, which I did. How great was my surprise when I found a small needle-fragment buried alongside the phalanx! I have never forgotten the feeling of humiliation which overcame me then in the presence of the patient. But I believe that I do not stand alone in this experience. *Solamen miseris, socios habuisse malorum!* To-day a simple glance with the fluoroscope would at once have pressed the extraction-forceps into my hands.

This experience also reminds me of the case of a man (demonstrated by me before the Surgical Section of the New York Academy of Medicine) who carried a thick glass splinter underneath his zygoma for thirty-eight years, experiencing but little pain, until, shortly before Röntgen's discovery, a swelling below his eye led him to seek medical care. The swelling was regarded as a malignant growth. He lived in a country town, and was advised to go to New York and have his superior maxilla resected. On making an incision I found the glass splinter, and when the patient saw it, he remembered that when a boy he was wounded in his face by the explosion of a glass bottle containing gunpowder. The facial wound had healed without reaction. In this case, also, the Röntgen rays would have made the nature of the growth clear at once.

An odd pendant to the needle case is illustrated by the skiagraph of the foot of a dwarf, which I made two years ago. For about two years the hero of the tragic comedy had been a round-trip patient in most of the reputed clinics of New York City. He showed a slight swelling at the outer aspect of his foot, which was diagnosticated as periosteitis, osteitis, osteoma, osteosarcoma, beginning tuberculosis, rheumatism, arthritis, syphilitic proliferation or exostosis, badly united fracture, etc. Later on amputation, as well as exploratory incision, was advised. After having suffered for more than two years, he was ready now to submit to anything which would relieve him from the pain he suffered while walking. I was unable to make a diagnosis with the usual methods, but the Röntgen rays cleared up the situation at once, showing a needle in the sole of his foot. When the patient was informed of this fact, he remembered that about two years ago, while sleeping on a lounge, he fell on the carpeted floor and noticed a sharp pain in his foot, which he explained by the fall itself. He had undoubtedly fallen on a needle sticking out of the floor, and by walking he had shifted it up into the joint, from which I removed it under considerable technical difficulties. It is needless to say that his "rheumatism" disappeared at once.

Much more serious, from the standpoint of humanity, is the following case, reported by Dr. L. Passower, Riga (*Aerztliche Sachverstaendigen-Zeitung*, No. 15, 1901). In November, 1897, a young farmer, suffering from a swelling of his foot, was admitted to the surgical division of the army hospital of Riga (Russia) for observation. Being a recruit, he was expected to serve his military term. But a year before a mass, weighing thirty-five pounds, had fallen on his leg, causing an injury which compelled him to stay in bed for three months. It was reported that during that time the foot had appeared much swollen and ecchymotic. When admitted to the service of Dr. Passower at the military hospital he was limping and complained of a continuous pain in his foot.

He was assigned a bed among old soldiers, who were requested to watch him closely, as he was suspected to be a malingerer. Three days after admission Dr. Passower received an anonymous letter, signed by "a friend of the recruit," which contained the information that the patient had produced the swelling himself, constricting his thigh and injecting medicamentous substances underneath his skin. Dr. Passower stated that he did not pay much attentien to this communication, but deemed it his duty to order a still closer watch by adding a subaltern medical officer (Feldscheer) and a professional nurse to his outpost. Besides this, he as well as his assistants, visited the poor victim repeatedly and unexpectedly during night time, but were never able to discover anything wrong. After two weeks the œdema had subsided, but the tarsus still remained thickened, motion of the ankle-joint also remaining painful. Especially pressure on the scaphoid bone produced intense pain. As soon as the bandages were removed the œdema returned. So Dr. Passower came to the conclusion that the patient suffered from a chronic inflammatory process of his tarsal bones, produced by an injury. The possibility of a fracture of one of the bones was also duly considered.

After four weeks' observation he was presented to the medical board of the hospital, which suggested that he should be exempt from military service for a year. It was expected that the swelling would gradually disappear if the patient could enjoy rest at home and regular treatment. But the military commission of Riga did not accept this suggestion, because one of its physicians insisted upon the theory of the artificial origin of the swelling. So the unfortunate candidate was sent to the City Hospital of Riga, where, after a second examination, he was accused of having injured himself by constriction and puncture in order to get rid of his military obligations. So he was delivered to the public prosecutor, but set free after a long trial, and especially through the efforts of Dr. Passower.

A few weeks later he was again arrested and sentenced to three months' solitary imprisonment for self-mutilation. Now Dr. Passower recommended transferring the criminal to the clinic of Professor W. W. Koch in Doypat, in order to obtain a skiagraph. This was at last permitted, and so Professor Koch had a chance to ascertain that there was a fracture of the astragalus, which had caused sinking of the sustentaculum of the astragalus. The patient appealed to a higher court, which dismissed the previous sentence. At the end of February, 1900, the government referred him back to the military hospital in Riga, where he was skiagraphed. (It seems that a Röntgen apparatus was not obtained in this university town until then.) The evidence in favor of the "criminal" was too overwhelming, and so he was declared unfit for the military service.

Thus an honorable man was virtually imprisoned during a period of three years. If a skiagraph had been taken at the time of his admission at the military hospital (fully two years after the publication of Röntgen's discovery), the whole procedure of ignorance and malicious arrogance would not have been set in motion, and the psychical torture of another poor individual would have been rendered impossible. In the face of the skiagraphic illustration of the fracture of the most important bone of the foot-skeleton, no judge and no jury would have dared to dispute the claims of the patient.

The counterpart is represented by a case which I reported to this society two years ago, and which I desire to review briefly, since at the same time it shows how important for proper interpretation is the knowledge of minute anatomical details. It has occurred to me as well as to others that the normal os intermedium cruris (os trigonum tarsi) has, after a single exposure, been taken for a fragment severed from the astragalus. In my case a fracture of the fibula was present, but the first skiagraph suggested the presence of a tibial fragment also. But this was cleared up by a subsequent exposure in a different projection-plane. (See Medical Record, August 25, 1900.) The os intermedium cruris is a typical part of the tarsus of all mammalia, and its frequency is estimated at from 7 to 8 per cent.

The practical significance of this bone is evident from a case described by Wilmans of Hamburg. A laborer claimed that he was injured by an iron bar on January 20, 1897, but was able to work during the whole day. On the following day he called on Dr. Wilmans, complaining of intense pain at his internal malleolus. He limped and asserted his inability to work. Wilmans found a slight swelling below the right internal malleolus. Ecchymosis of the skin being absent, the swelling was attributed to the presence of a considerable degree of talipes, from which the laborer suffered at the same time. The leg was elevated and fomentations were applied for several days. The patient still complaining of great pain, it was decided to transfer him to a hospital for observation. When discharged, after several weeks of treatment, the laborer made an effort to resume work, but at once declared that he was unable to keep it up. He was therefore admitted to another hospital, where he repeated this manœuvre several times during a period of six months. Finally, he claimed damages for having been crippled by the injury sustained on January 20, 1897, but in view of the negative objective condition found by Dr. Wilmans, the society decided not to grant any claim. The consequence was that the man was transferred to the surgical division of a third hospital for further observation. There he complained that he had continuous pains below the right external malleolus, even while in the recumbent position. The pain increased during walking or sitting. Stepping on the right heel he also declared to be impossible. By distracting his attention, however, it was noticed that he could stand well on his heel, and he would doubtless have been declared a malingerer had not the Röntgen rays come to his rescue, at least temporarily. A skiagraph showed a bone-fragment at the junction of the astragalus with the posterior surface of the calcaneum. On the strength of this skiagraphic "proof" Dr. Wilmans, although still mistrusting, was forced to modify his original opinion and certified that the patient suffered from "fracture of the astragalus, in consequence of which he was damaged for life." The laborer therefore received an annuity of 30 per cent., in proportion to the estimated curtailing of his wages. Soon afterward the laborer was seen by Dr. Wilmans carrying a heavy load without any apparent pain, while formerly he had claimed to be unable to walk without a cane or crutch. Now Dr. Wilmans insisted upon a second irradiation, this time also skiagraphing the uninjured left foot. The skiagraph showed the "severed bone-fragment," which had first been regarded as a sesamoid of the musculus flexor longus hallucis, but which now was recognized as a normal os intermedium cruris. The society, of course, refused the annuity, and the German supreme assurance court, to which the man had appealed, not only sustained the verdict of the society, but also decided that the laborer must return the annuity which he had unjustifiably enjoyed for eighteen months.

In this case the Röntgen rays were very near becoming the contrary of what they are expected to be, namely, a protector of dishonesty. But the fault would have lain with the insufficient anatomical knowledge and not with the rays themselves, which reproduced the condition exactly as it was. The repetition of such cases, however, is highly improbable.

A complicated medicolegal question will arise when chronic diseases develop after an injury. Osteitis, arthritis deformans, and even malignant growths are not infrequently observed in this connection. If such injuries are sustained in factories, a suit for negligence is generally brought against the owner. The amount of damages, of course, depends largely upon the duration of the healing process and the degree of functional disturbance. This will vary greatly—as from a case of simple fracture, which may be accurately united in a few weeks, to an injury followed by the development of a malignant growth, which will finally cause the death of the patient.

The skiagraph, for instance, which I present to you illustrates the case of a laborer fifty years old, who sustained an injury of his elbow eleven years ago. He reported that recovery took place after months, and that the elbow had remained stiff ever since. During the last few years inflammatory signs had manifested themselves which were regarded as rheumatic. No other joints were involved. Since then he also had repeated attacks of pain in the elbow-joint.

When I first examined the patient I found the elbow very much thickened and fixed in a sharp angle. Pressure below the external condyle caused intense pain. Crepitus, so often found in old arthritic processes, could not be produced in this instance, as the joint permitted no motion at all. There were no indications of tuberculosis, syphilis, or gonorrhœa.

The skiagraph revealed the presence of malunion (side ways displacement) of the coronoid process of the ulna. This, probably, had given the first impetus for the development of the arthritis deformans, which is especially well marked in the external condyle of the humerus. The left condyle showed synostosis with the olecranon. Removal of the projecting fragment by the chisel, separation of adhesions, and the partial resection of the external condyle, the seat of predilection for the acute attacks were advised as therapeutic means.

It was promised the laborer, who sustained his fracture in a factory, and who did not show any signs of ill health before, that he could use his arm again a few weeks after the accident. After ten weeks he was able to resume light work; then the swelling became gradually worse, and the diagnosis of arthritis was made. He has remained a cripple ever since, and his wages were cut down considerably. He might have claimed damages, but in view of the presence of the arthritis he realized the difficulty to prove that there was a fracture originally. The Röntgen rays would have furnished this proof for him.

The development of malignant growths after an injury is illustrated by another skiagraph which shows the faint outlines of bone-shell in the soft myelosarcoma of a woman of twenty-eight years, who had fallen on her hand in dorsal flexion. The swelling resulting from it gave the impression that a fracture of the carpal end of the radius was sustained. Three months after the injury, when I first saw the patient, I noticed a small deformity, just as it is observed in badly united fracture of the carpal end of the radius; but the consistency of the epiphyseal end was soft. The skiagraph failed to show the evidence of bone-tissue, only one small remnant being left at the outer aspect of the radius. Resection was advised; but before the patient submitted to it another month elapsed, during which time the neoplasm had grown to twice its size. The result was reported fair eight months after the operation. But the chances of a permanent recovery are poor. (See "The Differentiation between Inflammatory Processes and Neoplasms," *Annals of Surgery*, December, 1901.)

It is not always possible to show the evidence of a fracture as long as twelve years after its occurrence, as in the case of the laborer described, in which the displacement proved that there was fracture of the coronoid process of the ulna. The older the fracture, the less the fracture-line will appear. In case of the entire absence of displacement it is only a very distinct skiagraph that shows the line clearly. It is natural that in such cases there is no skiagraphic evidence after recovery—that is, in from four to ten weeks, according to the type of the fracture. Should a jury in such an event doubt that there has been a fracture, a skiagraph taken after such a period will show a negative result, although there surely was a fracture. At my last demonstration I showed you a boy whose fracture of the femur could not be shown by a very distinct skiagraph taken two months after the injury, because there was blameless union. Had I not skiagraphed the thigh shortly after the injury, no evidence of the fracture could have been obtained subsequently.

In the case of a girl who sustained a fissure of the head of the radius followed by considerable functional disturbances, the blameless skiagraph, taken four weeks after the accident, showed ideal union, so that no fissure-line could be recognized. This also proves how quickly the evidence of the presence of a fissure becomes lost if there be perfect approximation. (Case presented to the surgical section of the Academy of Medicine, January 14, 1901; see *Annals of Surgery*, April, 1901.)

This experience suggests that a mediocre or even indistinct plate should never be admitted in court. It has repeatedly occurred to me that I was not able to discover a fissure, or fracture-line in a mediocre skiagraph, which appeared well marked in a blameless one. Such facts explain very well why some surgeons have disputed the reliability of other fellow-observers. Dr. A, for instance, insisting, and properly, upon his own diagnosis, while Dr. B, with his poor skiagraph, ridicules Dr. A's imagination, sneeringly asserting that he could find no fissure-line. Of course, Dr. B's opinion is thoroughly honest, but absolutely erroneous, nevertheless. It should also be considered that during the first days of the injury the presence of a fissure is easier overlooked than later when callus-formation begins.

But that even in a fairly good skiagraph a fracture, followed by no displacement, can be overlooked, is illustrated by the patient whom I present to you, who sustained a fracture of the middle of the radius three weeks ago, a heavy brick having fallen on his outstretched arm. He had great pain at the seat of the fracture, his hand was slightly swollen, and there was disturbance of function. Crepitus could not be elicited. A fluoroscopic examination made by myself, as well as by a number of physicians, revealed nothing abnormal. A fairly good skiagraph made at the time proved negative. Another one, taken in the opposite direction, gave the same result. But my suspicion that a fracture was present was so strong that I made a third exposure, this time long enough to bring out the bone-texture, the result of which was the faint representation of an oblique fracture-line at the point of tenderness. A fourth skiagraph, taken from the extensor-side, revealed the fracture-line still more distinctly.

When in this case I was unable to represent the fracture at first, some of the physicians present suggested that this was a proof of the integrity of the bones and that the soft tissues, perhaps a nerve, were injured. But, as a rule, injuries of this kind are only found in nerves, when there is a synchronous injury of the bones, the fragments of which generally produce the trauma of the soft tissues. In a case of this kind a difference of opinion between experts may happen in court, and the patient may become the victim of an imperfect technic.

A counterpart to this case is the one of a boy who was under my treatment after extirpation of his cervical glands, and who sustained a contusion of the forearm, while I happened to be absent from the city. So he was referred to a brother physician, who was supposed to be an expert in Röntgen science. Relying entirely upon the fluoroscopic screen, he claimed to have seen the fracture line and declared a photograph to be unnecessary. A plaster-of-paris dressing, extending over wrist and elbow, was applied in consequence. A few days later, when the patient was referred back to me, I made a fluoroscopic examination of the arm, and as I could see no fracture line, I took a skiagraph through the plaster-of-paris dressing. No evidence of fracture being found, I removed the plaster-of-paris dressing, although the bones presented themselves very distinctly. This third skiagraph proved that there was absolutely no fracture, a fact which was corroborated by the perfect function of the arm.

These two cases afford further support for the demand that only blameless skiagraphs should be admitted as evidence in court.

While we can readily see that a skiagraph furnishes the most convincing proof of the extent of the bone injuries, it does not show the injuries of the soft tissues, at least not directly. Therefore a skiagraph alone is not conclusive for the purpose of estimating the degree of functional disability. A non-medical skiagrapher will, therefore, never be able to give expert testimony in any case of injury. If there is only one skiagraph taken the injury may appear at its worst, and *vice versa*. So a skiagraph may show a considerable degree of bony deformity, and still the function may be but little disturbed. Even our best results show, especially when displacement of the fragments or other unfortunate complications were present, no ideal union, and still the function may be fair. An unscrupulous patient, who secures possession of a skiagraph of his own case, which shows considerable deformity, may strongly appeal to a jury on the strength of his deformity, especially if he succeeds in simulating great disturbance of function. On the other hand, there may be but little evidence of bone injury on the skiagraph, but there may be severe impairment of function on account of the injury of the soft tissues (circulatory, trophic or inflammatory disturbances), which can be produced only faintly, if at all. Thus we see that in a given case the skiagraph must be considered in connection with all the clinical symptoms, and this can, of course, only be done by an experienced medical expert. As alluded to, a thorough anatomical knowledge is required. But it is also necessary to know the different modes of delineation in various projection planes. At my last demonstration (see also *New York Medical Journal*, January 6, 1900) I reported the history of a boy, whose fracture of the lower end of the tibia was not shown in the anteroposterior position, but appeared very distinctly in the lateral projection plane. If the case was brought before a jury, an expert might there, on the strength of the first skiagraph taken in the anterior-posterior projection, have testified, in good faith, that there was no fracture. With our new improved technic, however, even in this position, a faint indication of the fracture-line is generally shown.

Similar cases are reported by me in the *Annals of Surgery*, August, 1901, and in *Die Roentgenstrahlen in der Chirurgie*, Seitz und Schauer, Munich. The skiagraphs, for instance, which I show you here, illustrate a case of osteoepiphyseal separation of the radius in a lad of sixteen years, who had fallen from a stone stairway. By looking at the first skiagraph only, the impression of normal, non-ossified epiphyseal ends must necessarily prevail. The other skiagraph, taken with the ulnar margin of the hand slightly lifted, shows the presence of the fracture line beyond doubt. The third skiagraph, taken in the lateral position, markedly illustrates the displacement of the fragments.

These cases are another proof of the absolute need, as stated on previous occasions, of taking at least two exposures in different positions in all fracture cases. In joint-injuries it is often necessary to make a skiagraph of the healthy joint of the opposite side at the same time, in the same position, and in the same projection. Sometimes it is also advisable to compare a normal skeleton with a skiagraph, since some pathological conditions, like rachitis, syphilis, etc., influence the outlines of the bones and may deceptively be supposed to represent a portion of an injury. The fact that in children the epiphyseal tissues are not sufficiently ossified to produce a shadow on the plate has caused many, but unjustifiable errors at the early Röntgen era.

In many fractures the destruction is so extensive that a good result could not be expected under any circumstances. Then the patient may be tempted not only to claim damages from his employer, but also from his physician. In such a case a skiagraph, taken as early after the accident as possible, will be the best protection for the physician. It would be a document showing that the physician knew well the serious nature of the injury. The skiagraph I present to you illustrates a multiple fracture of the elbow. Splinters of bone are scattered and are shown imbedded in the soft tissues. Only a fool would, on the strength of this skiagraph, have expected the surgeon to restore the lower end of the humerus, which was almost completely shattered, to a normal condition.

Or if a deformity is caused by excessive callus-formation, the skiagraph will be the surgeon's advocate. In one of my cases considerable deformity at the wrist was present, which caused disturbance of function. The skiagraph showed the fragments in splendid apposition, proving that the deformity was produced by excessive callus-formation, for which, of course, nobody can be made responsible. The patient who accused his physician of malpractice could, when he saw the skiagraph, be easily convinced by me that he had done great injustice to his physician.

Another important medicolegal question arises in another case which I will mention. A girl of twenty-three years fell downstairs on March 5, 1902. The family physician found considerable deformity, which he corrected to a great extent. When the swelling surrounding the whole elbow did not subside after a week, he referred the patient to me. Before I made a Röntgen examination I had the impression that there was a fracture of the external condyle. But the skiagraph revealed the presence of a fracture of the head of the radius, associated with considerable displacement, infraction of the external and fracture of the internal epicondyle, the latter injuries without displacement. Since I could locate the displaced radial fragment so well by the rays, I assumed that I could now also succeed in reducing it. But I was not able to palpate it. A fairly large number of physicians tried the same, but, with the exception of a young practitioner, none could feel it. So I marked the position of the fragment as my anatomical knowledge indicated it and pressed inwardly. Now I applied a fenestrated plaster-of-paris dressing, through which I took the skiagraph. This showed most impolitely that I had not only failed in my efforts of reposition, but had even made it worse. Now I tried to reduce it in the extended position, as it is indicated in the third skiagraph, and there I could press the fragment nearer to its normal position. This encouraged me to make a fourth attempt in the same position of the arm, and this time I succeeded fully, as the skiagraph shows. As you see the result is a good one.

In this case a diagnosis without the Röntgen rays was simply impossible, and without the diagnosis the patient would surely be crippled. It was not until weeks had passed and the swelling had subsided that I was able to grasp the radial fragment, which is of such great importance in view of its joint surface. Would the court have the right to censure the physician if he had not advised skiagraphy? Could he be accused of professional negligence? If litigation ensued, would the other party have had the right from the beginning to insist that a skiagraph be taken? And if I had not succeeded in reducing the fragment, would I have been criticized? I leave these questions to our learned lawyer friends. What, I may ask further, does secure the identity of the patient who is skiagraphed? Is it sufficient that he signs his name on the envelope of the plate, with a pencil containing impermeable substances, so that his signature is photographed together with the limb, or is it necessary to have a witness present, or both?

This brings us in touch with another question, which is a burning one in the full sense of the word: Is the physician responsible for an injury-burn, caused by the peculiar influence of the rays, if they are used for diagnostic purposes? It seems that in some individuals an idiosyncrasy exists which can be compared with the so-called iodoform idiosyncrasy. This susceptibility cannot be recognized except after the burn has established itself, when, in other words it will be too late for prophylaxis. All we know is that blonde individuals are more susceptible than others. There are no means at all which protect the body from this except at the expense of a thorough examination. Since the time of exposure has, thanks to our improved apparatus, been considerably diminished, the danger of burning the patient is, however, extremely small.

As the Röntgen rays have also shown therapeutic properties, this question has reached a new phase. In order to exert a curative influence, frequent and powerful exposures are required, and consequently the chances of burning the patient are not small. In some instances, especially in non-malignant skin diseases, a protection can be obtained by lead masks. But if malignant growths, like cancer or sarcoma, are treated, too much irradiation can hardly be done. In view of the fact that the cancer cells are not confined to the growth itself, but are also found in the adjacent tissues, it is necessary to irradiate as large an area as possible. Where ulcerations exist already, as it often happens in carcinoma, and where new ulcerations, as well as inflammatory processes may originate every day, an unscrupulous patient may claim that they were caused by the injudicious use of the rays. How can the physician protect himself against such allegations? Is it necessary to have the patient sign an agreement stating that the risks of the Röntgen theraphy were explained to him? Or are further ceremonies required?

You can readily see that numerous medicolegal questions have turned up with this wonderful discovery, and I know of no body that is more fit to answer them than this society.

A CASE OF MULTIPLE PERSONALITY.*

By J. ALLEN GILBERT, Ph D., M.D.,
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Mr. X. was admitted to St. Vincent's Hospital to the U. S. Marine ward under the care of Dr. J. O. Cobb, February 20, 1902. After apparent recovery from the injury for which he was admitted he continued to act queerly for over a month, manifesting symptoms which could not be accounted for by mere concussion of brain, as indicated by the history of the accident and symptoms on admission. On April 1 I was asked to see him and from then until May 16 the following history was taken:

Family History.—Father living and well. Not much known of him or other relatives. Mother died when three years old. Cause unknown. One brother living. None dead.

Personal History. — Age, twenty-two years. Never ill until the present accident. Venereals denied. No liquor or drug habit.

Physical Examination.—Well nourished. Height, 5 feet, 10¾ inches; weight 180 pounds. Dark hair. Line of the hair runs to a point in center of the forehead. Eyebrows meet and extend down over the nose. No wounds of the scalp. Painful spot one-half inch in diameter on left occipital protuberance, one inch from the median line. Broad face. Eyes normal in reflexes and movements. Catarrh of long standing in right ear. Left ear normal. Other senses normal. No paralyses. Pulse, 94; temperature, 98.6; respiration, 19. Chest measurement on exhalation, 38 in.; on inhalation, 42½ inches. Lungs, liver, spleen, and heart normal. Deep and superficial reflexes normal. No anæsthetic areas. Right inguinal hernia retained by a truss. Urine normal except for excess of phosphates. Blood count, reds, 5,655,000. Whites, 7,650. Percentage of whites: Polymorpho-nuclear-neutrophile, 54 per cent., mononuclear leucocytes, 45 per cent.; large lymphocytes, .2 per cent.; eosinophiles, 1 per cent.

History of Present Illness.—Fell from a barge onto a log in the water eight to ten feet below. Struck head on left occipital protuberance. Stunned for a short time. Rallied and crawled up on the logs. Head burned like fire all over. Walked like a drunken man. Very watery and copious movement of the bowels, accompanied by severe vomiting, fifteen or twenty minutes after the fall. He was taken ashore and started to town. Walked part way; on street car the balance of the way. After boarding the car and riding a short distance nothing more was remembered till in the hospital about three weeks later. When taken by the ambulance he was apparently rational, but exhausted. On waking in the morning he would chase rats in the bed. On second day after entrance to the hospital he rose from bed, said he felt all right, and asked to be discharged. He was apparently well, and the discharge was granted. His friends noticed he was not normal and brought him back the same day. He left the hospital thus three times, apparently normal, but he remembers going out only the last time. All events previous to that are a blank since boarding a street car after the barge accident. During his stay in the hospital in the early part of his sickness he would have spells of semi-delirium. Peevish and troublesome at times, generally quiet and orderly. There were gathered a few facts in regard to things he did and where he went during his first two trips out of the hospital, but he could not recall them after they were related to him. Throwing the head backward caused things to turn black before his eyes. Unusual movements affected his eyes. At first almost continuous pain over the eyes and in the head. Extremely nervous at times; so much so that pricking his ear for blood "set him on nettles."

The patient's life being largely a blank since the accident, and inasmuch as he had unwittingly collected and signed a receipt for his wages, and not knowing what else of importance he may have done, with the patient's consent I hypnotized him to ascertain his actions during the period which was a blank to him. In hypnotizing him it was impossible to get control of his eyes until after the arms and hands were under control. Fixation with the eyes made them hurt, and even with the eyes shut, manipulation of them gave flashes of light. This was likely due to the blow from the fall on the visual area of the brain. It was also impossible to hypnotize him while lying down, because of dizziness and flashes of light. Hypnosis was induced slowly but successfully in about one-half hour. While in the hypnotic state, in muffled voice, in response to questions, he gave in detail his life during the time subsequent to the accident. Subsequent investigation verified his statements in every detail so far as memory could serve, for no notes were taken inasmuch as multiple, or even double personality was not suspected at this time. To close the hypnosis I suggested that he would awake when I counted five, having previously suggested that at the end of the counting he would wake and feel perfectly well in every regard. To our surprise he awoke with a start, the very picture of fright, trembled like a leaf, demanded where he was, knew neither Dr. Cobb nor myself and, all in all, was a picture of mental distress. The patient was quieted, and on questioning him it developed that we had before us a case of double personality. He gave his age as eighteen years, never had been in Portland, spoke of events which he said took place "yesterday," and on questioning it was found that he thought it was September, 1898. All time and events since then were an utter blank. Subsequent developments proved that this date was 1899 instead of 1898. Previous to 1899 he had a lapse into another personality which lasted about a year. Hence the dropping of a year. Mere mistake in dates, however, may account for the mistake without reference to the lapse previous. He said that "yesterday" (*i. e.* Friday, Sept. 1898.) he had a fight with his father in Glenrock, Wyo., and on being told that he was in Portland he asked whether it was Portland, Ore., or Portland, Me. The patient being somewhat disturbed in mind he was put in the ward to quiet down and get acquainted with his new surroundings. He knew none of his companions in the ward and had to be shown his bed, hat, and belongings in general—in short, he was a stranger in a strange land. The case throughout presented many queer and interesting data, which must, of necessity, be omitted in this presentation of it.

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*The present article can give only the major facts of the case. A full account, presenting the detailed history and development of the case, may possibly appear later in a separate publication.

At 4 P.M. on the same day (April 2) the following history was taken from him, told in a perfectly clear-headed and intelligent way:

Born December 15, 1878 or '79—not sure which. Born at Nemeha City, Neb. Mother died when three years old. One brother, one half-sister, one stepsister, father, two grandfathers, two grandmothers, and a stepmother, giving their names and addresses. Moved to Nebraska City shortly after birth and then to St. Paul, Neb. Ran away from home when fourteen years old and went to relatives on mother's side. Omitting details in this writing, he went to Bloomington, Omaha, Ashland, and finally to Lincoln, Neb., and enlisted for the war with Spain. Went as far as Chickamauga and took sick with a fever of some kind. Cannot remember how he got back to Nebraska, but the first he could remember he was working in Oxford, Neb. During this lapse, I learned subsequently, he had been hunted for desertion—the desertion, however, not being true desertion, for he changed personalities in camp and left, not knowing that he belonged to the army. Omitting details again, he went to Oxford, Mascot, Holdredge, and Glenrock. While here his father and stepmother quarreled, and in his attempt to interfere he and his father quarreled. During the quarrel, it seemed to him, his father hit him on the head with something. That was the last he could remember until he woke up here in Portland. There was no headache in this personality. Perfectly well in every way. Refused to take medicine because he said it was nonsense for a well man to take medicine. He never saw but one steamboat in his life and that was on the Missouri River. It must be remembered that the patient has lived in Portland since last August. On questioning he knew nothing of Portland, nothing of his house which he and a chum had built, and nothing of the chum or anything related to him. Although he had never seen a steamboat except one on the Missouri River, in another self he had fired on the steamer *Columbia* between San Francisco and Portland and had become very seasick. Furthermore, numbers of river steamers and ocean liners are to be seen daily in the Portland harbor on the very beach of which he has lived since August. Absolutely no clue could be hit upon by which to connect him with the life he lived in Portland. Letters on his person were strange to him and their contents worried him.

The next day, April 3, with his consent, he was hypnotized, so as to be thrown into his former self again in order to ascertain the events of his life since September, 1899. Hypnosis was again slowly induced. When completely under the hypnotic influence no answers could be elicited from him at all. By shaking him after suggesting his Portland life to him he roused, but in a delirious state, raving with headache, complained of two red men who twisted his head and begged to be taken back to the hospital, supposing he was down town. This was evidently the stage in which he was at times after the accident on the barge. No persuasion could quiet him, and to satisfy him we told him we would take him back to the hospital. On opening the door into the corridor leading to the ward, his surprise and alarm at finding himself in a strange building threw him into a frenzy of terror, and all we could do was to take him back to the dressing-room where we had been. Here he quieted down and went to sleep on the dressing-table. After about ten minutes I cleared my throat. He started up in a fright and began chasing rats on the bed. Again I quieted him. After sleeping a few minutes, without perceptible stimulus he started up again, but on seeing me, said in a perfectly calm way, "Where is Dr. Cobb? Did I tell you what I did since the accident on the barge?" (Dr. Cobb had been unavoidably called away after he fell asleep on the table. With the exception of these ten or fifteen minutes there were always from one to six witnesses beside myself.) He was back again in the self in which he was before the accident on the barge and knew absolutely nothing of the twenty-four hours which he had just passed in a different personality. No clue could be hit upon by which to connect him with it. He thought it was April 2, and on being told it was April 3, was somewhat surprised and supposed we had kept him hypnotized for twenty-four hours. The following history was then taken, the man apparently normal except that the old headache was back again. His life was traced backward and found to lead from Portland to San Francisco, Denver, Cheyenne, Wyo.; Edgemont, S. D.; Chadron, Neb., and finally to Glenrock, Wyo. Here he said his father and he had some sort of trouble. Could not tell how the trouble arose. His father threatened to shoot him and he ran away.

Omitting again the many details which are confirmatory and interesting, but not absolutely necessary to the narration of the case, he went to Chadron, Edgemont, Cheyenne, Denver, San Francisco, and finally to Portland. It subsequently developed that he also spent a period of time belonging to this life when about sixteen years old, *i.e.* previous to the Glenrock quarrel with his father. In this personality he knew nothing of coal mines, though he had been working in a coal mine in his other personality for two weeks previous to the quarrel with his father. Again repeated attempts were made to connect the two lives by going over, in detail, the experiences as related by him in the two respectively, but no connection could be made between them. By putting together the two histories there still remained large gaps which were unfilled by the experiences related while in the two respective personalities. The gap from Chickamauga to Oxford and numerous others of less importance remaining unfilled and having received confirmatory evidence from answers to letters of inquiry sent out, I felt sure of a third personality and hypnotized him, April 24, to throw him into said suspected personality. He was successfully thrown into it, and when he roused from hypnosis into the third state he was again a stranger to us and his surroundings. Acting on the difficulty experienced in gaining his confidence when he awakened the first time in a strange personality, I had written letters at that time explaining his condition and also a note which he signed to act as corroborative evidence of our friendliness, should he in the future wake and be a stranger to us. These letters were carried continually in his pocket, and were valuable aids in keeping the man's confidence in the different personalities. Some time was thus spent in reassuring him after which the following history was taken, unessential details being omitted in this report. When questioned in regard to Chickamauga and his experience there, he said he did not belong to the army there, but there were a great many soldiers all over the fields. He said, "I was awfully sick and I haven't got over it yet." In this personality he suffered continuously with pain in his head and abdomen. He was a typical tramp throughout, beating his way on trains, and working only enough to support life when it could not be done otherwise. He described in minute detail his wanderings through Chattanooga, Nashville, Green Brier, and Springfield, Tenn.; Henderson, Ky.; Evansville, Ind.; Carmi, Ill.; St. Louis, Jefferson City, Kansas City, Liberty, Red Cloud, and Oxford, having isolated and disconnected experiences in Cheyenne, San Francisco, and Portland. Here again repeated attempts failed to connect him with either of the other two lives. Frequently, in relating his experiences in the three different lives, he would come to a certain point in the narration, stop and say, "I can't remember what took place then; the next I remember I 'woke up' at such and such a place." In narrating the experiences of a different life he would pick up the interval which he forgot in the other life and carry you to the point where he said he "woke up" and then say "I can't remember what took place then, the next I remember I woke up at such and such a place." Thus the story of each life contained numerous unfilled gaps which would be accurately filled in by experiences in another life. By taking the three lives and writing the stories as they dropped and picked each other up, thus filling up the gaps of each, I was able to fill out almost completely his entire life from 1879 to 1902. There still remained a number of gaps, indicated by the stars in the schedule below, which I have been unable to fill out. Thinking that perhaps these gaps might be filled in by getting a still more complete history of the three lives, on April 26, he was thrown by hypnotism into each of the three lives successively and questioned closely in regard to the lapses without avail. The histories given were not related by him while hypnotized. Hypnotism was used merely to accomplish the transfer from one personality to another, and the history was then taken during full consciousness in the ensuing personality.

Once of his own accord and twice by hypnosis he passed into a state which could not be connected with the other three and in which he was in a state of semi-delirium. The subject became impatient and resented the frequent hypnotizing, and so it was decided to attempt by suggestion during the hypnotic state, accompanied by repeated consecutive narration of the events of his different lives to unite them into a unitary consciousness. The attempt was made April 28, and proved gratifyingly successful. For a day or two he was still unable to recall a short period immediately following his lapse at Chickamauga, but later that came to him with full vividness. On April 30, after having been hypnotized and the suggestion made that he would remember even the events comprising the gaps as yet unfilled, he was able to fill in the gap preceding the waking on the bluffs above Kansas City and the one preceding his waking in Liberty. The other gaps starred still remain a blank to him. With these exceptions he now tells a story of his life so continuous that he himself cannot tell where the breaks in the continuity used to be. On being told that a short time ago he did not know many of the things he was now reciting he answered, "Yes I did I always knew those things." It is only when he recalls the events of the past month that he realizes there has been any change in him.

Immediately before uniting the three personalities the following chronological tabulation of his experiences and changes of personality was made out and used as a basis for suggestion by which to unite the three selves. The stars indicate the gaps existing just previous to the time the three personalities were united into a unitary consciousness. These gaps have been partially and tentatively filled and classified in a manner to be explained below. The dates mentioned have been verified by correspondence. The different personalities will be designated by X1, X2, and X3.

X1. Nemeha City, born December 15, 1879; Nebraska City, six years old; St. Paul, Neb., nine years old; Crawford, Neb., fifteen years old. Changed in the depot to

X2. At Crawford, April, 1896; Edgemont, S. D.; New Castltle, Wyo. On way to Cambria, changed to

X1. Cambria, Wyo.; Crawford, Neb.; Havensville, Kan., August, 1896; Topeka, N. Topeka, Holton, Havensville, Kan.; Nemeha City, Neb.; White Cloud, Bloomington, August 12, 1897. Omaha, Ashland, Lincoln, Neb., May, 1898; Chickamauga. Changed while asleep under a tree to

X3. At Chickamauga, June 3, 1898. Chattanooga, Nashville, Green Brier, Springfield, Tenn. Henderson, Ky.; Evansville, Ind.; Carmi, Ill.; St. Louis, Jefferson City, California, Missouri. On train going toward Kansas City changed to

**a. (Probably X1; see below.)

X3. "Woke up" on the bluffs above Kansas City in the weeds. Crossed Kansas River. On freight changed to

**b. (Probably X1; see below.)

X3. "Woke up" in Liberty, Neb. To his surprise he had money in his pocket. Bought ticket to Red Cloud. On train changed to

**c. (Probably X2; see below.)

X3. "Woke up" in a shock of oats near Oxford, Neb., fall of 1898.

X { X1, X2, X3 } Oxford, Mascot, April 18, 1899. Holdredge, Neb. (Vague experiences recalled at these places in all three personalities. Most accurate and detailed account was given by X3. X2 only knew that he had been there.)

X1. Holdredge, Neb.; Glenrock, Wyo. Changed to

X2. At Glenrock, September, 1899; Chadron, Neb.; Edgemont, S. D., February 5 to April 12, 1900. Alliance, Sidney, Cheyenne, Wyo., June, 1900. Changed to

X3. In Cheyenne. Bought ticket to Denver. In Denver changed to

**d (See below.)

X2. "Woke up" on Larmour street, Denver. San Francisco. In barracks asleep and changed to

X3. Left the barracks and went out into a big city. Changed to

X2 In the wholesale part of San Francisco, Cal. Oakland. On train and changed to

**e (Probably X3; see below.)

X2. "Woke up" in Salvation Army Hall in Oakland, San Francisco. Portland, August, 1902. Changed to

X3. After the barge accident, February 20, 1902. In hospital three weeks. Changed to

X2. Hypnotized April 1, and changed to

X1. For twenty-four hours. Hypnotized April 3, and changed to

X3. Slept and changed to

X2. Till April 14. On way from hospital to my office changed to

X3. Took ferry to Albina. Changed to

X2. At Albina. Hypnotized April 24 and changed to

X3. Slept and woke from X3 to

X2. Hypnotized April 26 and changed to

X1. History taken. Hypnotized and changed into

X3. History taken, hypnotized and changed to

X2. Hypnotized April 28 and X1, X2, and X3 united.

There were other very brief lapses, judging from many incidents narrated. Several such lapses occurred probably at San Francisco and here in Portland. The lapses **a, **b, and **d he was able to fill in after the uniting of his three lives. In **a he went to Kansas City, climbed the bluffs and went to sleep in the weeds. This was likely X1, inasmuch as he started in the direction of his old home, and in X2 he knew nothing of his people at this time. In **b, as filled in by his united self, he went to Topeka, Holton, and Havensville. Here his people would have nothing to do with him, and he went to Summerville and then worked near Liberty for some time. This must have been done when X1, for it is only as X1 that he knew anything of his people at Havensville. The lapse **c must have been in X2, because when in this personality previous to uniting the three he said he had been in Red Cloud, but could not remember anything about it. In lapse **d he went to Denver and loafed around for about a week. The lapses **e and **f are still in obscurity, but assuming that there are only three personalities in the case these lapses must have been spent in X3, because he changed to them from X2 and X1, knew absolutely nothing of any time between September, 1899, and April, 1902. Evidence seems to point to the conclusion that whatever personality or personalities he was in while at Oxford, Mascot, and Holdrege, there was at times more or less knowledge of all three selves at those places. In no single personality could any specific detailed acount of his stay at Oxford and Mascot be given, though in all personalities he knew that he had been there. X3 gave the most details of any at these places. Either there was a certain amount of interfusion of the three personalities at these places, or else he had frequent changes in Oxford and Mascot. Subsequent correspondence with his acquaintances at Oxford substantiates the former view. Furthermore, he says that while he was asleep in the shock of oats near Oxford he had a very peculiar dream of having been in Red Cloud, etc. It is highly probably that this dream was not a dream, but the real experiences of the preceding lapse, probably filled by X2 or a modified X3. This vague interfusion of the selves or modification of a particular self may account for all the lapses and peculiarities in X3 from Chickamauga. Though there is no absolute proof, the data at hand leave one in the conviction that at Oxford, Mascot, Holdredge, and probably Glenrock there was a partial, if not complete, fusion of the experiences of the three lives, which was confusing to him then as well as to us now. His acquaintances at Oxford looked upon him as insane.

Though his experience from Chickamauga to boarding a train near Kansas City was given in the most certain and positive way while in X3, and though he had no relatives that he knew of in this personality, yet it is probable that during that time he had inklings of his former life from some source or other which led him back to Nebraska. He may, however, have learned that he belonged in Nebraska by letters in his pocket or other means in camp before leaving Chickamauga. It seems probable, taking everything into consideration, that there was slight knowledge of his other lives in this personality.

That the uniting of his three selves into a conscious unity did not insure against subsequent lapses is shown by experience later. On May 7 he came to my office feeling badly, suffering from headache, and depressed in general. I hypnotized him and suggested that on waking he would feel better. He woke and seemed better. After sitting for several minutes he looked about, somewhat surprised, and without any visible signs of change, he remarked, "Doctor, I have been asleep again." The last he could recall he was entering the building and waiting for the elevator, but how he reached my office and all that transpired in the meantime was an utter blank to him. His partner, with whom he lives, says that such lapses used to be rather frequent with him.

In order to verify the history of the case numerous letters had been written to parties mentioned by X1, X2, and X3; one of these letters was sent to the army post at San Francisco to inquire as to his enlistment and desertion from the army as a result of a change of personality, but no answer was received. On May 14, acting upon information gained from my letter to San Francisco, officers from Vancouver Post came and arrested X, and took him on the car to Vancouver, charged with desertion from the army at San Francisco. On May 16, at Vancouver, I presented the history of his case to the officials in order to obtain his release. After the conference with the officials X was brought in. To my surprise he was X2 again; knew absolutely nothing of X1 or X3 or of his experiences subsequent to uniting his three selves. Only X2 was known to him. After hypnotizing him and suggesting that he would remember all his life again he woke with full memory of X1, X2, and X3 as before he was arrested.

So far twenty-eight letters have been received in answer to inquiries sent to relatives, acquaintances, war department, etc., each and all of which verify most accurately the history described. Changes of personality took place twice while in the army and he was recorded and hunted as a deserter. He enlisted the first time as X1, the second time as X2, and each personality knew nothing of the other enlistment. At first these two desertions raised a suspicion in us that he might be deceiving in order to cover up his guilt, but second thought, on the contrary, confirms his duality in the two acts, for a deserter would scarcely run the risk of reenlisting. Furthermore, proof that he had changes of personality previous to any connection with the army in addition to confirmatory evidence from numerous other sources removes any possibility of insincerity on his part. Aside from the corroborative evidence, observation of the man during treatment would have been sufficiently convincing to remove all doubt.

X1 was perfectly well, jovial, bright; knew the names and addresses of all his relatives and could give an accurate account of his boyhood days. He had rather accurate dates for everything. Was eager to educate himself, though he was only an ordinary laborer as a rule. X2 was quiet in disposition, preferred to be alone, had spells of sleepiness, always had some headache, knew but little of his relatives, and that was learned subsequent to age eighteeen; a good mechanic, ambitious, and inventive; desirous for an education and distinctly religious in character. All in all, his life bore a sad melancholic aspect. X3 was a typical tramp, largely due to the fact. no doubt, that he began this life where he did. Though eighteen years old at Chickamauga, when asked where he came from he answered "didn't come from any place." Worked only enough to exist; severe pains in head and abdomen; always hungry; all in all, a lower type of man by far.

All three personalities had a remarkable memory for details. The same name was retained in all. In addition to the three personalities described there was still another state which may possibly be a fourth, but each time he was thrown into it he was semi-delirious and no definite information could be obtained from him. The place of this state, in its relation to the personalities described, is difficult to determine. In it he raved with pain and was always thirsty. This state *may* account in part for some of the gaps remaining unfilled.

In his united self he is radically different from what he was previous to the barge accident. Previously taciturn and fond of solitude, in his united self he became social and settled moodiness disappeared. He still manifests the old ambition for an education, though at present he chafes under the monotony of his wait in prison until the routine of government formalities shall be accomplished. Under the circumstances his ultimate release would seem to be a mere matter of time, but the worry and mental excitement incidental to his arrest give him almost continuous headache, and at times plunge him into a despondency which makes him wish he were dead.

After the fusion of his three lives the first time, a minute and detailed history of his boyhood and early manhood was taken in order to see if any cause of the trouble could be detected. As a boy he received very rough treatment from his father, but no definite etiology of his condition could be discovered. Though changes of personality occurred two or three times under what seemed to be a definite etiological factor, such as the fight at Glenrock and the fever at Chickamauga, yet these things cannot be considered the sole cause of the trouble. In the great majority of cases his changes of personality took place while on a train or immediately following—a fact not without significance.

The changes from one personality to another were at times gradual, instead of abrupt. At times memory of one stream of consciousness faded out gradually as the other came into prominence. One of the changes which occurred in my presence was of this type. Several times in one personality short preceding experiences were vaguely recalled and thought to have been dreams, showing that at times either the different selves overlapped, as it were, to some extent, leaving the period of change indistinct in each, or else—what is more probable—the events supposed to have been dreamed were experiences of the same self under a sort of psycho-epileptic seizure. Under the latter supposition the gap **c in the schedule above may be a sort of psycho-epileptic mutation of X_3 instead of a change into X_2. The whole process throughout might not improperly be called a psycho-epileptic exchange of personality.

The personality, designated throughout this article as the "united self," cannot be considered as *composed of* X_1, X_2, and X_3, as constituent parts, but, strictly speaking, the so-called "united self" is a new unified experience even as X_1, X_2, and X_3 were originally. This was clearly exemplified by the fact that after his return to X_2 at Vancouver subsequent to the uniting of X_1, X_2, and X_3 in memory, he not only knew nothing of X_1 and X_3, but the experiences of the so-called "united self" were also a blank to him.

Dog Eat Dog.—An Indiana physician has sued a fellow practitioner for $1,000 for professional services rendered in the course of two years. The plaintiff claims that he cured the defendant of a disabling affection of the foot, as a result of which he was enabled to resume practice, and thinks he should profit by the increased earning capacity which his patient now enjoys, presumably as a direct consequence of his treatment.

SOME HINTS TO THE GENERAL PRACTITIONER ON THE TREATMENT OF CHRONIC NASOPHARYNGEAL CATARRH.*

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In attempting to present some of the modern views on nasopharyngeal catarrh, the writer has not done so on account of the many new points which he is able to bring forward, but in the hope of eliciting a thorough and fruitful discussion of the subject. Chronic catarrh of the nose and throat is so common, especially throughout the United States, that every practitioner ought to be familiar, in a general way, with its treatment. But let me ask you right here: "Do general practitioners always recognize it? Do they always examine for it? Are they not too apt, in too many cases, to accept the statement of the patient, make no examination, prescribe a nasal douche and some wash, and allow the patient to disappear, perhaps to excite, in time, a catarrh where none existed before?" (Lefferts). We shall see later what we are able to accomplish and what not. Before, however, entering into the details of our theme, which was selected by your president for discussion, I beg your indulgence for a few remarks on the etiology of catarrh. You will then, perhaps, better understand some of the therapeutic measures which I regard of great importance. Let us consider the etiological factors producing the chronic catarrh of the nose, of the pharynx, and of the retropharynx. To my mind they form a unit and must be dealt with together.

In almost all the textbooks, and in the many articles on this topic, which would fill a library, you will find the naïve statement that a chronic catarrh is the consequence of an often-repeated acute catarrh. We all know that! We further read that we ought to avoid acute catarrh in order to prevent it from becoming chronic. The most contradictory rules are given for that purpose. In a somewhat elaborate article in v. Leyden's *Zeitschrift für diät. and Phys. Ther.*† I have discussed the various methods of prevention of acute catarrhs, and it is not my intention to repeat them here. What I would say is that in your practice you will meet much oftener with acute exacerbations of chronic catarrhs than with fresh colds, no matter whether these acute exacerbations consist in a coryza, angina or acute bronchitis.

It is my object to discuss especially the chronic forms. For a long time the belief prevailed that Americans were especially disposed to catarrh, the contributing causes being sought in the marked humidity of the atmosphere, especially along the coast, the sudden changes in the temperature, the dusty and unclean streets, etc. Even Morell Mackenzie, after traveling in this country, attributed the prevalence of post-nasal catarrh in the United States, chiefly to the changeable character of our climate, to the large amount of dust, and to the habit of fast eating and drinking and his ideas have been disseminated by the textbooks abroad and in this country. There is dust in other parts of the globe; there are plenty of dirty streets elsewhere—although our metropolis has occupied quite a prominent place in this respect of late—there are fast livers all over the world, and still nowhere else is to be found such a multitude of people suffering from catarrh. What is the reason for this? What is the real cause of this peculiarity? I found no satisfactory explanation whatever until I began to investigate things myself. I studied the mode of living prevalent here and other factors in American life. Perhaps, I was better adapted for such an investigation than those of you who were born in this country, as everything was strange to me, much being just opposite to what I had been accustomed to see, and thus naturally being brought vividly to my notice. What then are the conditions especially prevailing here which have a special bearing on our question? If we compare our mode of living with that of a hundred or two hundred years ago, we must confess that we have returned to a very ancient style of living, we have become *mutatis mutandis* actually cave-dwellers again. In a ten by fifteen room the average human being passes twenty-three of the twenty-four hours of the day, or even more. The room is nothing but a cave-dwelling, with the exception that it is tightly closed from all sides during the greater part of the year. It makes little difference whether we call this cave a sitting-room in a fashionable house, or whether we term it a sweat-shop. The difference is only in degree. The room is, as a rule, tightly closed against the invasion of fresh air. If we speak of climatic influence, and there certainly is such an influence, it is the climate of our rooms—of the caves which we inhabit, which we must study. It is immaterial what is the temperature, the degree of moisture, or the winds at Sandy Hook. The three million of inhabitants of our city do not live there, and it does not matter to them whether in the harbor of New York there is a great deal of moisture or not. When physicians say there is so much catarrh in our region on account of the great humidity of our climate, we must regard such statements as pure nonsense. Too much moisture will never set up a catarrh, and especially not that form of catarrh which you see mostly, and which is called the dry catarrh.

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*Read at a meeting of the Eastern Medical Society, December 27, 1901.

† Ueber das Wesen der sogen. Erkältungskrankheiten. 1899. Bd. iii, Heft VI.

As I consider this point of the greatest importance, I hope you will pardon me if I dwell upon it a little longer. Over ten years ago I commenced my investigations regarding the amount of moisture in our houses, and have been surprised at the results obtained. It had been shown by various experiments that the atmosphere of a room in winter should be kept moderately humid, *i. e.* it should contain between 50 and 60 per cent. relative humidity. The minimum point should never drop below 40 per cent., while a relative humidity of 70 per cent., or even 75 or 80 per cent., is still agreeable and is not considered unhealthy. Now I have made frequent tests of late again, and I have never seen a relative humidity of 50 per cent. in New York houses. When the outside temperature was around 30° F., I have never observed even 40 per cent. The highest point reached was 30 per cent., but 25, 20, and even 18 per cent. relative humidity, was nothing unusual during a protracted period of very cold weather, when the rooms were not at all, or but very little, aired. Now how does it happen that we are affected with dryness while an atmosphere laden with humidity surrounds us on all sides? I explained that in an article, to which I would refer those interested in this question.[2] To-night allow me to mention only the most common factor in this connection, *viz.*, the heating of our houses. The Mexican peasant, I am told, puts on a heavier coat when he enters his cold hut. He does not heat it, because he believes that wherever there is a furnace there is tuberculosis. Perhaps there is some truth in that. The fact is that every form of artificial heating is detrimental to health, most of all, however, the hot-air furnace. You are all familiar with this method of heating. The shaft which conveys the so-called fresh air to the furnace is situated near the ground and is in close proximity to the kitchen. This shaft is so poorly constructed ninety-nine times out of one hundred that the bad air in the cellar has free access to it. The air from these sources is heated in the furnace and passes into the rooms. This impure air is warmed, that means that it is deprived of the greatest part of its humidity, if not all of it. In this condition of dryness it reaches the rooms wherein we live. There it has the effect of drying the air already present, and it is evident the colder the atmosphere is outside and the more we heat our furnace, the dryer will the air become in our rooms.

This dry air we have to inhale, and it is from this point of view that I consider the etiology of chronic rhinitis, chronic post-nasal and chronic pharyngeal catarrh common. I have shown this to be true of post nasal catarrh, and it is only one step further to demonstrate its correctness for catarrh of the nose itself and for that of the pharynx.

Before a special society, not far from us, there was last year a discussion on atrophic rhinitis. All sorts of theories were advanced, but the most plausible one was not touched upon at all. The main symptom of a dry catarrh is its dryness, and is it not natural that the dryness of a physiologically moist mucous membrane must depend upon the atmosphere surrounding us? Still nobody has thought of that. One of the functions of the nose is, according to the investigations of Aschenbrandt, R. Kayser, E. Bloch, and the writer, to charge with moisture the inspired air. This, according to my own experiments, is even more the case in the retropharynx. Now when we inhale such abnormally dry air, as shown above, the nose will perform its functions for a long time until the mucous glands have no more moisture to give off. First, through increased activity of all parts of the mucous membrane a hyperæmia will set in, then a hypertrophy, and after a long period an atrophy. This holds good with some modifications for the pharynx, too, when the process extends downward. This atrophy affects not only the mucous membranes, but also the underlying bones, and we get the picture of atrophic rhinitis so familiar to you all. The atrophy sometimes shows itself very remarkably. In one case which I observed not long ago it had attained dimensions such as I had never seen before. All the middle and inferior turbinated bones had shrunk to mere rudiments. Of the left lower turbinal there was hardly anything at all visible. After careful examinations absolutely no signs were to be found of specific infection, neither hereditary nor acquired.

Hopmann and Zaufal regarded the ordinary atrophy of the turbinals as congenital. But this is surely not so, as Zuckerkandl found none in 252 skulls of infants, which he examined. The cause is to be sought in the desiccating influence of the inspired air, an influence brought to bear upon the tissues of the nose for years and years, and finally ending in atrophy.

In 1896 an interesting paper was published by Goodale[3] of Boston, which I would like to mention here. It has some bearing on our subject, but the author does not reach the conclusions I do.

When we speak now of the therapeutic measures at our disposal for combating this disease it is difficult to draw the line between the specialist and the general practitioner. But believing that the latter ought to do just as much as he is capable of doing you will permit me to place before you what I consider of most service, leaving it to individual discretion how far to go. Nevertheless, almost everything that will be outlined by me can be accomplished by every one who is familiar with the method of inspecting the interior of the nose and can manipulate a few instruments. He will relieve his patients considerably, as the symptoms and different disturbances resulting from this disease are very numerous.

In the treatment of chronic naso-pharyngeal catarrh the hygienic part is far more important than the medicinal. A change of climate is often of great benefit to these sufferers. Now, where shall we send them in summer? If you consider what I have said on the subject of etiology, you will naturally come to the conclusion that the seashore is the best place for them. Well, it is—and it is not. Unless the patient be very old, sea bathing is beneficial in most instances. Very old people, especially those with heart lesions, often do not react well after a seabath. But there are people who go to the seashore, but do not bathe except in a tub. These persons may better stay at home where they have more convenience, and, perhaps, more recreation, or, better still, seek the mountains. By bathing, and especially by diving under the waves, the entire upper respiratory tract is cleansed and stimulated in a most remarkable manner. The patient feels like a different being, most of them almost believing that they never had any catarrh. Even Woakes, whose views are often different from mine, acknowledges in his excellent book on post-nasal catarrh that "with the return of summer and a seaside visit, all these symptoms diminish." Swimming is especially to be recommended, and I believe that every child ought to learn how to swim. And let me tell you right here, that there is no such thing as a "cure" of twenty or twenty-one seabaths. The number is entirely arbitrary. Any one suffering from chronic catarrh may take as many baths during a season as he enjoys if he is otherwise healthy. If he should be rheumatic or otherwise affected, we would have to be guided by other rules. The same law holds good for the duration of a single bath. A healthy person can do a great deal that a weak and debilitated one should not risk. For many years, whenever at the seashore, I have been in the habit of taking two baths every day, and stayed in the water just as long as I enjoyed it, which in the middle of summer was sometimes between one and two hours, and I could not observe any ill effect from this. The seashore, therefore, is of greatest benefit to many. I will say here that I prefer the coast of Long Island to that of New Jersey, as it is so much cooler in summer. But there is a class of patients who never feel well and comfortable at our seashores. If it is hot they feel so much oppressed by the terrible heat, the lack of wind, etc., that they can hardly breathe. I said *our* seashores, as elsewhere conditions differ materially. Thus, for example, I have sent a good many of such patients to the Baltic Sea or North Sea, especially Norderney and the vicinity, where they felt splendid and enjoyed themselves immensely. But we cannot send everybody abroad; we do best, therefore, to advise this class of patients to go to the mountains. We have so many naturally beautiful places in our State and some of the neighboring States, that we can provide for every patient a perfect change of climate. Whoever is at all fond of nature will find some attractive place. A mountainous region with a lake in which the patient can bathe is the ideal condition. But the trouble is that, especially in the Catskills, our nearest mountains, there is by no means an abundance of lakes or running water; and, furthermore, comparatively few people can make a prolonged stay in such resorts, while a great many can take a sea bath during the entire summer.

So far for the patient's residence during the summer. In winter it is desirable to send these patients to places with a moist, mild atmosphere, it matters not whether at the seashore or even inland. I am glad Professor Chiari[4] of Vienna is quite in accord with my own ideas on this subject, and advises a moist atmosphere.

But what can we do for the vast majority who stay at home during the winter? There is a great deal to be done and much can be accomplished by it. As we cannot afford, like the Mexicans, to live in unheated houses,* we must try to relieve the dryness of our rooms in every way possible. Firstly, the windows in every room should be opened frequently. It is not sufficient to say that the windows in a bedroom have been open from one to two hours in the morning. It is important that they be opened immediately before retiring. If you can provide some form of ventilation for the bedroom, do so. But it is amusing to see people open the window at the top a few inches and then pull the shades and curtains down so that the quantity of air that enters such a room can be measured by homeopathic scales. I advise my patients, whenever they feel a dryness of the nose, the throat, or the lips, to have a steam atomizer in action for from five to twenty minutes, thus moistening the air of the room for a certain time. A little salt may be added. As this procedure is quite harmless, you can repeat it frequently. I especially order it before retiring and immediately after rising. There are some persons, however, who will not do this, as it appears to them too simple a prescription. In such cases they are told to inhale the steam through the nose, adding to the water a few drops of oleum pini sylvestris, oleum terebinthinæ, eucalyptol, and similar drugs. The desired effect, you understand, does not lie in the drug, but in the moisture that is thus brought in direct contact with the mucous membrane. There have been put on the market different apparatuses for moistening the air as soon as it leaves the register, but all of them, as far as I know, are entirely unsatisfactory.

Bathing in Winter.—How shall we bathe in winter—cold or warm? There is no doubt that cold bathing in winter is very invigorating and a great preventive against catching cold. Besides this it does little to alleviate the unpleasant symptoms of our patients. The amount of moisture that is absorbed by the system during a cold plunge of two to three minutes or a cold douche of one to two minutes' duration is comparatively small. If we want more humidity (and more is necessary) the bath must be taken lukewarm. My patients undress completely in the bathroom while the hot water is running down from the douche. Before the tub is half filled with hot water the whole atmosphere of the room is saturated with steam. By adding cold water the temperature of the bath-room becomes tepid. After remaining in it about ten minutes the patient should stay in the bath-room another ten, fifteen, or twenty minutes dressed, or still better, undressed. I allow no gas stove in the room. If the patient feels chilly sitting naked, all he needs to do is to turn on the hot water again and very shortly the room is filled with heat and moisture. If the patient before going into or after coming out of the bath exercises with dumb bells or Indian clubs or anything similar, this will be of advantage. The lower respiratory tract thus becomes charged with moisture, while there will be a reserve supply for the time when the upper parts become dry again. These are things which most people can do in their own homes, and without any extra expense.

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*I know of a few physicians in this city who do not keep their furnaces going; they try to get along with gas-stoves and open fire-places.

There is, however, a great need for something more than this—that is, swimming baths. We have some, but they are entirely inadequate for such a large population, or they are too dirty to be used by many. Is there no colleague who has commercial enterprise enough to build such a natatorium? While traveling abroad I found the finest establishments of this kind in Frankfort on the Main and in Munich. They seemed to me absolutely clean and at the same time practicable for the use of a great many people. These natatoria are not intended for the poor alone, but also for the well-to-do who used them equally there; also in Germany there are some schools equipped with swimming tanks, which have proved to be of great utility. I hope this idea will be adopted here.

In the general hygienic management of our cases fresh air is of vital importance, and patients should be as much out of doors as possible. Walking, riding on horseback, wheeling, rowing, golf, baseball, tennis, and similar games cannot be recommended too highly. If you want to keep your children healthy do as I do with mine. Take them out when it snows and when it rains. Leave the rubber shoes and umbrellas with the other relics of times gone by. When your children play and run about in the snow and get warm they will be healthy. If you keep them home and make hot-house plants of them they will be sickly and you will be responsible for it. Why? The superstition about the necessity of wearing rubber shoes is so strong that one day I was sent for by the principal of a school. One of my children had gone to that school on a rainy day without rubbers and the lady thought that that was against the rules. *Sapienti sat!*

We now come to the treatment of nasopharyngeal catarrh by local applications. If polypi are present in the nose or large hypertrophies or affections of the accessory sinuses or lymphoid hypertrophies in the vault of the pharynx or other pathological conditions requiring surgical intervention, they should be treated in that manner.

If the hypertrophy of the turbinals is not very large, it should not be cauterized nor snared off. If you treat the always concomitant post-nasal catarrh, the hypertrophy will shrink of itself after a few post-nasal applications, and you will note that the hypertrophy was almost beginning to undergo an atrophy. I have become very skeptical regarding the value of cauterizing hypertrophied turbinals, as I have seen too many atrophic catarrhs follow the procedure. With any post-nasal applicator I remove the dried crusts and scabs from the retropharynx, at the same time applying a mild or strong Lugol's solution to the mucous membrane of the retropharynx, and if necessary also to that of the pharynx. Many prefer a spray or even á syringe used postnasally, and these often do good. But I have seen acute middle-ear catarrh result from syringing the retropharynx. Some patients do not learn to use the syringe, and the danger is great when we persist in its use.

If the hypertrophic stage has passed and atrophy set in, then our tasks is much harder. The first thing is to remove the scabs, etc., from the nose. In the claims made for different proprietary douches, sprays, etc., special stress is often placed upon the words cleanliness and godliness; but we know that people with atrophic catarrh are just as clean as their neighbors. With cleanliness alone we will never cure an atrophic catarrh. As the scabs, however, must be removed, I insert for this purpose tampons saturated with ichthyol (5 per cent., 10 per cent., 25 per cent.), and leave them in for about ten to twenty minutes. On removing them, and after having cleansed out the retropharynx, the patient can blow his nose and clear it of every obstruction that had been present. If the patients can insert the tampons themselves, I give them a weaker solution, and let them do it at their homes. In advanced atrophic catarrhs one tampon is inserted, say in the right nostril for two hours in the morning, and in the left one for two hours in the afternoon. Instead of ichthyol other drugs may be used, as, for example, a preparation called keroline-ichthyol (5 per cent. to 10 per cent.), that was recommended quite some time ago, or resorcin, etc. Generally, a nasal douche or nasal spray, or even the syringe, is recommended. But they are not free from risk. Do not forget that every stream of water that runs through the nose is injurious to it, and there is still more danger from this when the mucous membrane is in a pathological condition. I am of the opinion that these douches and sprays have done more in producing affections of the accessory sinuses than anything else. It is true that a purulent process is not always developed when a fluid containing staphylococci and streptococci is forced into one of the accessory sinuses. The natural protective agencies often prevent such an occurrence. It was Bresgen,[6] who already, in 1891, showed that especially the sinus frontalis and maxillaris can become affected in this way.

Still there are cases in which it is necessary to use some kind of a douche or spray. I employ them when other means do not help, and only with all the precautions possible, regarding them as an adjunct in the treatment of these catarrhs, and nothing more. But we must always remember that if we add any drugs to the fluid, only the least irritating ones should be applied. I must warn here against the indiscriminate use of so-called cleansing snuffs and washes. One physician has advised that every child's nose should be washed daily with a saline or alkaline solution. He claims that in dentistry the same principle of cleanliness has been insisted upon for a long time; why should not the rhinologist follow in the dentist's footsteps? If we argue in that manner, let me ask why, reasoning on the same lines, do we not pump out the stomach twice a day? We should surely find much undigested food residue. Why not wash out the healthy urethra and bladder daily? Why not irrigate the whole intestines by antiseptic solutions, etc., *ad infinitum?* Shall we not rather give nature a chance to do something for us? There are few things so useless, to say the least, as douching and spraying a healthy nose. In cases, however, in which there are masses of secretions, dried or not dried, which we cannot remove otherwise, we must use a douche like that of B. Fraenkel's or Dessar's or Bermingham's, or we might use any cup, or even an ordinary spoon. In cleansing the nose we often find dried secretions with a fetid odor originating from the retropharynx. In this locality—this quiet corner behind the portal of the breathing road with its nooks and recesses—the secretions easily collect and decompose. Often when we see a patient for the first time this odor is so marked that we are inclined to believe that it comes from one of the accessory sinuses. Many a time have I seen such dried masses in all parts of the nose, even in the middle meatus and near the frontal sinus. I have also seen operations performed in such cases on the accessory sinuses which were most creditable to the operative skill of the rhinologist, but of no relief to the patient.

Not everything that smells is an accessory sinus disease. You see the fetor disappear entirely in such cases after the hygienic and local treatment has been carried out for a little while.

Often we find an abundance of secretion from the nose and from the pharynx. The first we see very frequently in children even where we do not detect any adenoids. In fact, I believe it was Jacobi who said that this rhinitis is often the primary cause of the adenoids. For local treatment in such cases penciling with a 1 per cent. to 2 per cent. solution of nitrate of silver or 5 per cent. to 10 per cent. protargol, which every mother can do at home, has been of benefit if continued for two or three weeks. This discharge from the nose very often produces in little children the alarming symptoms of false croup. In grown persons it runs down, affecting the larynx, or it passes through the œsophagus into the stomach, where it sometimes causes troublesome disturbances. I remember an instance of a prominent colleague in this city who was sent, by the advice of his medical friends, twice to Carlsbad without any relief whatsoever. After he was treated thoroughly for his catarrh, he no longer felt discomfort from his stomach, and is well to-day—more than twelve years since.

For the last three or four years I have used carbonic-acid gas for local treatment. Since trying it at the suggestion of Dr. A. Rose at my clinic, I found it to be a great assistance in certain forms of dry catarrh. I have noted over and over again that carbonic acid gas applied to mucous membranes brings on a hyperæmic condition. The patients say: Now I can breathe well. In some cases it has really an excellent stimulating effect. But we must remember that the mucous membrane of the nose, as well as that of the retropharynx, has to be cleansed before using carbonic-acid gas. This is of the greatest importance. As most patients cannot themselves remove the masses from the retropharynx, this is one of the reasons of its failures when used at home. I have never seen any toxic effect from carbonic-acid gas excepting in one case. It was that of an old gentleman, seventy-three years of age, with mitral insufficiency. After inhaling the gas for about two minutes, which I always prepare in the old-fashioned way with bicarbonate of sodium and tartaric acid, he fainted away, but soon came to without any special effort. This case reminds us to be always on the lookout even when we give medicine in harmless quantities.

Just as in all chronic diseases one drug loses its effect after it has been used for some time, so we have to change also the carbonic acid gas, and we have two more means at our disposal in order to stimulate the inactive mucous membrane, *viz.*, (*a*) internal massage and (*b*) the electric current.

Michael Braun of Triest was the first who tried to interest a larger circle, at the Berlin Congress, in the treatment by internal or direct massage. Soon afterward I began experimenting with it; but I was induced to work systematically in this field by the enthusiastic monograph of Laker.[7] And though at times, while reading his book, I felt that the author painted this new treatment in too brilliant colors, still I could not help thinking that, in spite of the severest criticisms, there was sufficient good remaining to warrant a trial of this therapy. Personally, I should like to state that I have no reason to regret my own experiments in this direction.

And these are the causes which led me, notwithstanding all objections made beforehand, to utilize electricity in preference to the muscular action of the arm as a motive power for massage.

In 1893 I published an article on "Internal Massage" (Medical Record, July 22, 1893), and at the same time introduced my electric vibrator, which I take pleasure in showing you again. It works with the greatest ease, and anybody who can hold a nasal instrument can manipulate it. I use it now almost entirely for atrophic conditions in the nose and throat. In which particular manner, however, an atrophic mucous membrane which, according to all our pathological and therapeutical experience, is no more able to perform its function can be brought back to its normal state, and especially what microscopical changes occur I do not know. I know only so much, that before treatment I had such very pronounced atrophic conditions in many cases that you would expect to find absolutely no glands in the mucous membrane left, and afterward, a mucous membrane not only normal in appearance, but also secreting mucous was the result of the treatment. The *Journal of Laryngology* (Editorial, June, 1892) says in this regard: "But the massage treatment of atrophic catarrhs would seem to hold out more favorable hopes than any other form of therapeutics, and this, indeed, is only what we should expect when we consider that such treatment must of necessity tend to restore the physiological integrity of a mucous membrane which has undergone trophic changes."

To my mind, after many years of trial, there is no doubt, that by internal massage, we produce renewed activity of formerly inactive glands, thus rendering them more prone to take up moisture and to retain it. If we accomplish this alone we have done a great deal for our patient. As a rule, I do not apply any medicament in connection with the massage, as others do. I want its pure effect. As soon after the massage as convenient I let the patients inhale from some steam apparatus. In this way we fulfill all indications.

Both the faradic and galvanic currents have been recommended, but they are very little in use nowadays for these affections.

There is one symptom often connected with chronic catarrh that is seldom mentioned in the textbooks, but is sometimes of great annoyance to the sufferer, and that is snoring. What is snoring? During normal respiration the soft palate by air pressure is drawn to the base of the tongue, and thus during sleep an open passage is created between the nose and the lungs. Persons with normal respiratory organs should therefore breathe during sleep "like a child." In so-called mouth breathers, however, the free edges of the velum hang loose, and with each act of breathing the incoming and outgoing air produces the familiar noise called snoring.

It is not seldom that I am consulted by people on account of snoring. This is not a bad habit that, as was formerly believed, is especially met with in chronic alcoholics, for as we now know every child with adenoids or every person with some obstruction in the upper-air passages snores. There is another group, however, where you cannot find any pathological basis for this snoring. I have to exclude here those patients who have been operated upon for adenoids. If there were present large masses of adenoids or other tumors, the soft palate, through permanent pressure, becomes extended, and sometimes it takes months before the restitution and integrum takes place. It is different in grown persons, where you often see no pathological changes at all, and still the patients complain of snoring. I am confronted with this "weakness" quite often in young people of either sex, who want to get married. They consult me, as a rule, a short time before their wedding, and are anxious to obtain some remedy. Now, what is the cause of their snoring? As I could not find a satisfactory answer to this question, I formed my own theory, and acted accordingly. I imagine that through one cause or another the soft palate has become relaxed, so much so that as soon as the patient lies down, and especially when he lies on his back, the palate falls back, thus closing up the passages between the nose and throat. It is easy to understand that in this way we get the same effect as if any object were to close up the passage, be it a tumor or dried mucous. In this latter class of cases I have applied alternately the galvanic or faradic current directly to the velum palati, and have had some very encouraging results. I would warn here against the often indiscriminate use of all kinds of devices to prevent mouth breathing during sleep. I consider them absolutely dangerous, and fail to understand how experienced laryngologists can recommend them. These "devices" consist in some bandage tied around the head and chin in order to close the mouth during sleep. In normal persons we surely do not need them, for every person with normal nose and throat invariably keeps the mouth shut during sleep. In other words, if any person sleeps with open mouth there is a pathological reason for it, and it is not merely a bad habit. Remove this cause and you need no "device." I believe that a swelling of the turbinated bodies occurs even in young children. This is sufficient to close up the nose, and prevent nose breathing. If you then close up the mouth, too, the child is in danger of suffocation. The reason that this accident has not yet been observed is that these children manage to open their lips to some extent and breathe through the spaces between the teeth.

I omitted to give you a mass of prescriptions for salves, vaporizers, gargles, etc., as you can find them plentifully described elsewhere. I use the different gargles and often to the benefit of the patients. I have tried here, however, to present some general rules.

It is our duty to relieve suffering humanity from their pains and ailments, and I hope that you will find in that little corner of our science called laryngology many occasions to undertake this Samaritan work.

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The Treatment of Simple Obesity in Otherwise Healthy Persons.—Carl von Noorden says that of all methods, the slowly working ones are much to be preferred, especially in young people and in women in whom the abdominal fat must be decreased. The essential thing is so to regulate the manner of living by sensible rules fitted to the habits of the individual and carried out at home in the daily routine, that further deposit of fat is prevented, and that which is already present is diminished. The best method is the old-fashioned one of instituting short courses of treatment of four or five weeks' duration, at long intervals. At the same time it is well to make use of this opportunity to exercise and strengthen the muscles and to harden the skin. In many cases the adipose tissue is not deposited evenly over the body, but is very marked over the abdomen. In rapid courses the fat may be lessened elsewhere, but in the abdominal walls it stubbornly holds its own. In more slowly applied courses of treatment the fat disappears much more evenly; when this happens an equally distributed adjustment usually takes place later; that is, the abdominal fat is lessened and is scattered among the other fatty deposits, while the body weight remains the same.—*International Medical Magazine.*

The Successful Treatment of Tuberculosis and Lupus by Garlic.—W. C. Minchin is satisfied from his experience that no treatment has as yet been brought forward which will give anything like such satisfactory results as the use of garlic. He uses the freshly-expressed juice without removing the chlorophyll. In pulmonary cases he dilutes this pure juice with an equal part of distilled water and applies it upon the sponge of a large perforated zinc respirator. It is applied freshly two or three times daily to the sponge with a small brush. The respirator is worn as continuously as possible for the first few weeks, and after that for about three hours daily. When there is evidence of intestinal trouble he gives the fresh juice by mouth in doses of 20 m. diluted. In laryngeal cases he has met with success by using a 1 in 20 solution with an ordinary throat spray, using it frequently. In surgical cases and in lupus the undiluted fresh juice is used. Very unhealthy cavities should, of course, first be washed out with some antiseptic, when a little of the juice may be injected into the cavity, covering the outlet with a similar dressing on lint. In the case of lupus fresh juice should be painted over the affected parts every night and washed off in the morning with oatmeal water.—*Medical Press and Circular.*

Bacteriology of Acute Otitis Media.—H. Coussieu states that acute otitis media following an infectious malady of unknown bacteriology (such as scarlet fever or measles), is generally mono-microbiobic at its commencement. He finds as the initial germ the pneumococcus, streptococcus, or staphylococcus. He has never found the bacillus or Friedländer, but does not deny its existence under the conditions named. This monoform does not, as a rule, suppurate, or at most, suppurates for only a brief time. When we find at the commencement of an attack several associated germs, pathogenetic microbes, alone, or those associated with saprophytes, the otitis tends to become chronic. Organic tissue-changes predispose to secondary infections, which are frequently caused by catarrhal affections of the nose and pharynx. These act through the Eustachian tube. The surest way of avoiding these infections, and consequently to lesson the duration of an otitis, is to maintain as rigorously aseptic conditions as possible in the nose and pharynx. For this purpose resorcine, boric acid, and menthol are advised, and may be used in the form of pomades.—*Annales des Maladies de l'Oreille*, etc.

Physiological Action of Petroleum.—According to Dr. White, petroleum inhibits the growth of putrefactive and pathogenic bacteria, such as are met with in the alimentary canal, yet does not inhibit or interfere with the peptic or pancreatic digestion. It is therefore an agent for preventing flatulence, by relieving fermentation in such conditions of the bowels; in fact, it acts the part of an intestinal antiseptic. By its action in promoting peristalsis and increasing diffusibility of intestinal contents it helps the natural movement of the bowels and favors the elimination of noxious and toxic products from the system.

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THE CAUSATION OF PHTHISIS.

LITERATURE regarding tuberculosis in all its phases has been so extensive during the past few years that the subject to some may appear to be becoming somewhat over-written and tiresome. Nevertheless, under existing circumstances, it is best that the matter should be kept before the public, and that the views of eminent men with regard to the causation of the disease should be widely distributed, in order that the opinions of Koch may be sifted as far as is possible.

Dr. Byrom Bramwell, physician to the Edinburgh Royal Infirmary, is one of the latest well-known authorities to propound his views. As to the nature and etiology of phthisis, he says the more important points to be considered are as follows:

1. All tuberculous affections are due to the introduction into the body of the tubercle bacillus or its spores; without the introduction into the body of the tubercle bacillus, or its spores, tuberculous disease is never developed.

2. Phthisis is always due to the introduction into the body of the tubercle bacillus or its spores, and the development in the lung of tubercles and the lesions which are associated with, and which result from, the development and growth of tuberculous lesions in the pulmonary tissues.

3. Phthisis may be either a primary or a secondary tuberculous lesion. In other words, in some cases of phthisis—and they constitute the majority of cases—the tuberculous affection of the lung is the primary tuberculous lesion; or to put it another way, in primary phthisis, the tuberculous lesion—which in its subsequent and later stages may affect many tissues and organs—is first developed in the lung, or in some part of the respiratory tract. In other cases the phthisis is a secondary tuberculous lesion.

4. So far as is known, the tubercle bacillus is never generated *de novo*, but is always derived from some previous case of tubercle, *i. e.* from a human being or from an animal, especially a bovine, affected with tubercle.

5. Tuberculous disease is conveyed from one human being to another by means of the secretions, excretions, and discharges which contain the tubercle bacillus or its spores; these discharges, more especially the sputum of phthisical patients, become dried and pulverized, and are inhaled in the form of dust with the inspired air. The sputum of phthisis is by far the most important source of infection, by which the tubercle bacillus is conveyed from one human being to another.

6. Further, if dust which contains the tubercle bacillus is capable of producing phthisis and other forms of tuberculous disease when introduced into the bodies of unaffected and susceptible persons, it follows that susceptible persons who inhabit the rooms and houses in which dust which is impregnated with the tubercle bacillus is allowed to remain and to accumulate run some risk of infection.

7. Tuberculous disease in the human subject may also be due to the introduction into the body of the tubercle bacillus or its spores derived from the lower animals, and especially from bovines affected with tubercle; in other words, tuberculous disease in the human subject may be due to the introduction into the gastrointestinal tract of tuberculous milk or tuberculous meat.

In the opinion of Dr. Bramwell, infection by tuberculous milk is a most important source of tuberculous disease, more especially of the mesenteric glands, and, therefore, of generalized tuberculosis and secondary tuberculous lesions in other organs and tissues, and consequently in the lungs, *i. e.* of secondary phthisis.

That a large amount of tuberculous disease in the human subject, and especially in young children, is due to the drinking of tuberculous milk, seems to be be shown by the facts that while the death rate from all forms of tuberculous disease, and especially from phthisis during the age-period from birth to five years, has, during the forty-five years from 1851 to 1896, markedly diminished in Great Britain, the death rate from tabes mesenterica has during the same age period diminished only 3 per cent., and below one year of age the mortality from tabes mesenterica has during the same period of time apparently increased by no less than 27.7 per cent.; and during the same period there has been a very large increase in the consumption of milk. Dr. Bramwell thinks that the danger of transmitting tuberculosis by means of tuberculous meat, while possible, is slight.

The opinions here expressed are in the main in harmony with those of other well-known investigators, except that Dr. Bramwell, together with nearly all British physicians, finds that secondary phthisis, presumably due to the ingestion of tuberculous milk, is much more prevalent in Great Britain than in any other country. The reason for this is not easy of explanation. It may be in some degree owing to the methods used in collecting statistics, or to the fact that the cows of Great Britain are more affected with tuberculosis than the dairy herds of other countries. It is notorious that less care is exercised in Great Britain than elsewhere in guarding cattle against the disease and in weeding out those already affected.

THE DIETETIC AND MEDICINAL VALUE OF ALCOHOL.

To the question whether alcohol is food or poison the answer may be given that the Celt made in the controversy as to whether the proper pronunciation was "nēther" or "nīther." "It is nāther," said he contemptuously. On the other hand, it may be found to be—paradoxical as it may seem—that alcohol is both food and poison, in accordance with the method and measure of its administration.

The matter has more than academic interest, inasmuch as the dietetic and medicinal employment or non-employment of alcohol must be based upon the decision arrived at. A most interesting discussion in connection with this subject was held recently before the Massachusetts Medical Society. In considering the nutritive value of alcohol, Professor Francis G. Benedict (*Boston Medical and Surgical Journal*, July 10), pointed out that this substance fulfills the requirements of a food in so far as it is readily and completely absorbed in the stomach; that when taken in moderate doses it is almost entirely oxidized within the body, thus constituting a source of heat; and that although it does not contribute directly to the formation of proteid and fat, it does, under certain circumstances, prevent the destruction of bodily proteid and fat. The danger of addiction should, however, never be left out of sight; while if taken in excess, alcohol not only causes gastric derangement, but also gives rise to toxic effects, and taken in moderate amounts there is reason to believe that it exerts a retarding influence upon many vital processes. Further, the dietetic value of alcohol is far behind that of a large number of other substances, so that its use as a food is entirely unnecessary in the condition of health, although under certain morbid conditions its ease of absorption and its high calorific value may outweigh its toxic effects.

In discussing the therapeutic uses of alcohol, Dr. Arthur R. Cushny indicated that this substance exerts a depressing effect on the central nervous system, primarily removing the influence of the inhibitory apparatus. Besides, mental and physical activity is lessened, both qualitatively and quantitatively. There are times, however, when precisely these effects are to be desired, and then of course, alcohol or some drug like it is to be prescribed. However administered, alcohol increases gastric secretion, and in this way it may promote digestion. To be useful as a food, alcohol would have to be taken in such large amounts as would cause cerebral symptoms in health, but might be tolerated under certain morbid conditions, as in the presence of high fever. A danger to be considered in the therapeutic use of alcohol is the formation of a habit.

In considering the influence of alcohol upon infection and the use of alcohol in the treatment of infectious diseases, Dr. S. J. Meltzer shows that, while in experimental observations on animals, alcohol, given in large doses at long intervals, fails to prevent, but rather to predispose to infection, in the presence of infectious disease in man, when given in smaller doses at short intervals, it has proved at least harmless, if not serviceable. A further difference between clinical and experimental observations is that in the former the infection is of gradual and in the latter of abrupt development, the organism being in the one instance given time to array its defensive forces against the invasion, while in the other it is not. Meltzer is inclined to consider the physiologic action of alcohol as stimulating, being expended especially on the inhibitory apparatus. Thus, the flushing of the face is to be attributed to stimulation of the vasodilators, or to inhibition of the vasomotor center. The general blood-pressure is not affected, but changes are brought about in the distribution of the blood, the dilatation of the peripheral vessels being compensated for by contraction of the splanchnic vessels. Whatever the explanation, however, evidence is not wanting as to the usefulness of alcohol in the presence of certain morbid conditions. Dr. Graham Lusk, in discussing the common use of alcohol as a beverage, pointed out the antiquity of this practice, and expressed the opinion that, taken in moderation, alcohol gives additional flavor to the food and acts as a mild narcotic, these effects being preceded by a period of exhilaration.

VACCINATION FROM ALL POINTS OF VIEW.

The *British Medical Journal* of July 5 is devoted almost wholly to a consideration of the vaccination question. The issue is splendidly set forth, and the various writers concerned in the discussion offer a strong defence of the efficacy of vaccination as a preventive of smallpox. The first part of the number deals with the life, work, and writings of Jenner, and gives, in a small space, the salient features of each.

Dr. Arthur Newsholme treats of the epidemiology of smallpox in the nineteenth century and reaches the following conclusions: "A careful study of statistics bearing on smallpox and of the different epidemics makes it clear that the chief governing factor is personal infection; that the disease spreads from town to town and from one country to another, not always affecting different countries in the same year, as it might be expected to do when similar climatic conditions occur in the different countries, if climatic conditions had a predominant influence. There is, however, some further factor responsible for the causation of the greater epidemics and pandemics of smallpox, which, for the lack of a better term, we must still designate by the old-fashioned name of "epidemic constitution." As the expression of a fact, without being committed to a theory, we may admit with the older epidemiologists that there is a constitution epidemica variolosa. What is meant by this is that at certain irregular intervals smallpox, as judged by its wider spread, is more infectious than it is in other years with equal opportunities for its dissemination. There is no regular periodicity for these greater epidemics, but there is a fairly regular periodicity for the minor epidemics in well-vaccinated communities.

Whether smallpox belongs to a group of diseases including scarlet fever, diphtheria, and rheumatic fever, which have been shown to become epidemic chiefly in years of deficient rainfall is open to doubt; but the statements already quoted on this point deserve fuller investigation than they have hitherto received.

In an article entitled "A Century of Vaccination," Dr. E. J. Edwardes shows that Germany is a striking example of the benefits derived from vaccination and revaccination at stated intervals, and that, as in the case of Bavaria, vaccination in infancy is insufficient to ward off attacks of smallpox after a certain period of time has elapsed.

Dr. F. R. Blaxall writes on glycerinated calf lymph, and with reference to the duration of its activity, says that this depends primarily upon the quality of the lymph when collected. A first-class lymph, glycerinated and kept under suitable conditions, may retain its full activity for a year or longer. An average lymph, however, cannot be depended upon to remain fully potent longer than two months, and one of inferior quality will become inert in still less time. It is in this respect of range of activity that the determination of the quality of the lymph at the outset is a matter of such importance. It must be understood that the human subject is, as far as is known, the most susceptible animal to vaccina, and that the transference of vaccine vesicles from the calf to the human subject, with or without glycerination, even if the calf vesicles are not of the first quality, will produce a human vaccinal manifestation typical in every respect, and therefore, in all probability, possessing full immunizing powers, provided that the calf lymph be used within its period of full activity. In calf lymphs of poor quality the duration of potency may be very short; in some cases hardly compatible with the complete effects of glycerination. Such lymphs need to be recognized at the outset and discarded.

The opponents of vaccination regard as the strongest weapon in their hands the assertion that the decrease, both in prevalence and virulence of smallpox is not due to vaccination, but to improved sanitation. Sanitation has undoubtedly had an important bearing upon the diminished smallpox rate, but so it has in a number of diseases, some of which, indeed, have been stamped out by such means. The methods used, however, to eradicate or control different diseases are not the same. Typhoid, typhus, diphtheria, and diarrhœa have been restrained by judicious sanitary measures, and doubtless so, to some extent, has smallbox, but the water supply or milk supply, or sewage or soil pollution has no special influence, so far as is known, upon the incidence or spread of smallpox. The article in the *British Medical Journal* demonstrates the truth of these points by statistics, and most assuredly shows that efficient vaccination is the greatest safeguard against smallpox.

American Views on the Treatment of Appendicitis.

The *London Hospital* of July 5 gives a short résumé of the opinions expressed on the treatment of appendicitis by American surgeons at the meeting of the American Medical Association this year.

Dr. John B. Deaver, and Dr. George G. Ross presented a paper giving a clinical review of a series of 426 cases. Out of the total number no fewer than 270 had been acute cases, and in these Dr. Deaver had a mortality of 15 per cent. The whole trend of this paper was in favor of early operation. The authors took strenuous exception to the general belief that amelioration of symptoms contraindicates operation, for all the miserable sequelæ of the disease could be avoided, they said, by early operation.

Dr. Parker Syms of New York held that in a series of fatal cases which he related death had in every instance been due to delay. Dr. Ernest La Place of Philadelphia said that an axiom with which everyone should be familiar was that at no time can any human being be sure of the extent of the disease, except after operation, and that therefore every case ought to be operated on at the earliest possible moment. Dr. Weir of New York agreed with Dr. Deaver that every case must be operated on at once. Dr. Murphy of Chicago said that the problem of when to operate was rapidly nearing solution. Practically all the members of the Section were agreed that it must be within thirty-six hours, and that when the profession became educated to this the mortality would be reduced to less than one-half per cent.

The *Hospital* does not agree with the American point of view of the treatment of appendicitis, and suggests that in a disease which shows such infinite variety, both in the nature and degree of the pathological changes existing, these attempts to ignore all differences in regard to treatment, and to bring down the whole business to one monotonous, dead level of operation are unwise. They appear, proceeds the writer in the *Hospital*, "to be the outcome of a sort of diagnostic despair, a hopelessness of ever being able to arrive at a satisfactory decision as to what cases may be safely left and what cases must of a certainty be operated upon; and notwithstanding all that is being said against what we suppose we may still call the English view, and especially against the cautious and judicious one taken by Mr. Treves, we cannot but feel that this view, which is based on the sound principle that different conditions call for different treatment, is the proper and the scientific one to accept in regard to this complicated question." It certainly must be something more than a coincidence that the majority of surgeons on this side of the water, with a remarkable unanimity, should have decided in favor of prompt operation in all cases of appendicitis. Undoubtedly American surgeons have had greater experience in the treatment of appendicitis than have the British surgeons, but, on the other hand, few have operated more often for the disease and with greater success than has Sir Frederick Treves.

The Betterment of London.

A Betterment of London Association has been inaugurated under the presidency of W. B. Richmond, the well-known artist, and who, it may be remembered, initiated some time ago a crusade against the smoke nuisance.

The principal objects of the newly-formed association are as follows:

1. To agitate for a quieter London, primarily in respect to unnecessary and objectionable street noises, such as those produced by organ-grinders, costermongers, and newsboys; for a healthier and cleaner London, obtainable by a constant removal of refuse and in other ways; and for a more clearly designated London. In this latter respect the association will direct attention, amongst other matters, to the illegible naming of public thoroughfares, and to the insufficient manner in which names are illuminated after dusk.

2. To agitate against the immigration of pauper aliens; against the employment—in the street—of children under ten years of age, and after nine o'clock P. M., of children under twelve years of age. To draw attention to the extreme danger to health engendered by the obnoxious habit of expectorating in public conveyances and buildings; to promote action against the sale of impure ice cream; to direct the attention of the authorities to the act relating to betting and gambling in public places; and to agitate against the constant digging up of the highways to the great inconvenience of the community.

3. To impress upon the municipal and other authorities of the metropolis the necessity of en-

forcing, as in Liverpool, the registration of street "musicians" and street traders, including newspaper venders, and to impress upon the railway companies the desirability of freeing their stations and approaches from all idlers and hawkers.

It seems a pity that there is no Mr. Richmond in New York to form an association for the betterment of New York, for if the former city needs improvements in the items mentioned, the same conditions are rampant in New York in an intensified form. What a boon to the community at large would be a quieter New York, and if such a blissful state of affairs could be brought about, how the nervous complaints to which its inhabitants are so subject would diminish. With regard to the refuse in the streets, and particularly to the household garbage, the metropolis of the United States is in the same malodorous condition as that of the British Empire. It is a common sight in New York to see the garbage wagons slowly proceeding along respectable residential streets on the afternoon of a sultry day, picking up their unsavory burdens, and leaving a scent in their wake the reverse of pleasant.

As to the designation of street names, it may be asserted without fear of contradiction, that in no city of the civilized world does so disgraceful a state of things in this respect exist as in New York at the present time. There are miles of streets whose numbers are lacking—a source of boundless inconvenience to the stranger within her gates.

The employment of children of tender years on the streets, and especially after dark, is equally bad in both cities, and if the lighting of London is worse than that of New York it must be vile indeed.

Public opinion, stoutly expressed, would have the effect of remedying the evils above mentioned, and the sooner such a course is pursued the better will it be for the inhabitants at large.

MEASURING SLEEP.

The phenomena of sleep have always possessed a peculiar interest for scientific men. Shakespeare not inaptly called sleep the twin sister of death, and philosophers of every age have racked their brains in investigating its mysteries.

The *New York Tribune* of July 20 discusses the matter and gives the result of some researches on the subject recently made by Italian students. It has long been known that age, sex, occupation, and state of health influence the period of unconsciousness termed sleep, and also the soundness of sleep. Again, it has been thought that sleep is variable with every individual, although slumber may be practically unbroken. The fluctuations of the depth of sleep have been the object of the investigations of Dr. Sante de Sanctis and Dr. D. Neyroz of the University of Rome, who have conducted a series of experiments extending over six months. Nine persons, four of whom were thoroughly healthy, and five of whom had diseased nervous systems, were selected as the subjects of these tests. The general plan of procedure was to wait until they had fallen asleep, and then to employ uniform means to awaken them.

An instrument named the æsthesiometer was used for this purpose. The essential parts of the sleep measurer were a blunt point to be pressed against the skin, a spiral spring, and a carefully-graduated scale, which showed the degrees of pressure used. The point was gently applied to the sleeper's left temple, and pressed until he awoke, when the scale was examined and notes were made of the hour and minute, and of the scale-reading. The same person was not awakened more than once or twice a night, but the experiments were so timed that in the course of a few months they covered the whole eight-hour period during which sleep lasted, at intervals of ten or fifteen minutes several times over.

The result of these experiments showed that the soundest sleep in the four healthy subjects occurred between an hour and a quarter and an hour and a half after lapsing into unconsciousness. During this period unconsciousness rapidly and almost steadily increased, and then in the next quarter of an hour greatly diminished. Thereafter surprising oscillations were detected on the average, though the stages of lightest sleep occurred about four and a half and again five and a half hours from the beginning. A short, low, secondary maximum of intensity followed in the next hour and a half or two hours. From this point the decline was rapid to the final awakening. In those of diseased nervous systems, epileptics and paralytics, very much the same state of things was observed, except that they slept more profoundly than the healthy subjects, and in one person the unconsciousness at the end of fifteen minutes was almost as marked as at an hour and a half.

THE DEADLY AUTOMOBILE.

The urban population of the United States taken in the mass are heartily sick of the manner in which automobilists are permitted flagrantly to break the law, and to endanger the lives and limbs of peaceable citizens. It would almost seem as if driving an automobile had an injurious effect on the brain, and rendered its votaries more or less irresponsible for their actions. Perhaps the exhilarating influence of rushing along at great speed and the feeling of the driver that he is in control of a force tends temporarily to unbalance his mind and to make him careless of consequences. Certain it is that for the most part motor carriages are driven in cities with a seeming disregard for the rights and safety of others that is absolutely brutal and to which a stop should be promptly put.

Mr. Louis Windmüller, a recognized authority on the subject, writing in the spring number of *Municipal Affairs*, has this to say: "Ordinances which restrict their speed to eight miles an hour in cities are seldom heeded. The most flagrant violations rarely are punished with adequate severity. Gliding noiselessly and swiftly over smooth pavements, these vehicles are apt to run down the unfortunate who may cross their paths. In turning corners they seldom reduce speed to the rate ordained by the law. Frequently they collide before they can signal their approach. The cyclist on such occasions is apt to suffer with the pedestrian, and consequently is more careful than the chaffeur, who relies on the superior strength of his vehicle."

Though perhaps the New York chaffeurs do not equal those of Paris in impudence and indifference to the rights of others, yet they are bad enough. Upon any day one may witness automobiles being driven up and down Fifth avenue at a rate of from ten to thirty miles an hour, while the guardians of the peace watch their comet-like course with an "it's-no-business-of-mine kind of look." If it is found impossible to restrain furious driving of horseless vehicles in cities, they should be kept off the streets entirely and restricted to enclosed roads of their own. Public sentiment will soon ordain that steps be taken to abate the automobile nuisance.

News of the Week.

Columbia Fellowships for Post-Graduate Study in France. President Butler of Columbia University some time ago addressed a communication to the Minister of Public Instruction in France, proposing that arrangements should be entered into for the establishment of several international fellowships which should encourage American students to pass a portion of their period of advanced study in France, and *vice versa*. It is proposed that Columbia University shall establish two annual fellowships of a value of $1,200 each, the holders of which shall carry on their studies at one or more of the French universities. In return, it is proposed that the French government shall establish two fellowships of equal annual value, the holders of which shall carry on their studies for a year at Columbia University. The fellowships are to be open to graduate students only, and the holders of them will be chosen in a manner precisely similar to that in which the university fellowships at Columbia are now awarded. Graduate students of law and medicine will be permitted to compete for these fellowships on equal terms with those who have taken the degree in arts.

The Cranium of Leibnitz.— Prof. Waldeyer read a paper recently before the Academy of Sciences in Berlin giving an account of the examination of the skull of Gottfried Wilhelm Leibnitz, the philosopher, who died in 1716. An estimate of the brain weight founded upon measurements of the cranial capacity gave only 1,257 grams. This is unusually small, the average weight of the European brain being 1,367 grams.

Remarkable Fecundity.—A Valencia journal reports the case of a woman forty-four years of age who, in the twenty-four years of her married life, has given birth to twenty-four children, all born alive and healthy at full term and all single births. One physician, Dr. Llabrés, has assisted at the delivery of nineteen of the twenty-four children, and says that he sees nothing in the woman's condition to lead him to fear that his occupation as annual accoucher will be terminated for several years to come.

An Aged Physician.—Dr. Henry Helfrich of Allentown, Pa., celebrated, on July 22, the ninety-ninth anniversary of his birth. He is the oldest resident of the city, and in all probability the oldest physician in the State.

The New York State Hospital for Consumptives.—The commission in charge of the construction and maintenance of the proposed State hospital for consumptives to be located in the Adirondacks, met in Albany on July 30 and approved the plans for a two-story brick and stone building, to be constructed on the pavilion plan with an administration building in the center. The hospital is to accommodate a hundred patients, and is to be located at Raybrook, Essex County, between Lake Placid and Saranac. It is to be started under the appropriation of $100,000 made by the Legislature, it being the expectation that work can be begun this fall, so as to have the building ready for occupancy next year.

Ophthalmia in the Public Schools.—In a recent communication to the Board of Education, Dr. Lederle, the Commissioner of Health, said that eye diseases, especially trachoma, had increased alarmingly among the children of the public schools, and he asked that a room be set apart in each school for the use of physicians appointed by the Board of Health to examine the children's eyes. Dr. Lederle said that during the last two weeks of the school year twelve ophthalmologists had examined 55,000 children in thirty-six schools and no less than 6,670 children, or 12 per cent., were found to be afflicted with contagious eye diseases. Of this number 2,328 were suffering from trachoma.

Microbes in the Streets.—Dr. Woodbury, Commissioner of Street Cleaning in this city, recently undertook to determine the number and kind of microorganisms floating in the atmosphere of the town. A number of gelatin plates were prepared and exposed for a time at different levels above the street in various parts of the town. The result was unsatisfactory—not because no microbes were found, but because there were so many that the plates were simply a mass of colonies so thickly crowded together that it was impossible to distinguish them. Other experiments are now being made with briefer exposure of the plates.

Professor Virchow Ill. It is reported from Berlin that Prof. Rudolph Virchow has had another severe fall, and is now dangerously ill in consequence thereof. His first fall took place about the middle of last January, but he made a satisfactory recovery and was doing well until this second mishap occurred. He will be eighty-one years old in October.

An Army Post for Convalescents.—A new army post is to be established at Monterey, Cal., the increase of troops in California having made more barracks necessary. Owing to the excellent sanitary situation the Monterey post will be used as a station for soldiers returning from hard service in the Philippines and for convalescents.

Ambulance Cars on German Railways.—The Berlin correspondent of the *New York Times* says that the German State railway administration has decided to maintain ambulance cars at seventy-seven of the principal stations throughout the country. The cars will contain a full hospital equipment, including operating tables and beds, calculated particularly to render everything necessary in the direction of first relief. Each car is to be in charge of a medical officer, while all railway employees will be required to be trained in the performance of first-aid duties. The cars will be so located that none will be more than an hour and a half away from a hospital, thus rendering quick transportation for victims who require serious attention. Within the past year there has been an unusual number of railway fatalities in Germany due to the inaccessibility of medical facilities.

Cholera.—The efforts of the sanitary authorities in the Philippines to suppress the cholera epidemic have been materially aided by typhoons. A second typhoon of the season visited the islands the last two days of July and cleansed Manila thoroughly. The sea was forced into the canals and flooded the districts where cholera has been raging. The result was that there were only twenty-five deaths from the disease on July 31, and the number of new cases was geatly reduced.

Dr. E. J. Gardiner has been appointed professor of ophthalmology at the Chicago Eye, Ear, Nose and Throat College.

Smallpox is reported to be prevailing very extensively in several parts of New York State and Pennsylvania, especially in the neighborhood of Geneva, N. Y., and in Delaware and Lancaster counties, Pa. The spread of the disease is said to have been greatly favored by several negro camp meetings, and one at Collingswood was for this reason broken up by the Borough Board of Health. In New York City, on the other hand, there were but three cases of smallpox during the week ending August 2, which is the lowest record for any week since the outbreak began in November, 1900.

Practical Experience Necessary for German Physicians.—According to a recent law enacted in Germany, permission to practise medicine in that country will be given only to those who have passed at least one year in practical work as assistant to some physician approved by the Imperial Chancellor, or in a hospital or university klinik, devoting no less than four months entirely to internal medicine. In addition to this the usual Staats Examen must be passed by the would-be practitioner.

King Edward's Health.—It is stated in the London *Daily Mail* that the King's surgeons do not contemplate the necessity of a second operation, and it is believed that he is well on the road to permanent recovery without any further surgical treatment.

The Rocky Mountain Inter-State Medical Association will hold its next meeting at Cheyenne, Wyo., on September 9 and 10, under the presidency of Dr. R. Harvey Reed of Rock Springs, Wyo. The corresponding secretary of the association is Dr. S. D. Hopkins of Denver.

A Milk Exposition.—There will be held in Hamburg on May 2-10, 1903, an exposition of Hygienic Milk Supplies. Every phase of milk provision, from the selection and care of the cow to the methods of keeping milk in the house, will receive attention. In connection with the exposition there will be a series of addresses and papers by dairymen, sanitarians, and physicians on milk in all its aspects as an article of commerce, as a food, and as a therapeutic agent. Details of the exposition may be obtained by those interested by addressing Herr Oekonomierath Boysen, Kampstrasse 46, Hamburg 6, Germany.

Sanatoria in New Mexico.—Silver City, N. M., promises to become known as the home of sanatoria. The establishment of the United States Army Hospital at Fort Bayard directed attention to the climatic advantages of that country, and soon thereafter the Sisters of Mercy founded St. Joseph's Sanatorium under the care of Dr. Earl S. Bullock, formerly bacteriologist at Fort Bayard. A new wing has just been added to St. Joseph's, and it is intended soon to build a number of cottages for the use of patients accompanied by their relatives. In addition to this a new sanatarium is projected; the Timmer House in Silver City, having been purchased for that purpose, will be converted into a modern hospital building.

The Prevention of Tuberculosis.—The Charity Organization Society's Committee on the Prevention of Tuberculosis needs not less than $10,000 to meet the expenses of the work which it has undertaken. Contributions made to the Society for its usual current operations cannot be diverted in any large amount to the purposes of this Special Committee. The expenditures to be made by the Committee are for the following main objects: (1) Research into the social—as distinct from the medical—aspects of tuberculosis—for example, into the relations between the disease and overcrowding, infected tenements and unhealthy occupations, and also into the influence of improved diet and hygienic living upon recovery; (2) Education. The publication of leaflets and pamphlets, the giving of lectures, and the promulgation in every possible way of the fact that tuberculosis is a communicable and preventable disease; the widest distribution of the resutls of scientific research in this field, and of the results of modern treatment both in sanatoria and at home; (3) The encouragement of movements for suitable public and private sanatoria, both for advanced and for incipient cases; for adults and for children; for free care, and also for the care of those who can pay moderate fees; (4) The relief of indigent consumptives by the provision of suitable food and medicines, by the payment of rent when this is necessary to secure adequate light and air, and by transportation and maintenance at a distance when in the judgment of the committee this is essential. Contributions may be sent to the Committee, care of the Charity Organization Society, 105 East Twenty-second Street, New York City.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL FUNDS—A MEDICAL SERVICE OF INTERCESSION—LEPROSY DISCUSSION — PROFESSOR M'ADAM'S TRAGIC DEATH—STAFF COLLEGE—R. C. S. ELECTION—DEATH OF DR. WASHBOURN, C.M.G.

London, July 10.

The King's Hospital Fund is not likely to suffer through his Majesty's illness. You know that it was proposed to augment it by a coronation gift from the people to their King. The organizing committee were very active; no charity has been more advertised, and the advertising has cost little, being so largely done by the contributors of the newspapers. On June 9 some £55,000 had been acknowledged, and it was hoped £100,000 would be subscribed before the coronation.

Among many suggestions now made the most notable is that the intended coronation gift shall be a "thanks offering" for the King's recovery. If a coronation should, after a time, take place, of course that would be the time to present the gift. Until it is actually presented it is not intended to make a final announcement of the amount received.

A "medical service of intercession for the recovery of the King" was held in St. Paul's Cathedral on Wednesday evening. It was organized by the council of the Guild of St. Luke, and what these gentlemen mean by a medical service is one for medical men to attend, but, of course, conducted by the clergy. In the invitation they said it was intended to be representative of the whole profession, and not peculiar to the Guild of St. Luke, but in order to make it a "public corporate act of intercession on behalf of the profession," they hoped all who could would "wear academical robes," and they kindly made arrangements for robing. This guild has always attached great importance to a display of academical costumes—as much, in fact, as the high church clergy, from which it sprang. But the profession cares nothing about clothes—or, begging the guild's pardon—robes. Nevertheless, the service was an interesting one, and the robes lent a dash of color to the scene.

The important discussion on leprosy at the Royal Medical and Chirurgical Society showed a tolerably general opinion against the fish theory still held by Mr. Jonathan Hutchinson, though he has been compelled to admit contagion as an additional factor, as you may have noticed in the abstract of his paper which I sent you. Mr. Tonkin's paper did not give rise to much criticism; it could hardly do so as it dealt with the facts within his experience, and supported the more general opinion. In his reply he said fish was seldom consumed in Nigeria, and it was rarely to be met with in the markets of the natives.

Dr. Hansen of Bergen who opened the discussion on the two papers said he believed that leprosy was solely propagated by contagion. He held it to be a specific disease with a specific course, and gave instances which at first seemed hereditary were later proved to be due to contagion. The bacillus could be cultivated, though with difficulty. If it could exist in salted fish it ought to be easy to cultivate in artificial media.

His experience in Norway confirmed his opinion. There the people are now eating fish just as they used to do, but the disease is disappearing. Since 1856, lepers in Norway had been isolated, and from that time there had been a steady decline from the 2,870 lepers, then known, to about 400 which now remain. None of the Norwegian emigrants to America had developed leprosy—a fact against the hereditary theory. As to the *de novo* hypothesis the disease might be latent for years, though capable all the time of inspection. The rate of development was very slow, the irritation caused by the bacillus was very slight and might be quite overlooked. It probably entered by the skin, any abrasion affording it full opportunity.

Dr. Thin cited Dr. Benson's case as proving contagion. Several years after the patient's death his brother developed the disease. The two had slept in the same bed, worn the same clothes, and used the same eating utensils. This was no isolated instance. When he was in China the idea of food contagion had occurred to him, but he found it untenable. In one of the papers under discussion lack of animal food was blamed; in the other excess of nitrogenous food.

The Royal Commission had reported that the disease was propagated independently of fish or any other food. The bacillus caused so little irritation that its entrance would not be observed, and even microscopically there were very few signs of inflammation. As to the *de novo* hypothesis it would involve a *de novo* origin of the bacillus also. The disease had been known in Egypt longer than anywhere, so Africa should be the last place to look for *de novo* cases.

Dr. P. Manson said he was a contagionist, though we know nothing of the exact mode of spreading. He compared the disease to tuberculosis. Ainhum had been thought to be a manifestation of leprosy, but this was not so in his experience. In many cases the early lesions were not symmetrical, and there seemed no evidence of a constitutional disease. He had heard that the bacillus had been cultivated in fish-broth in Ceylon. Malarial infection was through the skin; probably the large parasite of ankylostomiasis entered through the same channel; so the minute leprosy bacillus might find no difficulty. He thought Mr. Tonkin's suggestion very probably the true explanation in the Soudan.

Sir. W. Kynsey said dried fish was universally used in the interior of Ceylon, where leprosy was almost unknown, though it occurred in certain places along the coast where fresh fish was obtainable.

Sir Lauder Brunton had seen a number of cases in Jerusalem which resembled syphilis, and suggested a mixed infection. Unna had given large quantities of hydrochloric acid to make the blood less alkaline, but this result could be attained by a more highly nitrogenized diet.

Dr. T. M. Young, who has seen leprosy in India, China, and Africa, remarked on the great motility of the bacillus, suggesting a life history outside the human body, as in the malaria organisms. He found the bacilli more numerous in the deeper living tissues than in the leprous sores. He did not find fish eating to correspond with leprosy distribution.

Dr. Heron, who served on a committee ten years ago with Mr. Hutchinson, rejected the fish hypothesis. The test should be finding the bacilli in dried fish in the laboratory. The report of the commission said out of 464 lepers 99 had never tasted fish; 162 lepers in asylums scattered all over India had not eaten fish; some who came from high up the Himalayas had never seen fish.

Dr. A. Hillier, who has seen leprosy in both North and South Africa, asked if salt fish conveyed leprosy, why not fresh fish? That a leper had not seen another was of little import, as the disease was so easily overlooked. A case in support was cited. Eating salt fish is common enough in England, but we have no leprosy, which vanishes all over the world with the spread of sanitation.

Mr. Hutchinson, in reply, adhered to his views, and said he lived in daily expectation of the bacillus being discovered in fish, which, he admitted is the crucial test of the theory.

A shocking tragedy took place last week in the Edinburgh College of Surgeons. Mr. W. I. McAdam, professor of chemistry, was engaged in his laboratory when a porter, apparently in a fit of sudden madness, walked in with a rifle and shot him dead. An assistant, Mr. Jas. Forbes, ran to the telephone to give the alarm, and was also shot. Other men present scattered, except Dr. Stevenson McAdam, brother of the first victim, who went up to the maniac and spoke to him, eventually persuading him to hand over the rifle, and then seizing him and holding him until the police arrived. The deceased professor was to have started for London about that time, and soon after the tragedy his son and two of his daughters called, as they were to accompany him. Naturally, they were prostrated at discovering what had occurred.

The proposal to establish a staff college for the R.A.M.C. in London has been approved by the War Office, and the next session of the Army Medical School is to be held in the laboratories of the two colleges on the embankment instead of at Netley.

The Duke of Connaught laid the foundation-stone of additional buildings to Charing Cross Hospital, with full Masonic ceremony, last Friday, and named a new ward "Louise Ward" after his sister. The mallet used was the one used by Charles II in laying the foundation stone of St. Paul's Cathedral and presented by Sir Christopher Wren to a Masonic lodge, by which it was lent for this ceremony.

Dr. J. W. Washbourn, C.M.G., Physician to Guy's Hospital, died on the 20th inst. He was only thirty-eight years old, and yet had achieved a great reputation. You will know him best, perhaps, as a bacteriologist, but he had a firm grasp of pathology and medicine in their extensive relations. He was also physician to the Fever Hospital. His career as a student and physician was exceptionally brilliant throughout. He acted as consulting physician to the Imperial Yeomanry Hospital in South Africa, 1900 and 1901, where his services were much appreciated. He was mentioned in despatches and received the C.M.G. for his services.

Progress of Medical Science.

Boston Medical and Surgical Journal, July 31, 1902.

Non-Operative Head Injuries: Diagnosis and Treatment.—T. J. Robinson gives directions in detail for the diagnosis and treatment of injuries to the scalp, certain forms of vertex fractures, fractures of the base, cerebral concussion and contusion, certain cases of compression, and certain cases of laceration, in all of which no operation on the skull or its contents is found to be advisable. In conclusion he urges the importance of two things: (1) Extreme and immediate care in the antiseptic treatment of all wounds and abrasions of the soft parts of whatever degree; (2) Extreme care in the feeding and general nursing. By attention to these points can septic and pulmonary complications best be avoided, and the patient be given his best chance.

Indications for Operation in Head Injuries.—Edwin Willes Dwight says that personal experience and a study of all the cases that are available, have apparently demonstrated that the symptoms presented in the majority of cases of injury to the brain are ill-defined, and not such as we might expect from a study of the literature; that they are best defined in those cases that are least apt to be benefited by operation; that in the vast majority of all cases of injury to the brain, and especially in those such as one-sided extradural or subdural hemorrhages, where an operation may be expected to give relief, the symptoms are indefinite and may be entirely wanting. He lays down the following rules: Given positive signs of intracranial disturbance following an accident which might well cause such a condition, but without definite signs of fracture—explore. Given a case in which there is probable evidence of fracture, and a probability of interference with the brain—operate. He has never seen fatal or serious results follow trephining by skilful hands, even when two or three openings in the skull were made, and he has seen many lives saved by exploratory operations in this large class of doubtful head injuries.

Indications for Operation in Head Injuries.—William N. Bullard would operate in all cases of compound depressed and compound comminuted fracture of the cranium. Simple fracture of the cranium does not, as a rule, demand operation. Absence of unconsciousness does not contraindicate operation. If unconsciousness last more than twenty-four hours, no other cause than the injury being present, operation should be considered. Marked rise of temperature after uncomplicated head injury suggests injury to the brain; but is not necessarily an indication for operation. Sub-normal temperature with unconsciousness lasting twenty-four hours or more suggests œdema of the brain or intracranial hemorrhage. Severe pain in the head continuing for some time after a head injury, if organic, indicates operation. It may be functional and due to general nervous conditions. Clonic and diffuse convulsions suggest epilepsy or other complications. When localized they indicate the side of the brain on which the lesion producing them is situated. Taken in connection with other symptoms their presence usually favors operation. Marked paralysis of the limbs *in adults* usually indicates immediate operation. Partial hemiplegias and paralysis of the limbs may occur in œdema of the brain following injuries.

Journal of the American Medical Association, August 2, 1902.

Acute Gastroenteritis or Summer Diarrhœa of Infants.—Margaret Taylor Shutt says that if the child vomits repeatedly, washing out the stomach a single time will usually afford relief; if not, minute doses of calomel will in many cases allay the gastric irritation, clear out the intestinal tract, and act as a powerful intestinal antiseptic. When the stools are small and offensive, flushing out the colon is of great value, and is worth while even if done only once. If there is no nausea, castor oil must be given immediately after, otherwise 1-10 gr. doses of calomel hourly. Milk must be stopped at once, only cold boiled water being given for twelve hours, then a liquid preparation of beef peptonoid. Care-takers should be impressed with the fact that the disease is an infectious one, and that the discharges must be disinfected, the napkins boiled before using again, and hands thoroughly cleansed.

A Comparative Study of the Attachment of the Teeth.—Frederick B. Noyes says that the fact that the teeth are not a part of the osseus system, but appendages of the skin, supported in man by a special development of bone forming the alveolar ridges of the maxillary bones, is as well established as any fact concerning human dentition. The author takes up the four forms of attachment as given by Jones: (1) By fibrous membrane; (2) By hinge joint; (3) By ankylosis; (4) By insertion in a socket, and shows the comparison between them, and the evolution of the more complicated forms from the simpler. In the simplest teeth, those of the shark lamna, there is no development or modification of the arch of the jaw, and the teeth have no direct attachment to the bone—in fact, the jaws themselves are chiefly cartilage. Hinged teeth are found in many fishes, and in the poison fangs of the snakes. Ankylosis is confined to the teeth of bony fishes. The development of socket implantation is associated with great increase in the size of the teeth, and consequent necessity for stronger attachment.

Evolution of the Pulp.—Eugene S. Talbot says that in each order up to the primates occurs a difference in the size of the dental foramina, showing a struggle for existence between the orders. In the evolution of the pulp from the placoid scales, the pulps are often many times larger than the scale. Sauropsidæan pulps are generally as large, and sometimes larger, than the tooth. Shark teeth from their groove type have large pulps. The formation of projections in the grooves of toothed birds and in some mammals show where changes from open sockets to closed foramina of the teeth occur. The varieties which produce the toothless birds, the ornithorhyncus and the baleen whale to the lower dental types indicate that degeneracy in an organ which is for the temporary benefit of the type as a whole. The persistency of open pulps at the expense of the tooth as a complete type is an indication in the same direction. When the dental blood supply is cut off, and nourishment ceases, from the closing of the foramina in man, and some lower vertebrates teeth virtually become foreign bodies. Decay is therefore a natural process of excretion. Since blood does not reach the enamel and dentini, and nutrition is cut off, tooth decay is controlled by the trophic nervous system. The pulp is, hence, still a transitory structure in human evolution, and one on which nervous and metabolic storm and stress exerts a strong play.

Medical News, August 2, 1902.

Dextrocardia Due to Pulmonary Cirrhosis, with Presentation of Case.—Henry Levien gives a brief description of a case of cirrhosis of the right lung complicated by a cavity of considerable size in the middle lobe anteriorly. The heart was drawn to the right side, showing the apex beat in the fourth intercostal space about half an inch to the right of the sternum. The heart's action and pulse were normal; cardiac dyspnœa was absent. No displacements of other organs were found. The sputum contained tubercle bacilli.

Carcinoma Limited to the Appendix Vermiformis.—Richard H. Harte and Robert N. Willson discuss at length the question of primary carcinoma of the vermiform appendix as a cause of appendicitis and report two illustrative cases, both of which were operated on successfully. The total number of recorded cases in which the appendix has appeared to be primarily involved by a carcinomatous growth is still extremely small—in the neighborhood of thirty—and those in which the growth appears to have been limited to the organ, comprise a still smaller number. The authors reject the theory of a parasitic origin of the carcinoma, and believe that the original focus was a catarrhal inflammation, probably due to fecal or other obstruction, or to extension from the bowel, and that the carcinomatous change took place subsequently to, and entirely as the outgrowth of the former process. If the appendix be removed while the growth is still limited to that organ, a recurrence should not take place.

The Modern Treatment of Pterygium.—F. B. Loring describes the new and simple operation devised by Dr. A. Coe of Washington, and performed by himself with complete success in twenty-two cases. The only instruments required are an alcohol lamp and a platinum wire, mounted on a wooden handle and having a hook about three and a half millimeters in width and one in thickness. After the eye is thoroughly cocainized, he presses the bottom of the convexity heated to a white heat against the point at which the apex protrudes above the surface of the cornea, on the pupillary side, and then, elevating the handle, brings the rest of the platinum to bear in a direction parallel to the axis of the pterygium from the apex toward the base. One application of the cautery, if thoroughly done, is generally sufficient. It has been the author's habit to put the eye through a preliminary course of treatment with Pagenstecher's ointment to reduce the vascularity and to decrease the size of the growth as far as possible before operating.

American Medicine, August 2, 1902.

Should the Tampon Be Used in Postpartum Hemorrhage?—J. F. Baldwin considers the control of postpartum hemorrhage by the tampon contrary to physiology, to physics, and to all surgical principles. He does not believe that by the introduction of gauze into the full-term uterus sufficient pressure can be exerted to arrest the bleeding or that a tampon of the proper size can remain aseptic while being passed through the vulvar orifice and vaginal canal.

A More Rational Method of Passing the Suture in Fixation of the Kidney.—Max Brödel proposes a method of fixation of the kidney which prevents the tearing out of the simple through-and-through sutures generally employed. The principle of this new suture, which is applicable not only to the kidney, but to any other friable organ, is as follows: (1) The direction of the suture is not parallel to the framework of the cortex, but at right angles to it; (2) The fibrous capsule, being the most resistant structure, is utilized instead of the kidney substance itself to furnish the main support for the suture; (3) The suture is passed in a triangular manner through the cortex, so as to have two suture bridges on the surface of the kidney. These bridges bear the brunt of the work, and traction on the suture is borne by them instead of by the circulatory or secretory structures of the kidney. To make this suture tear, the bridge must pull the fibrous capsule into the cortical substance of the kidney, a procedure requiring considerable force.

The Significance of Post-operative Pleurisy; Its Relation to Pulmonary Embolism.—G. Brown Miller, from a study of the histories of sixteen cases of post-operative pleurisy recorded in the gynecological department of the Johns Hopkins Hospital, finds that in at least one-half of the cases the pleurisy had its origin in a pulmonary embolus, and was probably the result of infarction of the lung. Phlebitis or thrombosis of the crural vein, some of its branches, or one of the pelvic veins, was in most of these cases the apparent source of the embolus. The statistics of various authors show that pleurisy is, in a certain number of cases, the result of a pulmonary embolus. This is especially true in that form of the disease which occurs after operation or labor, coming on suddenly with sharp pain in the chest, dyspnœa, which is of limited extent and without known cause. In such cases one should bear in mind the possibility of the occurence of a fatal pulmonary embolism of which the first is a precursor, and take precautions to prevent any unnecessary muscular movement of the patient until the danger of embolism is past.

The New York Medical Journal, August 2, 1902.

Malarial Origin of Zoster.—James MacFarlane Winfield, who, in 1895, gave the results of examinations of the blood in eight zoster patients, showing that about 50 per cent. of them were suffering from malarial infection, now reports twenty-five additional cases, all of which had symptoms suggestive of some infection, and fourteen of which gave positive evidences of paludism as proved by the presence of the malarial parasite in the blood. The author states that while it is not his intention to assert that this special organism is the only causative agent in the production of this neurocutaneous disorder, zoster (for it is undoubtedly that many different varieties of bacterial intoxication could bring about the same effect), he maintains that the plasmodium malariæ should be considered one of the causes in a disease that is so etiologically uncertain.

Some of the Therapeutic Uses of the X-Ray.—E. D. Bondurant reports a case in which the use of the *x*-ray completely relieved the pain of a carcinoma of the face, caused a cessation of discharge and the formation of healthy granulations, the present condition being that of a fairly healthy ulcer, which is steadily healing. In a second case there is apparent cure of an epithelioma of the face; in a third the progress is extremely satisfactory after only eleven treatments; and in a case of lupus, the nodules are shrinking and the ulcerated surface is healing after ten sittings. A specific effect in relieving pain has been attributed to the *x*-ray, with ample confirmatory evidence. It has a remarkable influence in stopping the pain of carcinomatous growths, and the author has known it to cure facial and intercostal neuralgia, headache, and functional nerve pains. The permanence of the cures of epithelioma, lupus, etc., can be demonstrated only by time. Recurrences have thus far been infrequent, but not unknown. The advantages possessed by the *x*-ray treatment are certainty of good result in suitable cases; the inconspicuous scar and absence of subsequent contraction in the scar tissue; absence of pain, and entire absence of danger.

Philadelphia Medical Journal, August 2, 1902.

A Case of Albumosuria of the Pernicious Anæmia Type.—Herman F. Vickery describes a fatal case of albumosuria occurring in a male patient of middle age; the examination of whose blood revealed a condition found in pernicious anæmia. Temperature, pulse and respiration were but slightly altered. The patient did not complain of his bony framework in any way, and nothing abnormal was detected upon examination. The *x*-rays revealed a slight dilatation of the heart and of the aorta, but no abnormalities in the bones. No autopsy could be obtained.

Cocaine as a Thermogenic; Its Modes of Action.—Edward T. Reichert's experimental research has demonstrated the following facts: (1) That the rise of temperature caused by cocaine is due to an increase of heat production, and that the latter depends upon two actions—one upon the cortex, causing motor excitement, and the other upon the caudals thermogenic center, by which heat is produced independently of motor activity; (2) That cocaine possesses very little power as a thermogenic in animals lightly curarized, because of both the motor quietude and the depression of some other portion of the thermogenic apparatus; (3) That cocaine is absolutely without thermogenic power in animals in which the pathways of thermogenic and corticospinal motor fibers have been cut, as after sections of the spinal cord at its junction with the bulb and of crura cerebri; (4) That cocaine is effective as a thermogenic when only a small portion of the caudate center is left intact with the parts below; (5) That cocaine and morphine are direct antagonists in their actions upon the caudate and cortical centers which are directly or indirectly involved in the changes of temperature and heat production.

The Lancet, July 26, 1902.

Injuries of Nerves.—In his second lecture on this subject, Anthony A. Bowlby says that of the chief causes of failure in secondary suture of a nerve, the first is sepsis, and the second the lapse of time between the reception of the wound and the operation. Nerves unite differently, so far as utility of the part is concerned. For instance, a navvy may have his hand restored to all the sensation and power necessary for his work, whereas a cabinetmaker, or a pianist or a violinist, for whose work it is essential that sensation and minute movements in every part of the small muscles of the hands should be as complete and natural as possible, will not have so satisfactory a result. Sometimes nerve ends are so far separated that they cannot be approximated, in which case nerve grafting will have to be resorted to. Partially divided nerves do not, as a rule, need to be operated on.

Note on a Case of True Intestinal Sand.—Charles H. Bedford reports the case of a woman of forty-four years with a marked history of gout. There was complete absence of painful paroxysms, vomiting, and flatulence. At the time the sand was passed she had been for months on a milk and farinaceous diet. An analysis of the deposit showed: moisture, 5.20 per cent.; calcium phosphates, 28.68 per cent.; calcium carbonate, 5.20 per cent.; magnesium phosphate, 0.49 per cent., and organic matter, 60.43 per cent. No trace of urates or uric acid. This clearly shows that the case was one of true intestinal sand, as distinguished from the "false," which owes its origin to undigested vegetable particles. The cause is obscure, and all that can be said at present is that the condition would appear to be very closely related to gout, and to be favored by a milk diet.

Puerperal Aphasia.—M. A. McIntyre Sinclair gives an analysis of eighteen cases of this disease. Poupon considers that they may belong to one of two classes: (1) Those due to nervous origin, and (2) those due to vascular origin. The author admits the occurrence of cases due to a nervous dyscrasia, such as hysteria or reflex disturbance, otherwise he thinks that many cases are attributed to this class which are really of vascular origin. As to the second class, some cases may be due to cerebral thrombosis or embolism. In many cases, however, there is no evidence of degenerative changes of the blood vessels, no cardiac disease, no albuminuria, and no suspicion of neurotic habit. The key to the situation lies in the composition of the blood itself, and the greater tendency which puerperal women have to the formation of clots within the vessels. The author enters into this point in detail, and quotes from the literature and from clinical observations to support his view.

Three Cases of Motor Aphasia from Injury to the Head, Two of Which Were Rapidly Cured by Operation.—David Newman says that in the first case the injury, without producing a fracture of the skull, induced complete unconsciousness, followed by epileptiform fits, and while unconsciousness was returning complete paralysis of the right arm and leg appeared. The operation was performed on the tenth day after the accident, and the patient had completely recovered from all the symptoms of injury on the twentieth day. In the second case the injury had produced a depressed fracture of the skull associated with complete unconsciousness, and on the fourth day epileptiform attacks developed, involving primarily the right arm and leg. On the fifth day the skull was trephined, the bone was elevated and blood was removed, and on the twenty-eighth day the patient had completely recovered. In the third case the injury produced aphasia and unconsciousness only, there were no fits or paralysis, an operation was not performed, and the patient made a slow recovery during four months.

British Medical Journal, July 26, 1902.

Antistreptococcus Serum in Puerperal Fever.—Walter E. Fry has treated a case of puerperal fever in a primipara by the injection, once daily for three successive days, of 10 c.c. of antistreptococcus serum. Uterine douches and other methods of treatment were persevered with throughout, but the patient succumbed on the day following the last injection.

A Case of Movable Liver, with Greatly Distended Gall-Bladder, Relieved by Cholecystotomy.—David Newman has observed a case of this kind which is of interest because of the rarity of the condition as well as on account of the fact that the diagnosis was obscured by a greatly distended gall-bladder. The fluid filling this organ contained a large number of minute gallstones, but no impacted calculi were found in the dilated biliary ducts. The patient made an excellent recovery.

A Fertile Family.—Alex. J. Wilson records his experience with a primipara, thirty-one years of age, who, six months and a half after her marriage, gave birth to triplets, all being born alive, but dying twelve hours after birth. Thirteen months later twins were born, who were also premature (seven months). One of the twins died of bronchopneumonia when it was three months old, the other is still living and in good health. Thus, there were five children born in a little over one year and a half from the date of marriage. This unusual fertility is apparently on the husband's side, because his mother had twins twice, and the wives of five uncles—brothers of his father—all gave birth to twins.

Deutsche medicinische Wochenschrift, July 10, 1902.

Malaria and Carcinoma.—J. Goldschmidt cites the statistics of the island of Madeira in opposition to Loeffler's views concerning the antagonism of malaria and carcinoma. In Madeira malaria is practically unknown, yet the figures show that carcinoma here is also a rare disease. Surely if malaria and carcinoma are as antagonistic as Loeffler thinks, it is reasonable to suppose that the inhabitants of this island should show a fair proportion of cases of the latter disease.

Blackwater Fever.—Reinhold Ruge reports a case which shows that a small dose of quinine (.3 grams) may give rise to a severe attack of hæmoglobinuria, and, furthermore, that the so-called quinine prophylaxis is not in all cases to be relied upon as a preventive of blackwater fever. During the attack quinine enemas, as recommended by Kleine, are usually well borne by the patient, and seem to be of value in the treatment of the general condition. Microscopical examination of the blood can be relied upon for the prediction of an attack of blackwater fever, since twenty-four hours previous to the appearance of the clinical symptoms polychromatophilic degeneration may be observed, together with numerous macrocytes, microcytes, and "blood shadows."

Blackwater Fever and Malaria.—C. W. Schlayer reports a case of malaria complicated by blackwater fever in which the hæmaturia was apparently due to phenacetin, no quinine having been taken for ten days previous. The patient had just returned to Germany from Africa, in which country he had been free from malaria due to an efficient quinine prophylaxis. The diagnosis was at first in doubt, since a complicating pleurisy was present. Phenacetin (0.75 gram) was given; this was followed within twenty-four hours by a typical attack of blackwater fever. During this attack quinine (0.5 gram) was administered every three hours and much benefit obtained therefrom. The case is of interest in that it adds another to those few instances of phenacetin-hæmoglobinuria which have hitherto been observed.

Berliner klinische Wochenschrift, July 14, 1902.

Uterine Carcinoma Treated by Cancroin.—Schultz-Schultzenstein's patient was fifty-six years of age and had suffered from the carcinoma for over four years. For four months, except during short intervals, frequent inoculations of cancroin were administered. The total amount used was 10 c.c. Absolutely no improvement was obtained from the use of the cancroin, and laparotomy was subsequently performed with satisfactory result.

Treatment of Carcinoma by Cancroin.—Poten reports two cases of inoperable carcinoma, one of the uterus and the other of the breast, which were treated by cancroin, according to Adamkiewicz, without result, death occurring in both cases. The uterine case received during twenty-four days a total of sixteen injections or 13.5 c.c. of cancroin. The mammary case received eighteen injections, or 20 grains of cancroin, in forty-seven days. In both cases the diagnosis had been established by microscopical examination.

Cancroin in the Treatment of Carcinoma.—N. Nothnagel says that the cases recently reported by Adamkiewicz as carcinoma of the stomach, and in which a cure is claimed to have been produced by inoculation of cancroins, cannot with any degree of certainty be regarded as carcinoma. The case came under the personal observation of Nothnagel. The patient was in poor general condition, very anæmic, and complained of vomiting after eating. There was no pain in the epigastric region, but slight susceptibility upon pressure. Palpitation failed to show the presence of any tumor. The test breakfast showed neither hydrochloric or lactic acid. In face of these facts it is impossible to regard the case as one of carcinoma.

Treatment of Gout with Quinic Acid.—Huber and Lichtenstein report the successful treatment of five cases of gout with sidonal, which is chemically an anhydride of quinic acid. In all the cases the daily dose employed was ten grams. In every instance the result obtained was very satisfactory, the local and general symptoms being quickly relieved. It was interesting to observe that the more acute the case the more marked was the relief obtained. Observations were made upon the excretion of uric acid in four of the cases. Without exception the excretion of this acid was lessened during the administration of the drug. The reason for this is not entirely clear, but it seems most probable that the presence of this drug in the system lessens the formation of the acid.

Münchener medicinische Wochenschrift, July 15, 1902.

Serum Diagnosis of Tuberculosis.—Franz v. Gebhardt and Arpad v. Torday have tested the blood serum of 176 persons for its agglutinating power against the bacillus tuberculosis. The persons examined included both tuberculous and non-tuberculous individuals. For the tests the homogeneous cultures of Arloing were exclusively used. 74.7 per cent. of the tuberculous cases gave a positive reaction, while the serum of 34.5 per cent. of the non-tuberculous also agglutinated the cultures. From these figures it is evident that the reaction is of comparatively little value in the diagnosis of tuberculosis.

Operative Treatment of Tuberculous Peritonitis and Renal Tuberculosis.—Weisswange reports four cases of tuberculous peritonitis which were cured by laparotomy and two cases of renal tuberculosis in which a like result was obtained by nephrectomy. Great interest attaches to the reason why in many instances these operations are followed by a gradual disappearance of the tuberculous process not only in the locations operated upon but often also in other regions of the body. It is probable that a partial explanation is to be found in the evacuation of large quantities of tubercle bacilli with their products during the operation, but it seems most likely that the chief cause is the large increase in leucocytes, which takes place in the blood during the operative procedures. It may now be regarded as established that the bactericidal substances present in the blood are of leucocytotic origin. It is therefore certain that the leucocytosis produced by the incision is a prime factor in the disappearance of the tuberculous process.

French and Italian Journals.

The Pathogenesis of Psoriasis.—Guiseppe Verrotti holds that psoriasis depends upon an acid autointoxication, and in proof of his opinion adduces the results of urological researches. The skin, during the process, constitutes a means of elimination, which, according to the necessities of the case, either helps out the renal function or takes its place entirely. The activity of the process depends upon the degree of acidity and the renal sufficiency, being in direct ratio with the former and in inverse relation with the latter. This view of the pathogenesis of psoriasis explains many clinical facts which are in themselves apparently contradictory, such as cases of psoriasis accompanied by general systemic changes, as well as the numerous cases which are accompanied by such a state of relative well-being as to justify Kaposi's remark that psoriasis is a disease of the vigorous.—*Giornale Internazionale delle Scienze Mediche*, June 30, 1902.

Some Unusual Facts Discovered During the Examination of Malarial Blood.—G. B. Mariotti-Bianchi, during the anti-malarial campaign at Grossetano, observed four cases in which an examination of blood taken from the finger showed a deviation from the normal. The annular form of parasite was found as usual, with a few semilunar ones, but in addition there were adult forms in the circuating blood. The author also had the good fortune to catch a sight of a corpuscle at the very moment when it was breaking open to give egress to the semilunar bodies. Bignami and Bastianelli, as well as other writers, state that these bodies do not appear before the seventh and eighth, rarely the fifth or sixth day of the disease, and the author agrees that this is the rule. In one of the cases which he reports, however, he found them at the first examination, made at the end of the first febrile attack. The patient had never suffered from malaria before.—*La Riforma Medica*, July 12, 1902.

A Grave Case of Traumatic Tetanus Cured by the Tizzoni Antitoxin.—Eustachio Miraglia reports the case of a youth of sixteen years suffering from tetanus in aggravated form. The contraction of the jaw was so great that no amount of force could overcome it, and the muscles of trunk and limbs were in a condition of almost complete rigidity and the seat of atrocious pain. A subcutaneous injection of Tizzoni's antitoxin was given, 5 grams at a dose, in view of the gravity of the case. The next day the improvement in the patient surpassed all expectations. The contracture of all the muscles was greatly diminished, the arms could be moved and the mouth opened sufficiently for the administration of solid food, which could be masticated and swallowed with ease. Two grams were given that day, and a gram on each of the three days following. Recovery was complete.—*Giornale Medico del Regio Esercito*, June 30, 1902.

The Pupillary Reaction to Light in New-born Cats.—Tribondeau quotes Max Schultze as authority for the statement that the cat is born with closed eyelids on account of incomplete development of the retina. Nevertheless, after incising the lids at the point where they open later, and quickly carrying the animal into sunlight with the eyelids open, a contraction of the iris is produced. This reaction is equal on the two sides. The phenomenon is manifested directly after birth, but becomes more marked in the following days. The ordinary drugs have their effect on the iris in the first days, atropine has its usual dilating effect, but eserine exercises at that time a dilating effect opposite to the way in which it acts on the pupils of an adult. Further histological researches will show the anatomical condition of the retina at this period of the cat's life, but these experiments already show that from birth this membrane can be the starting point of light reflexes of the iris.—*Journal de Médecine de Bordeaux*, July 6, 1902.

Bathing the Nasal Fossæ.—Dereq declares that this operation is a simple proceeding, and gives the following directions: An absolutely clean drinking glass is used. It is washed out at the last moment with boiled water, and filled with a lukewarm solution of boric acid or whatever other solution is indicated in the special case under treatment. A basin is placed in front of the patient. With one hand the glass is held in place, keeping up a light pressure at the base of the nose. The head is held in the vertical position and respiration is uninterrupted through the open mouth. The bottom of the glass is slightly raised, and gradually, to the point of immersion of the tip of the nose. If the penetration of the nose by the liquid does not take place the head should be inclined backward very slightly for a few seconds. In this way the liquid will reach the posterior orifice of the nasal fossæ. The glass may then be put down and the liquid expelled into the basin. The length of time that this process should be continued and the amount of liquid used will depend upon the extent of the trouble to be treated. Between the treatments, the patient may gently blow the nose to express the accumulated mucus, or the foreign bodies which the bathing has rendered movable.—*Journal de Médecine de Paris*, July 6, 1902.

Melanosarcoma of the Thumb.—Brin and Papin report this rather unusual case. The patient was a woman o fifty-two years. The tumor developed in the first phalanx of the thumb. It began as a small movable nodule, which grew little by little. It was first noticed about a year before it was brought to the attention of the writers. For three months the patient had been using ointments on it, but they only inflamed the skin and produced ulceration. The tumor had developed on the inside of the thumb. It had grown in the direction of the tendons and was now hardly movable. The ulcerated skin over the central part of the tumor, especially at its periphery, was dark in color, characteristic of the growth. There were no enlarged ganglions. The thumb and metacarpal bone were extirpated. Examination showed the tumor to be melanotic with fusiform cells. At certain points the cells had invaded the papillæ of the derma, and at other points the sarcomatous tissue remained separated by a thick layer of connective tissue. The grains of melanin were recognizable by their histo-chemical characteristics. They were both intra- and extra-cellular, and were clumped together in considerable masses. Melanosarcoma is not often seen on the hand or foot.—*Bulletins et Memoires de la Société Anatomique de Paris*, February, 1902.

Revue de Médecine, July 10, 1902.

Potato Treatment in Diabetes Mellitus.—A. Mossé states that the administration of potatoes as a substitute for bread in diabetes mellitus and surgical diabetes has been found to be not only non-injurious, but useful. It cannot be called a form of treatment of the disease itself, but it constitutes an indirect method of lessening the glycogen and of exciting the glycolytic functions of the organism. The symptoms dependent upon hyperglycogenesis are in consequence attenuated. The author reports cases, and gives directions for the administration of potatoes, as to quantity and mode of preparation.

Aneurysm of the Ascending Aorta.—Prof. D'Espine concludes from his researches that there is a special form of aortic aneurysm characterized by an anterior diverticular pocket, which has important relations with the pulmonary artery or the conus arteriosus. The pathognomonic symptoms are a pulsation to the left of the sternum, and a special sphygmographic tracing differing from that of fusiform aneurysm. The possible complications are constriction of the pulmonary artery by pressure, pulmonary insufficiency from valvular union, or artero-venous aneurysm from perforation of the pulmonary artery. The systemic results are those of venous stasis.

On the Mechanism of Intestinal Infection in Dysentery.—L. E. Bertrand says that the fact that the intestines are under certain conditions a closed vessel, as it were, is as favorable to the production of dysentery as Dieulafoy has shown it to be of appendicitis. In constipation the condition exists and causes rectitis, which, according to Virchow, is the chief etiologic factor in dysentery. It exists also at the beginning of dysentery when the dejecta are composed exclusively of mucus, blood, and pus; the intestinal depletion produced by the first purgation causing scybalæ. The administration of large doses of opium, absorbents, and astringents in the beginning or during the course of dysentery causes this condition, and is the worst possible form of medication, especially in hot climates. It cannot be repeated too often that the only rational and efficacious treatment in dysentery consists in evacuating medication. All else is merely accessory.

Revue de Chirurgie, July 10, 1902.

Coxa Vara of Adolescents.—Robert Piqué describes this deformity, which consists in a diminution of the angles of inclination and declension of the neck of the femur. It may be congenital or acquired, appearing in the latter case at adolescence. It comes on insidiously, without any preceding rachitis, and the femur in which it occurs is usually larger than the one of the opposite side. It acts therefore as a compensatory process. There are two stages in its development; the first a painful one, during which the deformity causes symptoms of osteoarthritis with contracture, causing a marked restriction of movement, and tending to keep the limb in a position of adduction and external rotation. The second stage is a stationary one, during which all irritative symptoms disappear, but the functional disorders persist. Treatment consists of rest in bed and extension. At a later stage a supracondylar osteotomy might, if necessary, be resorted to, for the correction of a too extensive deformity.

Treatment of Contusions of the Abdomen.—L. Cahier says that in cases when the patient is conscious and not in pain, 0.01 of morphine may be given hypodermically. He should be questioned at this time as to the details of the accident. If there are more or less violent abdominal pains, vomiting, etc., the same dose of morphine should be given, and special care be exercised that no drink of any kind be given to the patient. Patients in syncope or suffering from shock should be placed lying with the head low, and should be warmly covered. Injections of ether, caffeine, or spartein should be administered. The patient should be catheterized as soon as he is placed in bed, to ascertain whether the bladder has been wounded, again a few hours later to find out whether there is oliguria or anuria. The author does not believe that opium masks the symptoms, for paradoxical pulse, temperature, pain under pressure, muscular contraction, etc., will suffice for diagnosis, and will not be affected by the drug. Details for operative intervention are given.

Cerebral Hemorrhage Occurring During Chloroform Anæsthesia.—M. Boureau reports the case of a woman of fifty-two years upon whom an operation was performed for the removal of a frontal tumor. The patient took the chloroform easily; the operation lasted forty-seven minutes, anæsthesia an hour and five minutes, 28 c.c. of chloroform having been taken. During the operation nothing abnormal occurred. After the patient was placed in bed the nurse perceived that her pallor was extreme, respiration stertorous, pulse small, and skin cold. In spite of frictions, subcutaneous injections of artificial serum, ether, caffein, etc., this condition persisted for eight hours after the operation, when the patient regained consciousness. There was found to be complete paralysis of the left arm, beginning paralysis of the left leg, and slight paralysis of the right side of the face. The next day the leg was entirely paralyzed. Improvement was marked in a few days, and recovery will probably ensue in a few weeks. The cause of the occurrence is difficult to understand. Had the patient not recovered, her death would undoubtedly have been attributed to the chloroform anæsthesia.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Cellular Toxins, or the Chemical Factors on the Causation of Disease. By Victor C. Vaughan and Frederick G. Novy, M.D. Fourth edition. 8vo, 480 pages. Lea Brothers & Co., New York. Price, cloth, $3.00 net.

The Essentials of Histology, Descriptive and Practical. By E. A. Schafer, L.L.D. Sixth edition. 8vo, 416 pages. Illustrated. Lea Brothers & Co., New York.

The Last Words of Distinguished Men and Women. By Frederic Rowland Marvin. 8vo, 354 pages. Fleming H. Revell Company, New York. Price, cloth, $1.50 net.

Von der Nervenzelle und der Welle im Allgemeinen. By Paul Kronthal. 8vo, 274 pages. Illustrated. Gustave Fischer, Jena, Germany. Price, Mk. 16.

Ministero Della Marina, Ufficio Sanitario, Statistica Sanitaria dell' Armata 1897 e 1898. 175 pages, royal octavo.

The Roller Bandage. By William Barton Hopkins, M.D. 12mo, 162 pages. Illustrated. Fifth edition. J. B. Lippincott Company, Philadelphia, Pa. Price, $1.50.

A Manual of Otology. By Gorham Bacon, M.D. 8vo, 445 pages. Illustrated. Third edition. Lea Brothers & Co., New York. Price, cloth, $2.25 net.

The Unknown God. By Sir Henry Thompson, Bart. 16mo, 86 pages. Frederick Warne & Co., London and New York.

Beiträge zur Syphilis Forschung Von Dr. Max von Niessen, Wiesbaden VI-VII., 170 pages. Illustrated. Auteur-editeur. Selbstverlag

Studies in Heterogenesis. By H. Charlton Bastian, M.D 8vo. Second part. 147 pages Illustrated. Williams & Norgate, London. Price 7s. 6d.

Mother and Child. By Edward P. Davis, M.D. 12mo. 264 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa. Price, $1.50.

A Manual of Instruction in the Principles of Prompt Aid to the Injured. By Alvah H. Doty, M.D. Fourth Edition. 12mo. 302 pages Illustrated. D. Appleton & Co., New York.

The Johns Hopkins Hospital Reports. 321 pages. Illustrated. The Johns Hopkins Press, Baltimore, Md.

Book Reviews.

Dynamic Aspects of Nutrition and Heredity. By Frank Harridge. New York: Wm. Wood & Co., 1902.

An explanatory title of the above might be, "An attempt to reduce the problems of physiology and physiological chemistry to a physical basis."

The nervous system regulates all the various processes connected with tissue change by virtue of the force generated and developed in its own metabolism. These changes constitute a continuous series of rhythmic movements, the influence of which is felt throughout the body. Nutrition, preventive medicine, curative medicine, and the laws of heredity are to be explained directly, at least, by alteration of these rhythmic movements.

A strangely interesting and odd conceit that has been suggested before, but which has never been worked out so well as by Mr. Harridge. Without agreeing at all with the writer's conclusions, the reviewer ventures the opinion that there are few books that fall into the hands of physicians that will be read with greater interest than this one. The concluding chapter on heredity is not up to the mark set by the first chapter on the active forces of living organisms. Although Mr. Harridge may not convince many, he is sure to interest some.

The Practitioner's Manual. A Condensed System of General Medical Diagnosis and Treatment by Charles Warrenne Allen, M.D., Consulting Genitourinary Surgeon to the City (Charity) Hospital; Consulting Dermatologist to the Randall's Island Hospital; to the Hackensack Hospital; to the Bayonne Hospital; to the Infant Asylum of the Holy Rosary. Professor of Dermatology at the New York Post-Graduate School, etc. Second edition, revised and enlarged. 889 pages. New York: William Wood and Company, 1902.

The fact that a second edition of this work has been required within three years of the original issue seems to prove that it has served its purpose satisfactorily. The diligence of the author in collecting so many formulæ and arranging them under their respective headings is worthy of praise. Among the new chapters we note those on Gastroptosis and Enteroptosis, Mediterranean Fever, Meralgia Paræsthetica, Mongolism, the Fourth Disease as described by Dukes, and Splenitis and Poliomyelitis in the Adult. A new chart and many new formulæ have been added, while other prescriptions of less importance have been dropped from the text. The differential points in diagnosis have been well brought out, so that the treatment can be more intelligently employed. The work is not intended as a textbook, but as a practical aid to the busy practitioner in search of help. Many of the minor ailments so often omitted in larger works are here incorporated, and will be welcome reading to the clinician.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By various writers. A New Edition Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume IV. Illustrated by chromolithographs and eight hundred and fifty-nine half-tone and wood engravings. New York: William Wood & Company, 1902.

One hundred and fourteen writers have prepared the many times greater number of articles contained in the eight hundred and seventy-three pages of this fourth volume of the Reference Handbook. The titles run in alphabetical order from "Ergot" to "Infiltrations," including such important subjects as Erysipelas, Evolution, Eye, Food and Food Poisons, Foot (including Clubfoot), Fractures, Gall-Bladder, Gangrene, Genital Organs, Gestation, Glaucoma, Goiter, Gonorrhœa, Gout, Gunshot Wounds, Hands and Fingers, Harelip, Headache, Heart, Heredity, Hernia, Hip-joint, Histological Technique, Hospital Ships, House Santitation, Hysterectomy, Hysteria, Immunity, Impregnation, and Infancy. It is an extremely difficult task for a reviewer to do any sort of justice to a work of this nature in the necessarily limited space of a book notice. Many of the articles above mentioned are practically monographs and deserve independent reviews, while scores of other articles, perhaps no more than half a column in length, yet compact little treatises in themselves, must be passed by without even mention. Such, for example, are those dealing with the various articles of the materia medica, the health resorts and medicinal springs of Europe and America, minor diseases of the skin and other organs and tissues, anatomical structures, etc., etc. Many of these are perfect in their way, contributed by men whose absolute knowledge of their subject has enabled them to condense to the utmost without the sacrifice of lucidity. With this volume the encyclopedia is half completed, and any doubts that may have been entertained regarding the value of the finished work must be dispelled by the appearance of this, the latest and in many respects most important and best of the volumes of the series.

Einführung in die Farbstoffchemie für Histologen, von Dr. L. Michaelis, Assistenzartz am Städtischen Krankenhause Gitschinerstrasse in Berlin. Berlin: S. Karger, 1902.

This book is divided into two sections, the first of which treats of the general chemistry of the staining agents considered. This section is both theoretical and practical in nature. Especial mention is to be made of the abundant use of graphic formulæ. These are always desirable in any work which deals with highly complicated and closely-related chemical compounds, and their abundant use adds greatly to the value of the work, particularly for those who are not accurately familiar with the pure chemistry of the substances considered. In the second section the various staining methods as used by histologists are individually considered. The chief value of this portion of the work lies in the fact that the author considers principles rather than processes, thus encouraging the reader to independent thought and an endeavor to attempt original work along the lines indicated. For the reasons above indicated it is the most valuable work which has yet appeared upon this topic.

Fragments in Philosophy and Science, being Collected Essays and Addresses by James Mark Baldwin, P.D., etc., Stuart Professor in Princeton University. New York: Charles Scribner's Sons, 1902.

No extensive review is needed of this book of essays and addresses which have been published in various philosophical reviews and scientific journals during the past ten or fifteen years. To those medical men who are accustomed to delve a bit into writings on philosophy and psychology this volume, embodying the best thought of an advanced thinker, will be welcome; others will do no more than read the titles of the chapters. Of special interest to physicians are the chapters on Physilogical Psychology, of which "it is useless as yet to expect, and profitless to attempt, more than minor generalization." Although "activity of research and proportionate fruitfulness of result are preparing the way, we believe, for greater discoveries." The chapter on the origin of volition in childhood, in which it is contended that "the child's first exhibition of volition is its repeated effort to imitate movements seen, noises heard, etc." The three elements of the volitional process are desire, deliberation, and effort, desire taking its rise in visual suggestion and developing under its lead. The chapter on the Origin of Emotional Expression is perhaps the best example the book contains of the author's argumentative and critical faculties. In spite of its mildly sarcastic vein, it is pleasantly written.

Zum Studium der Merhfähigkeit Experimental-Psychologische Untersuchung. Von Dr. Aug. Diehl, Nervenarzt in Lübeck. Mit einem Vorwort von Prof. Dr. Aug. Forel. Berlin: Verlag von S. Karger, 1902.

Diehl describes the series of careful and varied experiments he has made on eight persons—children and adults—to determine their capacity for retaining, under normal conditions, optic impressions of a simple kind. The tests included numbers, the relative position of a certain object on a white background, and colors. The results show how untrustworthy the memory is even a short time after the impression has been received.

Ueber die Behandlung der acuten Nierentzündungen und der Schrumpfniere. Von Prof. Dr. Carl von Noorden, Oberarzt des Städtischen Krankenhauses in Frankfurt a. M. Berlin: August Hirschwald, 1902.

The first of the five chapters of this interesting and instructive brochure, by a well-known authority, is devoted to a review of the customary treatment of acute and subchronic (parenchymatous) nephritis, and of contracted kidney. It is followed by a consideration of the metabolic changes in their bearing on the dietetic treatment. In the last two chapters the dietetic and physical therapy of the above-mentioned affections are set forth in accordance with the author's views, which differ in not a few respects from those given in the textbooks.

Der Sauerstoffmangel als Bedingung der Erkrankung und des Ablebens des Organismus. Von Prof. Dr. C. Pavlinoff. Berlin: August Hirschwald, 1902.

Pavlinoff undertakes to show that lack of oxygen is the condition essential to function and consequently also to life, and the evolution of the organism—in other words, that all functions of the higher animals depend upon oxygen hunger. He considers that the struggle for oxygen between the cell and the irritative agent constitutes the process of inflammation, and that the increase of cells that attends inflammation is the result of diminished acute oxygen hunger. Lack of oxygen in cell life he regards as a factor without which it would be difficult to explain life, evolution, involution, inflammation, and other pathological and physiological processes.

The Life of St. Luke. By Edward Clapton, M.D., F.R.C.P. Late Physician to St. Thomas's Hospital London: J. and A. Churchill, 7 Great Marlborough Street, 1902.

The title of this little volume indicates its contents, as the writer merely gives a simple narration of the life of this apostle. He speaks of him as "a young Greek physician from Antioch, with excellent credentials, who had not only received a regular medical education, but was also a Jewish proselyte." After following his life through the Gospel of St. Luke, he continues with it as it is presented in "The Acts of the Apostles," for there is "no break in the continuity of his narrative." The writer discusses the question as to whether Luke and Antipas were one and the same person, and closes with a description of St. Luke's burial place.

Nothnagel's Encyclopedia of Practical Medicine. Diphtheria, by William P. Northrup, M.D. Measles, Scarlatina, and German Measles, by Theodor von Jürgensen, M.D. Under Editorial Supervision of Alfred Stengel, M.D. W. B. Saunders & Co., 1902.

Commencing with a history of Diphtheria, the author next describes the etiology and the pathology of the disease. Following this is an abundance of interesting statistics covering pages 140 and 150. The symptomatology so important in this disease deserves especial comment. The modern views concerning (*a*) fibrinous diphtheria; (*b*) mixed phlegmonous or strepto-diphtheria; (*c*) septic or gangrenous diphtheria (septicæmia) should be read to be appreciated. The articles on Fever, on the Pulse, Bradycardia, and Tachycardia are noteworthy. Nasal diphtheria, laryngeal diphtheria, and the tracheal, bronchial, and conjunctival types are important. The urine, the heart, and the effects of the toxin on the nervous system are exhaustively discussed. The complications and sequelæ of diphtheria are well described. The treatment is divided into general (antitoxin) and operative (*a*, intubation; *b*, tracheotomy).

Articles on Intubation and Tracheotomy, amply illustrated, form a large part of this chapter on treatment. Why the author finds it necessary to condemn rectal feeding, as for example, on page 132, "Rectal feeding is to be regarded as a last resort," it is difficult to understand. Rectal feeding has been the means of saving many a life after intubation and can be recommended especially in nasal diphtheria. It stands to reason that pushing a rubber catheter in nasal gavage does not benefit the diphtheria, nor the patient. When vomiting persists after mouth or nasal feeding, rectal feeding should be given proper consideration.

We regret to note the absence of Prof. Baginsky's article on Diphtheria which appears in Nothnagel's original series.

The articles on Measles, Scarlatina, and German Measles are translations of that well-known authority, Prof. Jürgensen. Modern scientific research has so changed our views concerning methods of diagnosis that the comparison with older works reveals many changes.

In the treatment of measles, one point, page 361, strikes us as very important, namely, "Have plenty of fresh air in the room and don't darken the window." Light is imperative. Do not let the light strike the eyes directly, but have the child's back to the light. Such modern therapeutic measures tend to disseminate proper views which conform to modern tendencies. The article on Scarlatina and German Measles is a translation, and has been edited with American additions, many new points having been added.

Bibliographia Lactaria. Deuxiéme Supplément (Année 1901) a La Bibliographie Générale des Travaux Parus Sur Le Lait Et Sur L'allaitement Jesqu'en 1899, par Le Dr. Henri De Rothschild, Lauréat de la Faculté de Médecine. Paris, Octave Doin, Editeur, 1902.

This excellent work is needed for those interested in infant feeding and the dairy. It is divided into two parts: Part 1 deals with human milk; gives all literature on physiology, pathology, hygiene and frauds, dietetic and therapeutic measures, fermented milk, skim milk, sterilized and condensed milk, transmission of disease through milk.

Part 2 gives all literature to date on feeding—natural and artificial methods—modification of milk, and bottle feeding. To those desiring complete data concerning all American and foreign literature, we would recommend the perusal of this work. To the writer and teacher it is valuable in bringing home current topics pertaining to milk in every phase. Valuable time is lost in hunting through literature, and frequently excellent papers are overlooked. The profession will certainly appreciate such reference hand-books.

Intubation du Larynx. Instruments Technique. Avantages. Par Le Dr. Perez Avendaño, ancien interne des hopitaux de Buenos-Aires. Membre correspondant de la Société de Pédiatrie de Paris. Préface du Dr. Marfan, Professeur agrégé à la Faculté de médecine. Médecin de l'hôptial des Enfants malades. Paris: C. Naud, 1902.

The writer treats this subject quite extensively. The book is divided into two parts. The first part is essentially historical and critical, and is illustrated by plates, it is devoted to a study of intubation instruments. There is a special chapter in which the author calls attention to the advantages of the modifications of the instruments which he himself suggests. The second part is devoted to the technique of intubation. Indications for the operation are discussed as well as its difficulties and possible complications. Finally, the two operations of intubation and tracheotomy are compared. Statistical tables and a bibliography are appended.

The Practical Medicine Series of Year Books. Vol. VI. General Medicine. Edited by Frank Billings, M.S., M.D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago. With the Collaboration of S. C. Stanton, M.D. Chicago: The Year Book Publishers.

The volume before us is the second dealing with General Medicine. Special attention has been paid to Typhoid Fever, Malaria, Yellow Fever, Dysentery, diseases of the Liver and Pancreas and Gastro-intestinal disorders. In all of these articles we find a concise and satisfactory exposition of the most recent knowledge of the subjects treated. For those who have limited time for reading, this synopsis can be cordially recommended.

Water Supply, Considered Principally from a Sanitary Standpoint. By William P. Mason. Third edition. New York: John Wiley & Sons, 1902.

So much material has lately been added to our general knowledge upon the subject of water supplies, that this, the latest edition, of Professor Mason's book has been largely rewritten. It contains an admirable discussion of water supplies, their sources, relation to disease, and methods of purification. In the present volume the chemical and bacteriological examination of water is not considered. This is to be regretted, as it renders the treatment of the general subject of water incomplete, and deprives the book of much of the practical value possessed by previous editions.

Minor Surgery and Bandaging; Including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania, Surgeon to the Presbyterian Hospital, etc. Fifth edition. Revised with 500 illustrations. Philadelphia and New York: Lea Brothers & Co., 1902.

Wharton's Surgery has long been a popular text-book with the student of medicine, and new editions have been found necessary from time to time, in order to keep the work abreast of modern requirements. Minor surgery and bandaging are what the student is actually first brought in contact with in a practical way, and it is essential that he should have the assistance of a text-book which is compact, concise, and comprehensive. This volume has been found by experience to fill satisfactorily these requirements, and it has in consequence become a standard. The present edition is amplified to some extent over its predecessors and several new illustrations have been introduced. As the title page indicates, the volume contains much that does not come properly under the head of minor surgery, but which might be more accurately described as emergency surgery, and does not in consequence belong in a book devoted to real minor surgery. However, emergency surgery must often be done when the facilities for minor surgery only are at hand, and the value of the book is enhanced by being thus made more comprehensive. In size and appearance this last edition is not different from the others, and the illustrations, as a rule, serve their purpose very well.

Therapeutic Hints.

Nux Vomica used specifically becomes an invariable remedy. Five drops of nux in half a glass of water, a teaspoonful every half hour. In atonic, gastric, and intestinal troubles, tongue coated, pasty, yellow, pale; pale mucous membranes, nausea, vomiting; acute pain in the small intestines; acute pain in the umbilicus, with pale circles around the mouth; general inactivity, indisposition, and feebleness. These are the indications for this remedy.

—*Toledo Medical and Surgical Reporter.*

Hot Water in Scarlatinal Nephritis.—Hot water irrigation of the bowels should be employed whenever the quantity of urine is diminished or when convulsions occur. In a child aged three years, 500–750 c.c. water at a temperature of 43° C. should be introduced by means of a rectal tube passed into the rectum for a distance of 2½ c.m. If the water is returned at once the process is repeated and irrigation should be performed every six or eight hours. After three or four administrations the kidney begins to act, and abundant diuresis takes place.

KERLEY.

Cramps of Legs.—Cramps of legs are influenced by the valveless condition of the inferior vena cava, and consequent hydraulic pressure, by constipation and its consequent pressure on the iliac veins, and to gouty diathesis, leading to the deposit of urates in the muscles surrounding the congested veins in the legs, therefore, in the remedial treatment of cramps, attention should be directed mainly toward (1) the relief of constipation, (2) the removal of uric acid toxin, (3) the establishment of better circulation. An effective chologogue is of first importance, and that, combined with a uric-acid solvent, the circulation of the blood may be quickened and its subalkalinity may be neutralized, and the toxins removed. A more active interchange having thus been established between blood and tissues, the third condition is fulfilled.

—JOHN McDONALD in the *Northwestern Lancet.*

Capillary Stasis.—The more experience a physician has in the treatment of children, the more fully he becomes convinced that belladonna is essential to his success. The dose must be small, as children are very susceptible to the influence of this drug. In summer diseases of children cases are frequently seen showing marked dullness of the eyes, dilated pupils, with an almost resistless desire to sleep. Belladonna is a specific for this condition, and no other remedy can fill its place.

℞ Bellad. fl. ext. .... gtt 3–5
Aq. .... ℥iv.

M. ʒi. every hour.

—*Toledo Medical and Surgical Reporter*

Nitric Acid.—The indications for nitric acid are exceedingly plain, and sometimes a long train of symptoms will disappear when this agent is given according to its symptomatology. The tongue and mucous membranes are of a violet color and sometimes carmine or clear red. The membrane is apparently transparent, though its color is plainly seen. The membranes are dry from a deficiency of the secretion. There is general inactivity of the intestinal glands and unusual lack of tone, with a tendency to diarrhœa.

White Wood as a Cure for the Tobacco Habit.—The liriodendron tulipifera, also known under the names of white poplar and white wood, is one of the largest lumber-producing trees native to this country. The outer bark constitutes a very efficient cure for the tobacco habit. The fresh inner bark may be chewed or the powdered bark may be mixed with sugar and extract of licorice and compressed into a tablet containing five grains of the bark. A tablet is to be allowed to dissolve in the mouth whenever a desire is experienced to smoke or chew.

Neurasthenia.—A. D. Rockwell says that in his own experience electricity has proven the best remedy. There is, however, a most marked variation in the susceptibility of patients to this therapeutic measure. There are cases in which more than ten to fifteen milliamperes on any part of the body produce irritability, while one-half this strength applied to the head becomes decidedly disturbing. On the other hand, there are neurotics whose very condition seems to enable them to endure an unusual strength of current, which it is found necessary to decrease as soon as improvement is evident. Static electricity is especially valuable in conditions of disturbed circulation resulting in local congestion. He highly extols the action of static electricity in these conditions. In connection with prolonged application of high-tension currents over the kidneys he has observed in several instances the disappearance from the urine of albumin and casts.—*International Medical Magazine.*

Cholelithiasis.—The medical treatment is so often successful that surgical measures should never be resorted to until the case has been proven very chronic in character, unrelieved by treatment, or when the stone is very large and suppurative conditions arise. Morphine is necessary to control the attack at the beginning, and is the best antispasmodic to use. Heat locally or mild counter irritation might aid. Some recurrent cases respond to internal treatment and should be given that chance. The ends aimed at are to increase and liquify the bile, perhaps render aseptic and possibly exert an alterative effect upon the mucosa. The diet has probably little effect, but the avoidance of fatty and rich foods and alcoholic liquors is recommended. Free use of water has a marked effect in stimulating increased flows of bile and might be combined with a little sodium bicarbonate or phosphate. The sodium salts seem to have a decided effect in aiding hepatic functions. Small doses of pilocarpin twice daily have a marked effect upon jaundice due to catarrhal inflammation.

J. B. McGEE.

Surgical Suggestions.

Surgical Treatment of Obstruction of Common Bile-Duct by Concretions.—In cases of cholelithiasis the common duct has to be attacked in one out of five or six cases. Choledochotomy is preferable to all other methods. Crushing the stone is applicable only to soft stones and then fragments are apt to be left. Cholecystenterostomy should never be performed for stone, as it leaves the cause untouched, and stones are apt to form again following closure of the small opening, which is liable to take place. If the patient is too ill for choledochotomy, an anastomosis between the colon and gall-bladder should be done.—MAYO ROBSON in the *Lancet.*

Surgical Aspect of Carcinoma Uteri Complicating Pregnancy.—All partial operations are contraindicated as they usually fail, are harmful to the fœtus and of little benefit to the mother. If the growth can be completely removed, hysterectomy is recommended. If it is not possible to remove the whole of the tumor, then the pregnancy should be continued in the interest of the child. During the first six months vaginal hysterectomy is recommended, after that the abdominal operation is indicated. At times the cæsarian section may be done, but owing to the danger of septicæmia, Porro's operation is preferable.—CHAS. G. CUMSTON in the *Boston Medical and Surgical Journal.*

No Ice-Cream Soda in Berlin.—The municipal authorities of Berlin, with a fatherly solicitude for the stomachs of the burghers entrusted to their guidance, have issued a decree that no iced drinks shall be sold in any place of public refreshment in that city. The limit of frigidity allowed is 10°C. or 50°F.

Society Reports.

AMERICAN ORTHOPEDIC ASSOCIATION.

Sixteenth Annual Meeting, Held in Philadelphia June 5, 6, and 7, 1902.

H. AUGUSTUS WILSON, M.D., OF PHILADELPHIA, PRESIDENT.

FIRST DAY.—THURSDAY, JUNE 5.

President's Address.—Dr. H. AUGUSTUS WILSON of Philadelphia delivered this address. He called attention to the steady increase in the number of applicants for membership, and to the more general recognition of orthopedic surgery in teaching institutions.

General Management and Constitutional Treatment of Tuberculosis of Bones and Joints, with Special Reference to the Use of Tents.—Dr. H. P. H. GALLOWAY of Toronto, Ont., read this paper. He pointed out that, almost without exception, the textbooks on orthopedic surgery practically ignore the general management of tuberculous joint disease, and leave the reader to draw the erroneous inference that the mechanical treatment is the whole treatment. In the treatment of bone and joint tuberculosis drugs occupied a small place, though cod-liver oil, or preferably sweet cream, was often beneficial in winter. The diet should be nutritious and the food supply should be carefully adapted to the individual's powers of digestion. The more nearly the patient could be made to lead an out-door life without its inconveniences, the better. Relapses of tuberculous disease were apt to occur toward the close of the winter, and were often dependent upon enforced living in close and crowded apartments or hospital wards. The plan of treating such cases in tents at the Toronto General Hospital had been employed during the past year, and the results attained were such as to lead the surgeons and physicians there to enthusiastically indorse it. A distinctly favorable change was often noticed in one or two days, and the records of the hospital showed that the patients consumed a larger quantity of food, and ate it with greater relish. Improvement in the local conditions was quite as satisfactory, though slower in manifesting itself. Fresh air and sunlight should not, however, be used instead of, but as supplemental to the mechanical treatment, of bone and joint tuberculosis.

The Malignancy of Bone Tuberculosis.—Drs. JOEL E. GOLDTHWAIT and C. F. PAINTER of Boston presented a paper on this subject, which was read by Dr. Painter. The authors said that it was known that the extension of the disease, both in the lungs and in bone, was prevented by Nature's throwing out a wall of connective tissue. The subject was presented at this time to emphasize the fact that bone tuberculosis was by no means cured by the prolonged use of apparatus alone. A tabulated statement of the cases studied was presented, and it was shown that, in the majority of cases of recurrence, there was a local manifestation in the old seat of disease. Of the forty-seven cases in the table, twenty-nine were males and eighteen females, showing apparently the effect of the greater liability of males to trauma. Thirty of the cases had worn apparatus for varying lengths of time, and had been under reasonably careful treatment. The average age at which the exacerbation occurred was twenty-eight, and the average quiescent period was twelve and a half years.

Dr. JAMES K. YOUNG of Philadelphia remarked that in his textbook on orthopedic surgery were to be found several references to this important subject of out-door and constitutional treatment of tuberculosis.

Dr. B. E. MCKENSIE of Toronto, Ont., said that his experience with tuberculous persons living in tents had led him to place less and less confidence in the mechanical treatment of tuberculous affections as carried out in the use of braces. While as desirous as any one a few years ago to apply a brace or jacket to a person with Pott's disease, he was now reluctant to do so. The increased quantity of food taken and assimilated by persons leading an out-door life served to increase their resisting power.

Dr. N. M. SHAFFER of New York said that the paper on tent treatment recalled an experience that he had had in 1883 in the treatment of a patient in a city back yard. This experience had been so favorable that he had many times since then adopted this plan.

Dr. John RIOLON of Chicago thought Dr. Painter had made a mistake in assuming that the operative removal of tuberculous foci never resulted in relapses such as occur after mechanical treatment.

Dr. ROBERT W. LOVETT of Boston said that by a series of measurements he had found that during the active progress of the disease the weight and height of the children were distinctly below the average of other children attending the clinic, and that even in the very earliest stages of joint tuberculosis they were distinctly below the average of healthy children in the same class, both as to height and weight. He considered rest during the acute stage of great importance, and hence advised that these children should remain recumbent from two to four hours each day, besides getting their full share of rest at night.

Dr. HARRY M. SHERMAN of San Francisco said that he had found that when he sent children suffering from joint tuberculosis to the country they improved even though the mechanical treatment received so little attention that they returned with their braces nearly dropping off of them. He was surprised at the frequency of local as compared with visceral recurrences in the statistics presented in Dr. Painter's paper, but this study gave him renewed courage, for if local recrudescences were going to take place so frequently he should feel that he had not been very wrong in the years when he had resorted so freely to early incision. Certainly early operation gave opportunities for life which would not otherwise be presented.

Dr. HENRY LING TAYLOR of New York said that for the past two summers he had had an opportunity of watching the effect of sending crippled children to the seashore, where they lived, for the most part, in tents. Despite the absence of proper supervision of their braces, these children had shown a striking improvement in their abscesses as well as in the general health.

Dr. FRANK E. PECKHAM of Providence said that he had had occasion to send children both to the seashore and inland, and it seemed to him that those sent to the seashore did far better.

Dr. GEORGE G. DAVIS of Philadelphia said that undoubtedly in certain instances tuberculosis was at first a local disease, and where it involved the bones or joints was capable of eradication by early operation.

Dr. PAINTER, in closing the discussion, said that he had been misunderstood in the matter of operative interference. As a matter of fact, the table presented contained a number of operative cases that relapsed. He believed that the time was coming when operative interference would be of a different character from what it had been in the past when described as "early interference."

Two Cases of Elevated Scapulæ.—Dr. A. J. STEELE of St. Louis reported these cases with photographs, because, he said, Jonathan Hutchinson had recently declared that such cases are very rare in England. The lower angle of the scapula was carried inward and overrode the spine, pointing almost to the middle of the opposite scapula. He was inclined to think the condition was congenital, although there was a history of traumatism. In the second case the scapula was held in its unnatural position by ligamentous union. A number of these cases had been reported in this country.

Dr. N. M. SHAFFER said that he had seen such a case in 1886, and it had been published shortly afterward by the late Dr. H. B. Sands.

Dr. A. H. FREIBERG of Cincinnati said that there were really three classes of cases. In the first class there was associated considerable deformity, in the second there was simply an elevation of the scapula with a perfectly normal thorax and spine, and in the third class there was union between the scapula and the spine or between the scapula and the cervical rib.

Dr. H. L. Taylor remarked that two or three such cases were seen annually in a large clinic like that of the Hospital for Ruptured and Crippled in New York.

Dr. H. Augustus Wilson said that his two cases were apparently unique in that there seemed to be prolongations of the seventh cervical vertebra with distinct articulation, in one case, with the scapula.

Dr. Painter said that he had reported two cases last year.

Report of a Case of Congenital Deficiency of the Clavicles with Photogram and Radiogram.—Dr. Harry M. Sherman of San Francisco presented this report. The patient was a child of three years, markedly rachitic. There was no interference with the use of the arms, and the condition had been entirely overlooked by the family physician, who had referred the case because of the rachitis.

Dr. G. G. Davis remarked that as one of the chief functions of the clavicle was to aid in abduction, there must be some loss of function in such cases as the one reported.

An Apparatus for Paralysis of the Extensors of the Hands and Fingers.—Dr. G. G. Davis of Philadelphia exhibited this apparatus, which he had used in a case of severe crushing injury. In order to extend the thumb he devised the appliance exhibited. Two pieces of wire in the shape of the letter "V" were united at their angles and fastened to the thumb by adhesive plaster. By a rubber band attached to the dorsal side of this wire, and fastened by a cord to the wrist, extension was secured. The apparatus for the hand consisted of two lateral bars with a joint opposite the wrist-joint, and two springs, one on each side, which tended to keep it in an extended position. This was situated opposite the second joint of the fingers.

Remarks on Arthrodesis of the Ankle for Infantile Paralysis.—Dr. John Dane of Boston read this paper. He said that this form of paralysis usually comes on at about the age of eighteen months, and that the acute stage was usually passed before the age of two years. One year after the onset one should be able to tell what muscles were permanently injured. If operation were done early the foot would be found in a fairly good condition, and the bones and their articulations not deformed. When the foot was secured in a relatively normal position quite early the growth would go on in more normal lines. By avoiding mechanical support the unaffected and partially paralyzed muscles were not subjected to the injury inseparable to the use of constricting bands and straps. He made use of the simple internal incision, laying the joint thoroughly open. The objections usually made to the operation were the fear of not getting solid union and the danger of injury to the lower tibiofibular epiphysis with consequent shortening. To meet the first objection a skiagraph was presented, showing that true bony ankylosis was secured. The epiphysis would not be injured if the operation were carefully done. Again, an intentional irritation of the epiphys is often resulted in increased growth of the limb.

Dr. B. E. McKensie said that, from an experience with three cases in which he had operated for deformity of the foot caused by cessation of growth in the lower end of the tibia, it looked as if irritation produced there, either by disease, such as osteomyelitis or by fracture near the epiphysis, would result in harm. There should be sufficient room to make an incision of the joint without invading the cartilage itself, yet, he thought, the increased physiological action resulting from the process of healing might easily bring about an early synostosis, and hence there would be no further growth in the lower end of the tibia.

Dr. G. G. Davis said that one objection to arthrodesis was that it had to be done in young children in whom the bony tissue was very little developed, and the difficulty was to get bony union. He believed that in order to obtain bony union the joint must be immobilized for a very long period because of the softness of the tissues.

Dr. Dane, in closing, said that he thought the failures to secure bony union in young children might be due to an imperfect technique. The textbooks had made no plea for an accurate and thorough operation with an absolutely square mortising.

A Further Report of the Treatment of Neurotic Patients as They Are Seen in Orthopedic Practice.—Dr. B. E. McKensie of Toronto was the author of this paper. He pointed out that while organic disease might be present, the psychic element was often unduly prominent. One of the cases reported was one in which, after six years of needless invalidism, the patient had been vastly improved by a healthy but forceful discipline. The speaker expressed the fear that orthopedic surgeons too often kept up mechanical protection of a joint, to the detriment of their patients, for an unnecessarily long time. Discipline, always clearly cut and kind, must be maintained in these neurotic cases.

A Report of an Epidemic of Thirty-eight Cases of Infantile Paralysis.—Dr. Charles F. Painter of Boston reported this series of cases, which occurred between June and September at Gloucester, Mass., within a radius of four miles. The literature, he said, contained accounts of quite a number of such epidemics. The city of Gloucester had a population of about twenty-five thousand people, for the most part engaged in fishing. There had been only one death in this epidemic, and that had occurred in July. There were twenty-three males and nine females, and twenty-one of the patients were under the age of three years. Not one of the cases up to the present time had entirely recovered. He had investigated every likely source of infection in connection with this epidemic, looking into the sanitary condition of the dwellings, their location, the water, food and ice supply, but with negative result. The temperature chart seemed to show that more cases had developed in the excessively hot weather. The only important group of cases comprised about twelve, all occurring around the periphery of a cemetery.

Report of a Case of Double Pott's Disease, Cervicodorsal and Dorsolumbar.—Dr. R. Tunstall Taylor of Baltimore reported this case, which appeared, from a search through the literature, to be unique in that Pott's disease is supposed to be due to a tuberculosis affecting *adjacent* vertebræ. The patient was a child of seven years, in whom tuberculosis of the first, second and third lumbar vertebræ developed, and was subsequently followed by involvement of the fifth, sixth, and seventh dorsal vertebræ. The *x*-ray photograph plainly showed the two foci of disease.

An Additional Case of True Spondylitis Following Typhoid Fever.—Dr. Albert H. Freiberg of Cincinnati reported this case. The patient was an Italian boy of fifteen years, who had been admitted to hospital on February 1, 1901. He had been well up to a few days before, and the symptoms at the time were typical of typhoid. On March 9 the Widal reaction was negative. On March 20 he was allowed to sit up, and nine days later was permitted to be on his feet. He then complained of pain in his back. The pain was so great on April 7 that an anodyne was required. At this time he had been first seen by Dr. Freiberg. There was a decided projection, involving the eleventh and twelfth dorsal and the first two lumbar vertebræ. The muscles of the back were rigidly contracted. On April 11 he was placed in a plaster bed, and at once experienced marked, but not complete relief. On May 8 a plaster jacket was substituted, and on May 31, being entirely free from pain, he was discharged at his own request. In February of the present year

Dr. Freiberg saw this patient again, and found the deformity of the spine about the same and that there was still marked restriction of motion. The man had been working steadily at his trade and was the picture of health. The speaker expressed the opinion that these cases of typhoid spine could not be considered as due to a neurosis, but rather to a local process of an inflammatory nature.

Final Results after the Treatment of Pott's Disease.—Dr. Henry Ling Taylor of New York presented this communication. The histories were given and the tracings shown of thirty-eight cases of Pott's disease treated in private practice by the use of the Taylor spinal apparatus. Each case had been observed and the deformity measured at intervals for from ten to thirty-seven years. It was found that: (1) The disease was cured in thirty-two cases, the cure being practically perfect in a considerable number as regards health, figure and function; (2) The result was good as regards deformity in about half the cases, and that twelve showed arrest or decrease of the deformity; (3) Location was the most important factor as regards the progress of the deformity, the cervical region being the most favorable, the lumbar the next, and the dorsal the least; (4) It was necessary to continue spinal support in most cases long after the pathological cure, owing to the tendency of the deformity to increase from static conditions, and (5) Ankylosis is, therefore, rarer, later, and less extensive than is usually assumed.

Dr. L. A. Weigel said that he had a case of typhoid spine under his care at the present time which seemed to show that there might be actual bone disease and bone destruction.

Dr. N. M. Shaffer characterized the region of the spine from the seventh vertical to the tenth dorsal vertebræ as the region of bad results.

Dr. H. P. H. Galloway said that he had seen at least one case of Pott's disease in which two distinct and separate regions of the spine had been affected. The patient was a woman of about twenty-six years, with disease in the mid-dorsal region, and with a distinct kyphos in the lower lumbar region.

Dr. Harry M. Sherman said that there were certainly border-line cases between typhoid fever and tuberculosis as regards the effect on the spine, and that sometimes the orthopedic surgeon would be called upon to differentiate between these two diseases.

Dr. C. F. Painter said that he could recall at least two or three cases of double vertebral kyphos. In the absence of bacteriological evidence of typhoid fever, and possibly also in the absence of a positive Widal reaction, one should be extremely cautious about accepting these cases as of common occurrence.

Dr. Henry Ling Taylor remarked that in making the diagnosis of two foci of disease one should be very careful to remember that when there is a kyphos in the upper dorsal region there is apt to be a compensatory kyphos in the lumbar region.

Dr. Freiberg said that in his case there was not that degree of muscular rigidity, extending for a considerable distance above and below the lesion, that one would expect if the disease were vertebral tuberculosis.

The Mechanical Treatment of Internal Derangement of the Knee-Joint.—Dr. Frank E. Peckham of Providence read this paper. He said that when the leg was partly flexed the ligaments were relaxed, and any twisting of the tibia at this moment might allow of slight separation of the joint surfaces, and so permit of a locking of the joint. The treatment should consist of rest in bed with massage or the use of a stimulating liniment. A second attack of this kind should lead to the application of an apparatus which would cause lateral pressure to be made upon the inner condyle and prevent twisting of the tibia. He had used with great satisfaction an apparatus for this purpose devised by Dr. Shaffer. Several illustrative cases were reported.

A Case of Osteoma of the Knee-Joint.—Dr. R. Tunstall Taylor of Baltimore reported this case, and exhibited the specimen and skiagraphs. The patient was a girl of fourteen years, who, after slipping on the sidewalk, found herself unable to straighten the knee. She had been treated without effect for two years or more before coming to him. The stereoscopic skiagraph showed a foreign body between the condyles. This was removed by operation, and was found to be an osteoma.

The X-Ray Stereoscope.—Dr. L. A. Weigel of Rochester exhibited this instrument and described it. In using it two exposures are made with the *x*-ray tube in two different positions with reference to the subject photographed. The distance between these two positions of the *x*-ray tube should not be much over the distance between a person's eyes, otherwise distortion will result. The two negatives thus obtained are placed in a reflecting stereoscope and combined so as to form a single image, which appears to the observer in relief. This method enabled one to localize more accurately the objects found in skiagraphs.

Report of a Case of Fracture through the Site of an Excised Knee-Joint.—Dr. H. P. H. Galloway reported this case. The patient was a man of forty years, who, nine months after an excision and as a result of a misstep, threw the weight of the body suddenly upon the stiff leg, and in consequence sustained a fracture through the excised joint. After rest for a time there was such a large effusion of blood that this was removed by aspiration. The limb was encased in plaster until a union had been effected, and since then there had been no trouble.

The evening was devoted to demonstrations of methods and appliances of use in connection with the plaster-of-paris bandage.

Second Day.—Friday, June 6.

The Diagnosis of Hip Disease.—Dr. Robert W. Lovett of Boston presented this paper. The author analyzed ninety-five cases of hip disease, beginning in 1897 and 1898, as to their condition four years later. About two-thirds of the cases proved to have been real destructive tuberculous bone disease pursuing a characteristic course. About twenty-three cases had recovered rapidly without much treatment, and had remained entirely well. A group of fifteen miscellaneous cases proved to be infantile paralysis, arthritis deformans, coxa vara, etc., and did not pursue the characteristic course of tuberculous disease. The symptoms presented by the different groups were analyzed and the conclusion reached that the diagnosis could not, as a rule, be made offhand from certain symptoms generally considered to be characteristic, but only with great care and often only after considerable observation.

The Rational or Combined Treatment of Coxalgia.—Dr. R. Tunstall Taylor read this paper. He said that after giving a trial to all of the operative methods suggested he had found that many of them were disappointing or useless. The paper dwelt particularly upon the value of erasion. He had found the *x*-ray exceedingly useful in pointing out tuberculous lesions of the hip-joint seen in the early stage, and he considered it vastly superior to the tuberculin test, as it was safer and freer from sources of error. The affected portions look much paler in the skigraphic negative than the surrounding bone, and such a negative afforded an excellent guide for early operation for the removal of the disease focus. He was disposed to look upon the dissemination of tubercle as a bugbear, especially when care was taken to reach the disease focus by the least bloody route. If erasion were practised, the objection that the growth of the limb would be arrested would not apply, as in the case of an excision. An ankylosed hip-joint, obtained at once, seemed to him preferable to a diseased and discharging joint for years, with ultimate ankylosis. There was as yet no available statistics for the operation of erasion practised in this manner. After the operation the patient should be placed in bed with traction in the line of deformity. In cases in which the disease focus is very small, rest, fixation, and traction might be employed in the hope that nature, supplemented by proper hygienic measures, would effect an arrest of the disease, but skiagraphs should be taken from time to time to determine the exact condition present. On the other hand, if the skiagraphs showed the presence of extensive disease, erasion offered no advantages. This operation was suitable only for cases showing moderate bone involvement. The disease focus having been found by the aid of skiagraph, it should be removed with the round irrigating curette, and the wound irrigated with a disinfectant solution. He had tried carbolic acid and alcohol in some cases, but had abandoned them after seeing a child die almost immediately on the table from acute carbolic acid poisoning arising, probably from the carbolic acid having directly entered a large vessel. The solution he preferred now to use was a 2½ per cent. solution of formalin. A wick of iodoform gauze was used for drainage, and the wound was closed with silver wire. After the operation a traction force of five pounds should be used.

The Remittent Limp of the First, Apparent Stage of Hip-Joint Disease.—Dr. NEWTON M. SHAFFER presented this paper. He said that as long ago as the meeting of this association in 1889 he had spoken of this remittent limp as well known, but had found then, and since, that this symptom had not been very generally appreciated. He had known as many as seven attacks of limping to occur before the symptoms of hip-joint disease became sufficiently acute and urgent to lead to the diagnosis of disease of that joint. He had found, moreover, by careful study that although the limp is remittent, the reflex muscular spasm does not wholly disappear in the intervals.

The Operative Treatment of Hip-Joint Disease.—Dr. JAMES K. YOUNG of Philadelphia presented this paper. Under the head of operative measures for the correction of deformity, the author mentioned: (1) Multiple myotomy and tenotomy; (2) Forcible straightening, and (3) Osteotomy. The first two, he said, were not effective unless combined. The best method of performing osteotomy, in his opinion, was that recommended by Gant. After the operation on double cases the limbs should be placed in a straight position. The operative measures for arthritis were divided into: (1) Aspiration; (2) Simple incision; (3) Erasion by Willard's method; (4) Excision, and (5) Amputation. The operation of erasion had been found very satisfactory, particularly in children, and should be performed in preference to excision. The latter was appropriate in cases of long-continued suppuration with extensive bone change, especially when associated with albuminuria. He considered the external curvilinear incision used by Agnew preferable in most cases of excision. The anterior, or Barker, incision had not proved satisfactory except in those rare cases in which the disease was confined to the head or neck of the bone. In all cases in which this anterior incision was employed posterior drainage should be used, and an iodoform emulsion should be injected. Excision should not be resorted to as a routine measure; early excisions were not approved of. The author did not favor amputation at the hip for hip-joint disease except in very rare instances, as, for example, when the disease has extended down the femur and did not involve the ilium to any great extent.

Dr. T. HALSTED MYERS of New York in opening the discussion on the foregoing papers said that he had found most of his errors in diagnosis to have been in connection with rheumatic cases, though certain traumatic cases had also proved confusing. He was sure the statement so commonly made in the textbooks, that articular rheumatism could be excluded in children under five years of age, was erroneous. Before the advent of the *x*-ray surgeons had been in the habit of discounting the effect of traumatism in tuberculous subjects, and insisting that tuberculosis of a joint had developed as a coincidence, but in two of his cases crushing of the neck of the femur, just below the junction of the neck and shaft, had been shown by the *x*-ray, and recovery had taken place in a few months. He had twice made an erroneous diagnosis in cases of coxa vara. In five or six cases, which he had watched for several weeks without being able to make a positive diagnosis, the negative result of the tuberculin test had enabled him to rule out bone tuberculosis, and the subsequent history had proved the correctness of this diagnosis. Of all the signs and symptoms, he looked upon reflex muscular spasm as the most characteristic.

Dr. E. H. BRADFORD thought it was well at present to go rather slowly in the matter of cutting down upon supposed diseased foci in an early stage, for it was not very easy to detect and locate such a focus even with the aid of a skiagram. A very thorough trial of conservative treatment should certainly precede such a radical measure.

Dr. W. R. TOWNSEND of New York recalled two diagnostic mistakes in hospital practice, one a case of sarcoma of the thigh that had been originally diagnosticated as hip-joint disease, and the other a case in which sciatica had been confounded with disease of the hip-joint.

Dr. H. L. TAYLOR thought the experience of most of those present would bear out the statements made in Dr. Lovett's paper. He recalled one instance in which infantile paralysis, during the attack, had been mistaken for hip disease.

Dr. N. M. SHAFFER said that a traumatic separation of the epiphysis might give all the symptoms of hip-joint disease, even to a well-marked muscular contraction.

Dr. B. E. MCKENSIE remarked that rapid recovery did not always exclude joint tuberculosis.

Dr. REGINALD H. SAYRE of New York indorsed what the last speaker had said about quick recovery not being sufficient ground for excluding tuberculous joint disease any more than a quick recovery from incipient pulmonary tuberculosis would justify excluding that condition. He also agreed with Dr. Bradford that the interpretation at the present time of skiagraphs was not sufficiently exact to make him always feel warranted in exploring for and removing disease foci detected by the *x*-ray. He also wished to say that he had several skiagraphs of patients who had recovered from hip disease with excellent motion and without pain, and yet these skiagraphs pointed to an absolutely demoralized joint. In a number of cases he had been unable to detect the difference in the shadows cast by a bone, the seat of disease, and those cast after the person had, according to all the usual evidence, recovered.

Dr. L. A. WEIGEL illustrated the difficulties of interpreting skiagraphs by exhibiting a series of such negatives.

Dr. G. G. DAVIS of Philadelphia said that the measures so far described had been those undertaken with the idea of eradicating the disease focus. There was another procedure, that of drilling the bone in several places in the acute stage of the disease. He had practised this method, and was of the opinion that in this way the course of the disease could be materially influenced by an operative procedure, which was not grave, which did not entail any mutilation, and which was not so radical and dangerous as the operations for the absolute removal of the diseased parts. The ordinary appliances and conservative measures were, of course, necessary in connection with this operative treatment.

Dr. JOHN DANE thought that many cases diagnosed as tuberculous were really syphilitic.

Dr. H. M. SHERMAN said he had been accustomed to look upon cases presenting persistent atrophy of the limb as really tuberculous. Erasion of the hip, a deeply buried joint and one difficult of access, seemed to him an operation that must be even more disappointing than erasion of the knee. He was of the opinion that the limp or hip disease was due to destruction of bone.

Dr. JOHN RIDLON remarked that even after there had been extensive bone destruction the examination with a radiograph might be negative because of the absence of bone deposit. On the other hand, if the bone had been deposited, the radiograph would indicate disease though the patient might have practically recovered.

Dr. Lovett, in closing, said that out of the eighty-eight cases analyzed twenty-one had been of short duration. After three or four years they were well without atrophy, shortening or limitation of motion, and the majority of them recovered after four weeks without treatment. It did not seem to him that from our present knowledge we could say that all, or any large part, of them were tuberculous. About one case in five recovered in a few weeks without treatment. The most significant conclusion, as it seemed to him, was that the ordinary symptoms given in the textbooks as diagnostic of hip disease are not sufficiently accurate to enable us to make, in the majority of cases, an early and accurate diagnosis.

Dr. R. T. Taylor said that the operation that he had suggested was intended more especially for disease of the head and neck of the femur rather than of the acetabular variety, and he agreed with Dr. Weigel that such cases did not yield the best results after operation. In children syphilitic disease was more apt to be in the diaphysis than in the epiphysis. The anterior incision presented no difficulties in technique unless one desired to remove the synovial membrane of the joint.

Wolff's Law of Transformation.—Dr. Albert H. Freiberg of Cincinnati read this paper. It opened with a general consideration of this law, embodying the theory of the functional conformation of bones, and the functional pathogenesis of deformity. By specimens and lantern slides the subject of functional shape was studied in the femora of various animals. Sections were presented from the femora of the ox, sheep, llama, leopard, baboon, and gibbon. The necessity was pointed out for examining into the habits and environments in order to reconcile internal architecture and external conformation. Turning to the subject of functional pathogenesis, a specimen was presented of old, unreduced luxation of the hip, and it was studied in comparison with its normal fellow. It was concluded that Wolff's law and its corollaries, while not admitting of truly mathematical proof, should not be rejected on this account. This law was in consonance with previous observations.

The Treatment of Congenital Dislocation of the Hip.—Dr. Royal Whitman of New York presented this paper. He said that the aim in the treatment should be to stretch thoroughly the anterior border of the capsule, overcome all shortening, and fix the limb in the exaggerated position for a sufficient length of time to permit of retraction of the capsule and muscles. The simple manipulative treatment required in the large proportion of cases to be supplemented by some one of the cutting operations. In many instances the operation of osteotomy was secondary to arthrotomy. If simple manipulation failed, the joint should be explored by incision. If anteversion of the neck were present, the limb should be placed in inward rotation, osteotomy being deferred until the second dressing. Excavation of an acetabulum was formerly thought to be essential, but the field for this procedure was becoming more and more restricted. He favored the application of a short Lorenz spica for many months, and advised that so long as local sensitiveness or pain on use was present the joint should be protected. In general, the more perfect the replacement the greater the danger of restriction of motion. Where excavation had been done success was practically impossible without persistent treatment carried on for years. In a certain proportion of cases of congenital dislocation of the hip it was reasonable to believe that the acetabulum was sufficient at birth. Perfect success could only be achieved by non-mutilating operations, *i. e.* forcible reduction supplemented, if necessary, by arthrotomy or osteotomy. After the open operation there was little excuse for failure. At the last meeting of the Association, held in New York, ten cases of functional cure had been presented, in nine of which the bloodless method had been adopted.

Causes of Relapse after Reduction of Congenital Dislocation of the Hip.—Dr. E. H. Bradford of Boston exhibited a skiagram of a case cured three years ago, and asked those present to pick out which was the abnormal side. The operation had been done by the bloodless method. He did not think it was quite time to tabulate the results; the results after five or ten years were what was wanted in order to be sure that what was taken for a cure might not be a transposition. It was well known that a certain percentage relapse, and the causes of such relapse should be ascertained. For example,if the neck were twisted, unless the foot were kept turned in, the head of the bone would necessarily go out. He was inclined to think that the acetabulum did not require deepening in a very large proportion of cases, although on this point he was still undecided. The speaker urged operation in all cases of congenital dislocation of the hip. He had been disappointed in the results of shortening the capsule.

Dr. John Ridlon said that he had seen in the past ten years about forty cases of congenital dislocation. He believed replacement should be tried repeatedly, using all the force that one dared apply.

Dr. H. M. Sherman said that he had attained a certain measure of success from the reduction of the dislocation through a simple incision, thus making sure that no capsule was interposed. Deepening of the acetabulum would be required in some cases, but was always to be deprecated because of the subsequent stiffening.

Dr. George R. Elliott of New York thought he had found a possible cause of anterior displacement in two cases in the tremendous pressure that he had made posteriorly, thus throwing the bone into the anterior position.

Simplification of the Treatment of Lateral Curvature.—Dr. E. H. Bradford of Boston read this paper. The author took the ground that as the majority of cases were mild and did not result in any very serious disability it was hardly right to take a year of a child's time with gymnastic exercises four or five hours daily. His plan was to carry out a simple treatment within the reach of the general practitioner for a longer period of time. A short bar is placed on blocks and the child lies over this bar and goes through certain exercises, supervised by the mother or nurse. A gaspipe frame with a rod across may be used, and the exercises can be carried out twice daily at home. These exercises are varied according to the region of the spine involved. Having secured the greatest possible flexibility of the spine, the development of the muscles should be begun. To determine the daily progress of the case a medical student in his office had devised a very simple instrument by which the flexibility could be read off in degrees on a dial. Diagrams were exhibited showing the exercises recommended.

Third Day.—Saturday, June 7.

The Necessity of Supporting the Head in Cases of Scoliosis Situated in the Upper Dorsal Region.—Dr. Reginald H. Sayre of New York discussed this subject briefly, illustrating his remarks with photographs, and pointing out that this form of support had been largely neglected because of its attendant inconveniences, but that these were more than counterbalanced by the advantages.

Faulty Attitude and Round Shoulders with Description of an Apparatus for Measuring It.—Dr. Robert W. Lovett of Boston presented this paper. He said that the literature was most unsatisfactory and confusing, and there was no agreement among the various authors regarding the classification of cases. His own method consisted in measuring from a certain horizontal plane anatomical landmarks which were easily found. The middle of the external malleolus is placed opposite the back of the upright of his height-measuring apparatus, and by a slight modification of the sliding horizontal rod the desired measurements could be easily and quickly made. The landmarks chosen were the mastoid, the seventh cervical vertebra, the seventh dorsal vertebra, because it is easily found; the fourth lumbar, because it is opposite the crest of the ileum; the middle of the trochanter, the head of the fibula, and the external malleolus. Measurements taken in this way by the same person at different times and by different persons agree quite closely. Dr. Lovett exhibited a diagram which was a composite of seventy-two healthy boys. He had also had several hundred measurements taken in a girls' school, and the composite of these measurements was very similar to that obtained among the boys, except that the fourth lumbar vertebra was farther forward in relation to the trochanter, due to the relatively greater lordosis found in young women.

Demonstration on a Model of the Connection of Rotation and Lateral Deviation in Scoliosis.—Dr. LOVETT exhibited his flexible model to show that, contrary to the photographs and statements that had been published in the last volume of the transactions by Dr. A. B. Judson, rotation does take place along with the lateral bending.

The Anatomical Changes in Severe Cases of Scoliosis as Demonstrated in the Living Subject.—Dr. L. A. WEIGEL of Rochester discussed this subject with the aid of skiagraphs. He said that the amount of rotation does not necessarily depend upon the degree of lateral curvature. In some of the cases showing marked rotation the changes in the intervertebral cartilages were extreme as compared with the changes in the bone. Attention was also called to the fact that an examination of the skiagraphs in these severe cases made it extremely improbable that any accurate record of the degree of curvature could be obtained by marking the points *supposed* to be the spinous processes.

Operative Treatment of Claw-Hand Resulting from Fracture of the Arm.—Dr. H. P. H. GALLOWAY of Toronto presented this paper. Following the fracture there had been a gradual contraction of the fingers, most marked when the wrist was extended. Examination showed that the flexion of the fingers was evidently due to true shortening of the tendons. An incision was made along the front of the forearm, and the scar of the original injury was separated from the underlying tissues. This did not have any effect on the fingers. Each tendon was then elevated separately and lengthened by transfixing the tendon, splitting it, and allowing the fragments to slip pass each other to the desired extent. An effort was made to form a sheath for the elongated tendons by means of the subcutaneous tissues. The part was kept in plaster of paris for ten or twelve days, and on removing the dressing primary union had occurred. Within a week after this the man had gained free motion, and within a month he could write well and had good grasping power. The functions of the hand were practically normal in two or three months

Fashioning Apparatus for Flat Feet and Deformities of the Toes.—Dr ALBERT H. FREIBERG of Cincinnati presented this apparatus. He said that celluloid had not been found sufficiently strong for use in adults, though sometimes useful in children. It was, however, of some value in the treatment of hammer toe. A pattern of the foot is conveniently obtained by painting the sole of the foot with a mixture composed of 50 parts of a solution of chloride of iron, 45 parts of 80 per cent. alcohol and 5 parts of glycerin. The patient then stands on the card, and the outline of the foot is carefully drawn with a pencil The tracing of the foot may then be developed upon the card by the application of a concentrated solution of tannic acid. This pattern is used as a guide in fashioning a lead model with a horn hammer. It was well to have both the external and internal flanges longer than necessary in the model.

Some Types of Bone Disease Affecting the Vertebral Column Associated with Pressure Paralysis.—Dr. GEORGE R. ELLIOTT of New York reported in this paper several cases, and in addition exhibited illustrative specimens.

A Contribution to Spasmodic Wry-Neck.—Dr. ELLIOTT also presented this paper. He reported a case in which the head was drawn downward and to the right side. Very slight force only was required to restore the head to its proper position. Several neurologists had failed to give her relief. He had made use of a Taylor head-rest, which was exhibited. This apparatus had been worn for two years with the greatest comfort.

The Passive Carrying Function of the Arm; Its Importance; Its Destruction and an Operation for Its Restoration.—Dr. PHIL HOFFMAN of St. Louis was the author of this paper. He pointed out that the normal divergence of the forearms from the body facilitated the carrying of weights. Any injury which caused the articular surface to face downward and slightly inward would necessitate great muscular exertion in weight carrying. This frequently occurred after elbow injuries, but the carrying function could be restored by reversing the plane of the lower articular surface of the humerus. This he accomplished by dividing the humerus above the condyles and bending the lower fragment with the attached forearm outward.

A Back Brace.—Dr. J. C. PEGRAM of Providence exhibited this instrument. The brace consisted of the usual upright and pelvic band, but in addition there were two curved hinged arms passing up in front of the shoulders. These arms are fixed in the desired position by means of a simple confriction joint. A leather strap passes across the front and between these two arms.

A Case of Congenital Absence of the Tibia.—Dr. A. J. STEELE of St. Louis reported this case.

Officers Elected.—*President*, Dr. L. A. Weigel of Rochester; *First Vice-President*, Dr. Reginald H. Sayre of New York; *Second Vice-President*, Dr. R. Tunstall Taylor of Baltimore; *Treasurer*, Dr. E. G. Brackett of Boston; *Secretary*, Dr. John Ridlon of Chicago.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Held April 9, 1902.

Multiple Diverticula of the Colon.—Dr. J. D. CONDIT reported a case of multiple diverticula of the colon in a woman aged seventy years, who gave a history of a long-standing chronic nephritis with chronic constipation and frequent attacks of bronchitis, extending over many years. The autopsy, which was done in the pathological department of St. Luke's Hospital, by Dr. Wood, showed an hypertrophy of the heart with atheroma of the coronary vessels of the aorta and the smaller arteries, marked emphysema of the lungs and chronic diffuse nephritis. The stomach and the small intestine were normal. In the colon were numerous small diverticula, the largest of which measured about 1½ cm. in diameter. These diverticula were arranged in two irregular rows on either side of the mesenteric border and did not average much over 1 cm. in diameter. They occupied chiefly the walls of the transverse and descending colon, the sigmoid flexure, and the upper portion of the rectum, but there were a few in the ascending colon. They were filled with small hard fecal masses and communicated with the lumen of the gut by a small constricted neck. There seemed to be no connection between these diverticula and the exit of the portal system of the vessels. No enteroliths were found in the diverticula.

The microscopical examination of the diverticula showed that the walls contained the normal coats of the colon. The mucous membrane was somewhat flattened out by pressure; the peritoneal coat was normal. The submucosa was very thin and the muscularis could be seen to cover the wall of the diverticulum, but was reduced to a very thin layer. The mucosa and submucosa were infiltrated with leucocytes, and showed a moderate amount of chronic inflammation. The presence of the muscular coat in the diverticula might be explained by the fact that the protusions from the wall of the coat were still small, and that atrophy of the muscularis had not yet taken place, as is seen in larger diverticula, which measure between 3 and 5 cm. in diameter.

Such diverticula had been recently shown before the Pathological Society by Dr. Hodenpyl, and in his case the muscularis had disappeared. Hansemann had shown that the diverticula of the small intestine appeared chiefly at the site of exit of the intestinal veins from the gut, close to the mesenteric attachment, and that they usually contained no muscular coat, but were hernia of the mucous membrane. In the colon, however, Edel has shown that diverticula were true pouches at first, and that later the muscularis atrophied. They occurred chiefly in the aged and in cachectic individuals, associated with atrophy of the muscular coat and distension of the gut with gas or fæces.

Fibromyoma of the Stomach.—Dr. Condit also presented a specimen of fibromyoma of the stomach. This was an accidental find at the autopsy of a woman, aged sixty years, whose death was due to carcinoma of the uterus with involvement of the rectum and bladder. On the anterior wall of the stomach near the pylorus was a small oval tumor, 2x1x1½ cm., with a smooth surface and sessile base. The tumor was very hard and was adherent to the mucous membrane, but protruded on the outer surface of the stomach. When cut across the tumor was very dense with a capsule which contained the remains of the muscular coat and submucosa. Microscopical examination of the tumor showed it to be composed of irregularly interlacing bundles of fibrous tissue and smooth muscle surrounded by a capsule of connective tissue on the inner surface, and externally blending with the muscularis of the stomach wall. On the portion of the tumor nearest the mucosa there was a moderate amount of inflammation.

These fibromyomata of the stomach wall, Dr. Condit said, are rather infrequent. In 1898 Steiner was able to collect only about fifty-six cases of myomata of the gastrointestinal tract, seventeen of these being in the stomach wall. They were most frequently situated in the lumen, but might be contained in the wall or on the external surface, or finally attached to the stomach by a pedicle. They might be oval and smooth, or irregular and lobular in form. Those containing much connective tissue sometimes showed softened areas and small cysts filled with clear fluid or blood. In a few of the reported cases these cysts had become infected from the bowel and had discharged their contents into the peritoneum with resulting general peritonitis. In a few cases, malignant change of the myomatous tissue had been described with formation of metastases in neighboring lymph nodes; but as a rule these tumors are benign and are discovered only accidentally or at autopsy.

Myoma of the Small Intestine.—Dr. F. C. Wood reported a case of myoma of the small intestine. This tumor was an accidental find in the course of a ventrofixation of the uterus. It was attached to the small intestine, a loop of which prolapsed during operation. This loop was evidently a portion of the lower ileum, but the exact distance from the cæcum to the tumor was not made out. The mass was a lobular, dark, fibrous tumor, attached by a short pedicle to the intestinal wall. It was quite vascular on its surface. The mucous membrane of the intestine was incised around the base of the pedicle, and the tumor thus removed. When hardened it measured 4½x3½x3 cm. The surface was quite sharply lobular and still showed deep blood staining. A cross section of the tumor showed that it was vascular and also contained a number of cysts. The mucous membrane of the intestine was still adherent to the base of the pedicle. Microscopical examination showed the tumor to be largely composed of unstriated muscle and fibrous tissue, evidently arising from the muscular coats of the intestine. The cysts were due to the softening of the surrounding fibrous tissue, and were not lined with epithelium. They contained blood or clear serum.

As Dr. Condit had said, these tumors were rare, especially so in the small intestine, but were of little clinical importance, except for the possibility of their forming traction diverticula, or when provided with a long pedicle, forming a loop about the intestine and so causing obstruction.

Rhabdomyoma of the Testicle.—Dr. Wood also reported this case. The history was that of a young man of eighteen, who had been rather feeble in his youth, but had had no diseases except the exanthemata of childhood. Three months before admission he noticed a swelling in the right testicle. The tumor grew rapidly to the size of a fist, but was not painful, and but slightly tender in the softened areas. When the patient was examined it was found that the tumor had replaced the testicle on the right side and was freely movable in the scrotum. On palpation there were found to be hard and soft areas in the tumor. The softer areas seemed to be in many cases small cysts. The tumor was removed without difficulty and the patient was discharged after a short stay in the hospital. The tumor when hardened measured 11x8x7 cm. It had completely replaced the testicle, but had not extended beyond the tunica albuginea. The remains of the testicle and epididymis were still to be found near the periphery of the tumor, apparently pushed aside by the new growth. The cut surface showed many cysts, the largest ones being between 1 and 2 cm. in diameter. There were also areas of about the same size of yellow, opaque tissue, evidently very cellular. A few very small nodules of cartilage could be seen scattered through the cut section. Microscopical examination showed that the tumor was largely made up of a loose connective-tissue stroma, filled in many places with a very large amount of striated muscle fibers, showing the spindle and spherical forms which are so often seen in embryonic muscle fibers. In only a moderate number of the fibers could striations be made out, but the staining reactions and the arrangement of the nuclei left no question that many of the smaller round masses were muscle cells not cut transversely but remaining undeveloped. The connective tissue stroma also showed an embryonic type, very often cellular and softened, with occasional areas of mucous degeneration. In places the section showed areas of cartilage. In other portions there were epithelial tubules remaining, such as are often found in the teratomata of the testicle. In fact, this tumor might well be classed as a teratoma with excessive development of striated muscle. It did not belong to the group of pure myomata of the testicle, of which about six cases have been collected from the literature.

Sponges Found in Operation Wounds.—Dr. Eugene Hodenpyl reported two cases of sponges remaining in operation wounds, at the same time exhibiting sections and drawings of the lesions with which they were connected. The two cases were illustrative of the experience common to pathologists, that rare cases are apt to occur in pairs ("Binary Occurence of Rare Cases"). As a matter of fact, these two cases came under his notice within a period of seven days. Regarding the rarity of the condition, he remarked that he had not observed this condition before; that his colleagues in the laboratory also had not before seen similar cases. Sections were sent to several other pathologists, none of whom, except Dr. Welch, was willing to hazard a diagnosis. Dr. Welch said that he regarded the peculiar structures as sponge, and based his theory on the recollection of a case of a similar kind which he had seen years ago.

When the cases were studied more carefully the identity of the conditions and the accuracy of this opinion became apparent. The first case was that of a man, seventy years of age, who suffered from epithelioma of the pharynx. Three and a half months before he had been operated on for a primary growth. Directly on the site of the operation, embedded in the connective tissue, he came upon these curious masses, two or three in number. They presented solid threads, often branching and anastomising, and sometimes presenting a double contour, which stained with a large variety of stains. Although "foreign body' was at once suspected, Dr. Hodenpyl was at first thrown off his guard by the fact that the muscle adjacent showed curious degeneration, and it was thought that various phases between the muscle and these curious masses could be traced. The second case was even more remarkable. The patient was admitted to the hospital with a history of recurrence of epithelioma of the lip. He had been operated on eight years before for a primary growth. The appearance of the sections greatly resembled those of the first case, except, as was to be expected, the spicules of sponge showed more evidence of absorption. Many of them were surrounded by giant cells.

Dr. F. C. Wood said that Dr. Hodenpyl's experience had been valuable to him, for shortly after the examination of the specimens referred to, they had a similar case in St. Luke's Hospital; and he would undoubtedly have considered the structure as some kind of degeneration if he had not seen those two cases and had not been instructed by them as to the origin of the condition.

False Diverticula of the Sigmoid Flexure.—Dr. Otto H. Schultze presented a case of false diverticula of the sigmoid fecal abscess, and general septic peritonitis, complicated by purulent meningitis and lobar pneumonia. Dr. Schultze showed a portion of the sigmoid flexure removed from a man about forty years of age, at autopsy. One of the many false diverticula, which contained hard fecal masses, through ulceration and subsequent infection, had given rise to an abscess between the sigmoid and left illiac fossa, which had been ruptured into the peritoneal cavity. No clinical history was obtainable. This condition might account, he said, for some cases of perisigmoiditis, or cases running a course resembling that of appendicitis, the symptoms being referable to the left instead of the right side.

Aneurysmal Dilatation of the Ductus Arteriosus in a Male Infant about Three Weeks of Age.—Dr. Schultze also presented this specimen. The body was found in a school-sink. There were no marks of violence. The ductus arteriosus was dilated and filled with recently clotted blood. Its pulmonary end was closed; its aortic end open and about 7 mm. in diameter. The duct was 2 cm. in length and over 1 cm. in width, thus presenting the condition of a large sacculated aneurysm in the anterior mediastium, bounded on the left side by the left lung, on the right side by the left auricle, coming in relation anteriorly with the left phrenic nerve and posteriorly with the left pneumogastric nerve. Ecchymoses were found on the pleura, pericardium, and pericranium. No foreign material was found in larynx, trachea, or bronchi. The blood was fluid except the recent clot found in the ductus arteriosus. The condition pointed to asphyxia, yet the positive diagnosis of asphyxia by submersion could not be made. It is by no means uncommon, in New York at least, the speaker said, to find that infants whose bodies are discovered under circumstances arousing suspicion as above, may nevertheless have died from natural causes, since many poor and ignorant inhabitants of large cities are not aware that the authorities will bury their dead. It was an open question in this case as to what effect the condition described might have had in causing death by pressure upon the pneumogastric or phrenic nerves. The size of the dilated ductus compared with the size of the anterior mediastium of a three-weeks-old infant is a matter of some importance.

A Case of Conglomerate Tubercles of the Liver, So-called Bile-Duct Tubercles.—Dr. Schultze presented this specimen, which contained, besides many miliary tubercles, a large number of conglomerate tubercles, varying in size from 0.5 to 1.5 cm. in diameter, whose centers were fluid and bile-stained, whose margins were cheesy and surrounded by connective tissue, presenting under the microscope bile pigment and amorphous detritus in the center; then an area of coagulation necrosis, in which miliary tubercles could be faintly made out; and finally tubercle tissue and granulated tissue, in many cases advanced to the formation of fibrous connective tissue. The subject, a male, eighteen years of age, had a most extensive chronic tuberculous bronchopneumonia, with large cavities, from one of which a hemorrhage had taken place, which was the immediate cause of death. The extent of tuberculous inflammation in this subject was most remarkable; the larynx, spleen, almost the entire intestinal tract, peritoneum, bronchial, and retroperitoneal lymph nodes, were affected. Large conglomerate tubercles were found in the spleen and throughout the peritoneum. It seemed less probable that these so-called bile-duct tubercles originated from an infection of the bile ducts than from an erosion or inclusion of the ducts by the process of tuberculous inflammation in the periportal connective tissue.

A Surgical Needle Encysted in the Abdominal Cavity.—Dr. Warren Coleman exhibited a surgical needle which had been found in the abdominal cavity of a young woman. The patient had entered the City Hospital for treatment for alcoholism and chronic nephritis. She died after several weeks. Upon opening the abdomen at the autopsy, the omentum was found to be adherent to the upper part of the bladder. The needle—a curved surgical needle—lay upon the omentum about one inch above the adhesion, with its concavity directed upward, and was completely encysted. It was not until the point of the needle was laid bare that its real nature was determined. The needle measured seven-eighths of an inch from eye to point. A suprapubic hysterectomy had been performed some time previously—probably a year or more, judging from the appearance of the scars—and the needle had been left in the abdominal cavity.

Proteosoma Malaria in Sparrows.—Dr. W. N. Berkeley submitted specimens and described the results of some work he had done in September, 1901, on the subject of malaria in birds. It was easy in the Bronx Borough to find English sparrows (Passer domesticus) infected with malarial parasites corresponding in all morphological characters with the proteosoma of Labbé.

Dr. Berkeley had examined many hundred birds, of which 75 per cent. were infected slightly and 15 per cent. severely. The latter, though apparently well when in the open, sickened rapidly in confinement, refusing to eat, and sitting with ruffled feathers in a corner of the cage.

The temperature of one bird reached 108.8°F., though the speaker would not venture to say that this figure represented an unusually high fever in birds. The heart-blood of one bird, examined post mortem, showed many red cells invaded by five to seven sporocytes, apparently a multiple infection. He had not found similar observations recorded in the literature, and was not able to claim that this form of infection was of proteosomal nature.

Persistence of Varieties of the Bacillus Diphtheriæ and of Diphtheria-like Bacilli.—Dr. Anna N. Williams presented this paper, the outline of the work being as follows: (1) A study of the diphtheria and diphtheria-like bacilli found in a series of clinically typical diphtheria at the hospital for contagious diseases; (*a*) Serial smears of cultures directly from throats and noses; (*b*) Pure cultures isolated from these cultures. (2) A study of the diphtheria and diphtheria-like bacilli found in healthy and diseased throats in a town during an epidemic of diphtheria; (*a*) smears of cultures directly from throats; (*b*) pure cultures isolated from these cultures. (3) A study of diphtheria and diphtheria-like bacilli found in sore throats during an epidemic of diphtheria at a home for destitute children; (*a*) pure cultures. (4) A study of pure cultures of diphtheria and diphtheria-like bacilli from sources other than those given above; (*a*) on various artificial culture media grown under various conditions; (*b*) in living tissues of guinea-pigs, white rats, and goldfinches; (*c*) in symbiosis with other bacteria.

The results obtained from these studies was summarized as follows: 1. (*a*) In a series of ten cases of clinically typical diphtheria only one variety of the specifically-virulent diphtheria bacillus was obtained from the throat of each case throughout the course of the disease and until suspicious bacilli disappeared; (*b*) from different parts of the same patient only one variety of specifically virulent diphtheria bacillus was obtained; (*c*) "pseudo" varieties were found no more frequently at the end than at the beginning of the disease; (*d*) pure cultures continued to show the characteristics similar to the original culture for many culture generations. 2. (*a*) Under normal conditions different varieties of diphtheria-like bacilli might be found in the same throat; (*b*) many throats in a single institution might contain many diphtheria-like bacilli with no case of diphtheria resulting; (*c*) there were many distinct varieties of diphtheria-like bacilli, all of which in several pure cultures retain the characteristics of the original culture. 3. (*a*) In each case of diphtheria apparently contracted from the same source, the same variety of virulent diphtheria bacillus was found; (*b*) this variety remained the only variety of virulent bacilli found until its disappearance; (*c*) no gradations in "pseudo" types were found—the same type seen in the first examination continued to be present in later ones; (*d*) pure cultures continued to show characteristics similar to the original cultures for many culture generations. 4. (*a*) Some cultures when grown on artificial media showed certain changes, but each culture changed in its own way, retaining its distinct individuality. After many culture generations, however, especially when transplantations were made at short intervals, the different varieties of the specifically virulent diphtheria bacillus tended to approach each other or rather to run in lines with a common norm; (*b*) no non-virulent morphologically typical bacillus has been made virulent, neither have solidly staining "pseudo" varieties or other atypical varieties been made virulent or morphologically typical.

These studies seemed to demonstrate that the morphologically typical diphtheria bacillus is a distinct species from the atypical diphtheria-like bacilli and so-called "pseudo" forms; and that it has many true morphological varieties of sub-species, which, while showing transitory ontogenic variations due to change in environment and life habit, have more or less persistent phylogenic characteristics, which reappear when the organism is placed in a previous environment.

Dr. William H. Park, in discussing the paper, said it was really extraordinary how the characteristics of different bacilli had been found to persist for long periods when changed from one culture medium to another and then restored to their original medium. He believed that many of the changes reported in the literature on the subject were due to errors in the observations. One thing that particularly interested him was the fact shown by the observations at the Willard Parker Hospital, that, whereas the diphtheria bacilli apparently differed in virulence at different times when tested in bouillon, in reality they differed only in their rate of growth, and were very much alike when tested in ascitic bouillon. The probability was that in the throat they were all very much the same in respect to virulence. The practical conclusion which they were entitled to draw from the investigation was that when bacilli began by being virulent, they remained virulent to the end; and on the other hand that if they were not virulent at the start, they would not become so. This being so, it seemed that there was no use of the physician making repeated tests in any one case, with the view of ascertaining the degree of virulence the bacilli showed. Summing up, he said that the observations seemed to establish beyond doubt that the bacillus did not change from one type to another. The experiments had been most carefully conducted, and he believed that the conclusions arrived at were correct.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 2, 1902:

	Cases.	Deaths.
Measles	98	7
Diphtheria and croup	186	19
Scarlet fever	91	7
Smallpox	4	5
Varicella	11	..
Tuberculosis	223	134
Typhoid fever	63	8
Cerebrospinal meningitis	..	4

The Etiological Significance of the Acid-Resisting Group of Bacteria and the Evidence in Favor of Their Botanical Relation to Bacillus Tuberculosis.—The conclusions offered by A. C. Abbot and N. Gildersleeve are as follows: (1) That the majority of the acid-resisting bacteria may be distinguished from true tubercle bacilli by their inability to resist decolorization by a 30 per cent. solution of nitric acid in water; (2) That some of the acid-resisting bacteria are capable of causing in rabbits and guinea-pigs nodular lesions suggestive of tubercles; that these lesions, while often very like tubercles in their histological structure, may nevertheless usually be distinguished from them by the following peculiarities: (*a*) When occuring as a result of intravenous inoculation they are always seen in the kidneys, only occasionally in the lungs, and practically not at all in the other organs; (*b*) They constitute a localized lesion, having no tendency to dissemination, metastasis, or progressive destruction of tissue by caseation; (*c*) they tend to terminate in suppuration or organization rather than in progressive caseation, as is the case with true tubercles; (*d*) they are more commonly and conspicuously marked by the actinomyces type of development of the organisms than is the case with true tubercles, and these actinomyces are less resistant to decolorization by strong acid solutions than are those occasionally seen in tubercles; (3) That by subcutaneous, intravenous and intrapulmonary inoculation of hogs (4) and calves (15) the typical members of the acid-resisting group are incapable of causing lesions in any way suggestive of those resulting from similar inoculations of the same animals with true tubercle bacilli; (4) That though occasionally present in dairy products, they are to be regarded as of no significance, etiologically speaking, but may be considered as accidental contaminations from the surroundings and not as evidence of disease in the animals; (5) That the designation "bacillus" as applied to this group of bacteria and to the exciter of tuberculosis is a misnomer; they are more correctly classified as actinomyces. —*University of Pennsylvania Medical Bulletin.*

Sciatica and Its Treatment.—Seth C. Felt dissolves one grain of atropin in one hundred drops of distilled water, accurately measured by a dropper held in a perpendicular position. He begins treatment by giving three drops hypodermatically about four inches above the patella in the sciatic limb, at bedtime; in twenty minutes the effects will be marked, pulse 120, pupils dilated, head dizzy, with an intolerable thirst. If the above symptoms subside within twelve hours, the dose was not sufficient and it can be increased one drop each time, until the dizziness lasts twenty-four hours. The dose must not be repeated oftener than once in forty-eight hours, and not until the head symptoms have entirely disappeared. The total number of cases treated by the writer (one being himself) is twenty-nine, with twenty-two permanent cures. Since describing his treatment he has been met with nothing but opposition from the profession, which he attributes to timidity and lack of confidence. He acknowledges that the temporary effects of the heroic doses are severe and unpleasant beyond description, but considers them worth going through with, in order to obtain the cure of this most painful disease.—*The Physician and Surgeon.*

The Stokes-Adams' Syndrome, with Report of Two Cases.—Frank Billings says that the phenomena which characterize the disease consist of a permanent slow pulse with attacks of giddiness or faintness, or transient unconsciousness, or of epileptiform convulsive seizures. Attending these characteristic symptoms is usually a subjective breathlessness or dyspnœa, and the patient is often pale, especially just before an attack of unconsciousness. There may attend any of the phenomena usually associated with cardiac and blood-vessel disease, as various degrees of angina pectoris, Cheyne-Stokes' phenomenon, cardiac asthma, or perhaps some permanent signs of cardiac failure in the way of venous congestion of lungs or of abdominal organs with dropsy. The prognosis is uncertain, and depends entirely upon the basic cardiovascular disease. The treatment should be based on the cardiovascular condition. The nitrites and iodides frequently give relief to the syncopal attacks. Digitalis has been known to quicken instead of slow the heart. French writers report marked improvement in cases treated by a milk diet. During the paroxysm the nitrites with diffusible stimulants are the most beneficial.—*Medicine.*

The Parasitology of Malignant Growths (Syncytioma Malignum).—J. George Adami draws the following deductions from his study of the subject: (1) There exists one form of tumor of highly malignant type in which the infiltrating cells are not those of the organism itself but are derived from another organism. The development of the syncytioma must be attributed to either an increase in the invasive properties of the syncytial cells, or a lessened resistance on the part of the maternal tissues or a combination of the two. If microparasites play any part in the production of the tumor, that must be either by exalting the infiltrative powers of the one or by lowering the resistant powers of the other. Proof positive of the existence of such specific microparasites is still wanting. Admitting that microparasites and their products are capable of inducing cell-proliferation, we must also admit that other external agencies have the same capacity, so that that microparasites, at most, may be one of the causes of aberrant cell growth. The prevalent conception of cancer parasites, as existing within the cancer cells, involves the idea of malignant growths being the product of parasites acting within parasites, or as shown by this study of the syncytioma the tumor cells themselves are essentially parasitic in the organism.—*The Clinical Journal.*

The Diagnosis of Malaria by the Practitioner in Non-Malarious Country.—Patrick Manson emphasizes the importance of a thorough reliance on the three classical methods of diagnosing malaria: The clinical—tertian and quartan periodicity; the therapeutic—the curative effect of quinine; and the microscopical—the detection of the parasite or its products in the blood, and the characteristic leucocytic variation. A thorough and intelligent application of one or all of these methods seldom if ever fails to lead to a correct diagnosis for or against malaria. At the same time he warns the practitioner that, although a positive diagnosis of malaria may be indicated in some given case, the presence of malaria does not exclude other diseases. On the contrary, malaria often predisposes to other diseases. Similarly, the explosion of a latent malaria is favored by other infections, especially typhoid and tuberculosis.—*The Clinical Journal.*

Five Cases of Conjugal General Paralysis.—P. Kervanal and G. Raviart report five instances in which both husband and wife were affected almost simultaneously with general paralysis. In the first observation syphilis seems to have been the sole cause, in the second it is a question whether syphilis was present or not. Alcoholism was the chief element in the third case, while in the fourth there was no syphilis nor alcoholism, but the cerebral troubles in the husband appear to have been due to cerebral traumatism, while in the wife they were attributable to grief and poverty. In the fifth instance heredity in the husband and grief and anxiety in the wife were the causes. In four cases the man was the first affected, in one case the woman.—*Archives de Neurologie.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 2, 1902:

SMALLPOX—UNITED STATES.		Cases.	Deaths
California, Los Angeles	July 5-12	1	
Sacramento	July 12-19	4	
San Francisco	July 6-23	2	
Colorado, Denver	July 12-19	1	
Illinois, Belleville	July 19-26	3	
Chicago	July 19-26	2	
Indiana Indianapolis	July 12-26	13	
Kansas, Wichita	July 12-26	2	
Kentucky, Covington	July 19-26	4	
Massachusetts, Boston	July 19-26	7	2
Cambridge	July 19-26	6	3
Everett,	July 19-26	3	1
Lowell	July 19-26	2	1
New Bedford	July 30	1	
Newton	July 19-26	1	
Missouri, Carthage	May 1-June 1	10	
Carthage	June 1-July 10	11	
St. Joseph	July 19-26	13	
St. Louis	July 20-27	11	
Nebraska, Omaha	July 10-26	11	
New Hampshire, Nashua	July 19-26	2	
New Jersey Camden	July 12-26	3	
Hudson County, including Jersey City	July 20-27	8	
Newark	July 19-26	6	1
New York, New York	July 19-26	11	
Ohio, Cincinnati	July 18-25	3	
Cleveland	July 19-26	10	4
Hamilton	July 19-26	2	
Toledo	July 12-26	5	
Pennsylvania Altoona	July 21-28	1	
Johnstown	July 19-26	2	
McKeesport	July 12-19	2	2
Philadelphia	July 19-26	4	1
Pittsburg	July 10-26	25	1
Scranton	July 12-19	3	
Texas, San Antonio	June 1-30	1	
Utah, Salt Lake City	July 12-26	8	1
Wisconsin, Green Bay	July 20-27	1	
Milwaukee	July 19-26	4	
SMALLPOX—INSULAR.			
Porto Rico, Arecibo	To June 15	381	1
Bayamon	To June 15	3	
Caguas	To June 15	71	
Camuy	To June 15	121	
Cialos	To June 15	0	
Corozal	To June 15	2	
Fajardo	To June 15	1	
Hatillo	To June 15	5	
Humacao	To June 15	1	
Isabela	To June 15	9	
Lares	To June 15	3	
Ponce	To June 15	128	
San Juan	To June 15	110	
Utuado	To June 15	79	
SMALLPOX—FOREIGN.			
Canada, St John	July 19-26	1	
Colombia, Panama	July 14-21	2	
Egypt, Cairo	June 17-July 1	..	1
France, Paris	June 28-July 12	..	1
Great Britain, Birmingham	July 5-12	2	
Dundee	July 5-12	6	
Gateshead	July 5-12	5	1
Liverpool	July 5-12	3	
London	July 5-12	51	13
Italy, Naples	June 28-July 5	2	
Mexico, City of Mexico	July 6-13	1	
Russia, Moscow	June 28-July 5	6	5
St Petersburg	June 28-July 5	4	
Warsaw	June 21-July 5	..	3
Straits Settlements, Singapore	May 18-June 7	.	2
Uruguay, Montevidio	June 11-26	93	9
YELLOW FEVER.			
Colombia, Panama	July 14-21	3	
Costa Rica, Port Limon	July 10-17	2	
Mexico, Cotzacoalcos	June 28-July 5	4	
Vera Cruz	July 12-19	7	4
CHOLERA			
China, Changchow	June 17	Epidemic	
Chinkiang	June 17	Epidemic	
Hangchow	June 17	Epidemic	
Kiangyin	June 17	Epidemic	
Shanghai	June 17	Epidemic	
Soochow	June 17	Epidemic	
Wusieh	June 17	Epidemic	
Japan, Formosa	To June 27	11	5
Moji	July 22	Present	
Nagasaki Ken	To June 27	3	2
Saga Ken	To June 27	47	26
Tokyo Fu	To June 27	5	3
Straits Settlements, Singapore	May 17-June 7	..	136
PLAGUE—UNITED STATES.			
California, San Francisco	July 19	1	1
San Francisco	July 20	1	1
PLAGUE—FOREIGN.			
China, Choanchew	June 5	Epidemic	
Tongan	June 5	Epidemic	
France, Dunkirk	June 11-13	2 deaths on S. S. City of Perth, from Calcutta, etc.	

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PELVIC DEFORMITY IN NEW YORK.*

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NEW YORK.

Definition.—While our conception of a contracted pelvis is that of Michaelis, Litzmann, and others, who considered a pelvis contracted when one or more of its diameters is so shortened as to lead to an abnormal mechanism of labor without necessarily retarding the delivery of the child, and that of Litzmann, who looked upon all generally-contracted pelves as having contracted a conjugata vera of 3¾ inches (9.5 cm.) or less, and all flat pelves having a conjugata vera of 4 inches (10 cm.) or less, still we have in these cases followed the example of Williams, and used the diagonal conjugate as the clinical index of the pelvic deformity, and classified as contracted all flat pelves having a conjugata diagonalis of 4.33 inches (11 cm.) or less, and all generally contracted pelves having a diagonal conjugate of 4½ inches (11.5 cm.) or less. I have included among the thirty generally-contracted pelves four cases in which the diagonal conjugate was, respectively, 4¾ inches (12 cm.); likewise among the fourteen flattened pelves, five cases in which the diagonal conjugate was in four instances 4½ inches (11.43 cm.), and in one 4¾ inches (12 cm.). These nine cases have been included, although exceeding the limits of our definition, since the previous and present history and the other pelvic measurements pointed toward a justification of their inclusion. In all of my cases the external pelvic measurements were taken with a Baudeloque pelvimeter, and the diagonal conjugate was measured with the finger in the usual manner, and in many instances with the Farabœuf pelvimeter in addition. Pelvimetry does not lead to mathematically accurate results. In minor degrees of contraction it is impossible to say in advance whether or not intervention will be necessary. Certain factors enter into every case which are beyond our powers of calculation, as size and shape of the fetal head, compressibility and power of moulding, character of labor pains, and resistance of soft parts. Still it is always possible to know the size and shape of every pelvis, and thereby to be in a position to explain the indication for the various operations. In pelves of the same measurement one patient may be delivered spontaneously, while with the next we are obliged to resort to operative intervention. However, pelvimetry is none the less a necessity. An argument for the greater accuracy of our measurements is to be found in the fact that all the cases were used for clinical instruction, and often repeatedly measured by different observers during pregnancy. Several of the cases were remeasured while under an anæsthetic in subsequent clinical demonstrations. Another series of cases of pelvic contraction from one thousand cases of confinement at the New York Maternity, tabulated after many hours of labor, I have had to abandon since the accuracy of the pelvic measurements was questionable, there being no verification of the measurements originally taken.

Material and Findings.—My conclusions are drawn from 1,200 consecutive cases of confinement occurring in the service of the Mothers' and Babies' Hospital, New York. The bound histories of these cases have been presented to the New York Academy of Medicine, and hence are available at any time for inspection; the confinement number of the tables herein printed correspond with those of the bound histories; four hundred of the cases were hospital or in-door patients, and 800 dispensary or out-door patients. Among the 1,200 cases I found, according to our definition, thirty cases of generally-contracted pelves and fourteen cases of flattened pelves. The histories do not warrant us in distinguishing between rachitic flat and simple flat pelves. Among the 1,200 consecutive labors there were no irregular forms of contraction, as osteomalacic, obliquely contracted coxalgic, spondylolisthetic, or kyphotic. This gives us forty-four contracted pelves among 1,200 cases observed, as follows:

Forty-four deformed pelves in 1,200 cases equals one in 27.27 cases, or 3.66 per cent.

Thirty generally contracted pelves in 1,200 cases equals one in forty cases, or 2.50 per cent.

Fourteen flattened pelves in 1,200 cases equals one in 85.71 cases, or 1.16 per cent.

Race.—The racial distribution of our 1,200 cases studied was as follows:

Americans	499	or	41.58	per cent.
Irish	215	"	17.91	"
Russian	130	"	10.83	"
German	105	"	8.75	"
English	35	"	2.91	"
Austrian	23	"	1.91	"
Italian	20	"	1.66	"
Hungarian	16	"	1.33	"
Scotch	14	"	1.16	"
Swedish	12	"	1.00	"
Canadian	8	"	0.66	"
Polish	7	"	0.58	"
West Indian	6	"	0.50	"
Roumanian	6	"	0.50	"
Bohemian	6	"	0.50	"
Swiss	4	"	0.33	"
Danish	4	"	0.33	"
French	2	"	0.16	"
Cuban	2	"	0.16	"
Turkish	1	"	0.08	"
Norwegian	1	"	0.08	"
No record (30 blacks)	84	"	7.00	"
Total	1,200 cases.			

Of the 1,200 cases 1,170 were white and thirty black. Of the thirty blacks three (C. H. 355, 599 and 769) are found in our list of deformed pelves, all three generally contracted.

The forty-four deformed pelves were distributed as follows:

Americans	20	Swiss	1
Irish	9	Austrian	1
Black	3	Russian	2
West Indian	2	Hungarian	2
German	2	Canadian	1
English	1		
Total			44

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*Read at the twenty-seventh annual meeting of the American Gynecological Society, held at Atlantic City, May 27, 28 and 29, 1902.

The thirty generally contracted pelves were distributed as follows:

Americans	14	Hungarian	2
Irish	5	Russian	2
Black	3	Austrian	1
West Indian	2	Canadian	1
Total			30

The fourteen flattened pelves were found among:

Americans	6	English	1
Irish	4	Swiss	1
Germans	2		
Total			14

Para and Age.—I found that twenty-four of the cases were I-para; seven were II-para; three were IV-para; two were III-para; three were VI-para; two were V-para; one was VII-para; one was IX-para, and one was XII-para.

The ages, as will be seen from the tables, ranged from sixteen to thirty-nine years.

Previous History.—Of the thirty generally-contracted pelves eighteen were primigravidæ or primiparæ, and of the remaining twelve four had had previous instrumental deliveries. One case (C. H. 512) having had as many as three. Of the fourteen flattened pelves, six were primiparæ or primigravidæ, and of the remaining eight four had had previous instrumental deliveries; one (C. H. 356) had three forceps' operations previously; one (C. H. 161), symphyseotomy; one (C. H. 117), once forceps and once symphyseotomy; and one (C. H. 304), one forceps' operation.

Presentation and Position.—Of the forty-four cases there were forty vertex presentations, two abortions, and two of which there was no record. All the vertex presentations were anterior positions, with the exception of three posterior. There were two twin cases, the second fœtus in each case presenting by the breech. The three posterior vertex presentations were all among the generally-contracted pelves.

Character of the Labors.—Thirty-one of the forty-four labors were spontaneous and thirteen operative. The operations were: Ten forceps; one induction of lapor and forceps; one podalic version, and one craniotomy.

Result for the Mothers.—The maternal mortality was *nil.* An uneventful puerperium resulted in forty-one of the forty-four cases. In one pleurisy with effusion occurred, and in two, mild sepsis.

Result for the Children.—Of the forty-four cases there was but one still-birth; two were abortion cases, and two twin labors, leaving forty-three living children at term.

Frequency of Pelvic Contraction in Different Countries Compared.—While much statistical matter on this subject is available, it can hardly be said as yet that we possess any trustworthy information on the subject as a whole, nor can any gain be made in this direction until some standard of agreement is reached by obstetricians throughout the world. Not only is there absence of harmony in measuring these pelves, but there is even failure to agree upon what a contracted pelvis really is. Litzmann's measurements, which are supposed to underlie most statistics, are certainly often disregarded in favor of some personal standard; while some tables are based upon the actual measurements of the diagonal conjugate from which the true conjugate is obtained by subtraction. Some obstetricians, like Leopold, are said to take only external measurements, which appears to give an abnormally high percentage of contraction (24.3). It can be readily shown that this is a very fallacious method of arriving at the dimensions of a contracted pelvis. Some observers, Reynolds, Flint, and others, estimate the prevalence of contraction by the proportion of cases which require operative intervention during delivery. The abnormally small percentages obtained by this method are not surprising in virtue of the demonstration that the great majority of technically-contracted pelves do not necessarily occasion any disturbance of labor (Krönig, Valency, and others). It is obvious that to secure uniformity direct pelvimetry should be employed, using the Skutsch or Farabœuf apparatus under uniform conditions; also that all the women who come to a clinic should be measured, and not alone those in whom there is a suspicion of contraction. There should be two species of contraction recorded; absolute and relative; but nothing will be gained by subdividing the relative cases according to the length of the conjugate. On the other hand, it would be of value to subdivide the relative cases in regard to the character of the labors and kind of intervention indicated. The continental statistics cited by Williams and Dobbin do not appear to possess any direct value for the purposes of comparison, or even for throwing light upon the relative frequency of contraction in different countries. The method by which the results were obtained is seldom alluded to. Of interest to note is the very large percentage of contraction in which the course of labor was undisturbed, several authors reporting about 70 per cent., each, with this termination. The recent work at the Paris and Leipzig clinics upon labor in contracted pelves shows that this percentage obtains to-day as well. Reynolds did not measure his cases unless an impediment arose to labor. The following comparison appears to show how the unlike results of two different clinics might be brought in harmony very readily. Reynolds reports a series of 2,227 labors in which he had to interfere for contracted pelvis in some thirty, or 1.34 per cent. He does not record the percentage of contraction in which intervention was not necessary, but if his percentage of technical contraction was as high as that of Pinard, Michaelis, Leopold, and others, he should have had about 100 cases of technical contraction, or 4.5 per cent. Williams states that Reynolds should have had about 6.8 per cent. technical contraction, which agrees closely with his own figures for white women (7.1). Pinard, in 2,000 labors in a given series, found 107 cases of technical contraction, or over 5 per cent. These figures show considerable similarity. Flint of New York, in about 10,000 labors, found about the same percentage of contraction as Reynolds (1.42). If he obtained his percentage in the same way, no further comment need be made. Williams appears to believe, however, that the figures were obtained by general pelvimetry, and seeks to explain the small proportion of technical cases on the ground that the great majority of his patients were East Europeans, 75 per cent. alone being Russians, which of course, means Hebrews. He recalls the fact that Hugenberger found but 1.2 per cent. contraction in Russians; but if contracted pelves are the outcome of misery, semi-starvation, exposure, etc., the people of Eastern Europe would hardly be exempt. It is much simpler to explain such discrepancies by want of harmony of method, etc. On the other hand, there can be no doubt that the proportion of technical contraction in Central Europe is higher than the figures obtained in America and France. The percentage estimated by Winckel (10-15) appears to be borne out by the work of Michaelis and Litzmann, the estimate of Schauta, and many other statistics. Schauta's statement, that one woman in seven in Vienna had a certain amount of con-

TABLE I.—GENERALLY CONTRACTED PELVES—THIRTY CASES.

Series No.	Confinement No.	Race	Para and Age	Previous History	Pelvic Measurements: Spines	Crests	Trochanters	Ext. conjugate	Right oblique	Left oblique	Diagonal	Nur conjugate	Presentation and Position	Character of Labor	Total Duration of Labor	Puerperium Death of Mother	Child Living or Dead	Sex and Weight of Child	Head Measurements of Child: Biparietal	Sub-occipito Breg.	Occipito Mental	Occipito Mental	Sub-occip. Breg.
1	14	Austrian ...	VI. 31 yrs.	Normal	9½	10½	11¼	7¾	8¼	8¼	4	3¾	L. O. A ..	Spontaneous.........	4 hrs. 30 min..	Normal	Living. ..	Male, 7 lbs. 9 oz	4¼	4½	5½	15¼	13
2	130	Irish	III. 28 " ..	Convulsions; instr. labors	9½	10¾	11	7	8¼	8¼	4½	3½	Unknown.	"	Not observed....	"	" ..	Female, 4 lbs	3	3½	4½	12½	10
3	273	Russian. ...	VI. 32 " ..	Two instr. labors..	8½	9½	..	8	9½	9½	4	3¼	L.O.A ...	Forceps.	10 hrs. 40 mins.	"	" ..	Male, 8 lbs.........	4	4¼	5¼	17½	14¼
4	339	American ..	I. 21 " ..	....	8¾	9¾	11¼	6¾	8¼	8	4½	3¾	R.O.P....	"	23 " 5 " ..	"	" ..	Female, 7 lbs. 8 oz ..	3½	4	5½	16	12½
5	512	Irish	V. 27 " ..	1 miscarriage; 3 instr. labors..	9	10½	12	7	8¼	8½	4	3¾	L.O.A ...	Spontaneous....	18 " 45 " ..	"	" ..	Female, 7 lbs. 8 oz .	4	4	5¼	..	..
6	523	American ..	I. 22 " ..	....	8½	9¾	11	6¾	8¼	8	4½	3¾	L.O.A ...	"	7 " 39 " ..	"	" ..	Female, 8 lbs. 4 oz ..	3½	4	6	16¾	12½
7	599	Black......	II. 20 " ..	Normal	8	8¾	10	7	7½	7½	4	4¼	L.O.A ...	"	3 " 25 " ..	"	" ..	Male, 6 lbs 8 oz	4	4	4½	15	12½
8	684	American ..	IV. 25 " ..	1 miscarriage; 2 normal......	9	9¾	11	7½	8	8¼	..	3¼	L.O.A.Foot	"	Not observed....	" both......	" both	Male 5 lbs...... Male, 4 lbs. 4 oz ...	3¼ 4	4½ 4¼	5¾ 5¼	15 14½	13 11¼
9	746	West Indian	IV. 22 " ..	Normal	8	9	11	6¾	7½	7½	..	3¾	L.O.A ...	"	Not observed....	"	" ..	Female, not observed	3¾	4¾	5¼	15½	12¾
10	750	American ..	II. 21 " ..	Normal	8¾	9	10¾	7	7¾	7½	..	..	Abortion .	....	....	"	....	Abortion.	..	..	..	..	..
11	769	Black......	I. 20 " ..	....	8	8¾	11	7	7½	7½	..	4	L.O.A ...	Spontaneous..........	14 hrs.	"	" ..	Female, 9 lbs. 8 oz ..	3¾	3¼	5¾	16	13¼
12	18	American ..	I. 22 " ..	....	8¾	9¾	12	6¾	7½	7½	4½	3½	R.O.P....	Induct. labor– Forceps.	41 hrs. 40 mins.	"	" ..	Male, 6 lbs. 6 oz	3½	4	5¾	14¾	11½
13	30	American ..	III. 28 " ..	Normal	8½	10	11½	7	8	8	4½	3¾	R.O.A ...	Spontaneous	7 " 38 " ..	"	" ..	Male, 7 lbs 4 oz	3½	4	5½	14	13½
14	31	American ..	II. 23 " ..	Instr. labor.	8½	9½	11½	7	8½	8½	..	..	L.O.A ...	"	19 " 45 " ..	"	" ..	Female, 6 lbs 8 oz .	3½	3¾	5¾	14¾	12¼
15	44	American ..	I. 24 " ..	....	10¾	11	11½	7¼	8¼	8¼	4½	4	L.O.A ...	"	15 " 15 " ..	Pleurisy with effus'n	" ..	Male, 8 lbs. 4 oz ...	4	4	5¾	16	12½
16	57	Irish	I. 23 " ..	....	8¾	9¾	..	7½	..	..	..	3¾	L.O.A ...	"	15 " 5 " ..	Normal	" ..	Male, 7 lbs 8 oz ...	3¼	3¼	5	13	12
17	83	Hungarian .	I. 23 " ..	....	8	9¼	11	6¾	8	8	4¼	3½	R.O.A ...	"	21 " 36 " ..	"	" ..	Female, 4 lbs 8 oz .	3	3¼	4½	13½	11
18	97	American ..	I. 16 " ..	History of rickets	8	8½	10¼	6	7	7	4	3¼	R.O.P....	Craniotomy	35 " 38 " ..	Fever (foul lochia)...	Still-born	Male, 7 lbs	..	..	..	..	..
19	155	Cuban	I. 34 " ..	....	8½	9	11½	7	8	8	4	3¼	L.O.A ...	Forceps.	8 " 15 " ..	Normal	Living. ..	No note, 6 lbs 8 oz .	3¼	4	5¼	15½	14½
20	166	Russian. ...	I. 22 " ..	....	8	9½	..	6½	7½	7½	4¼	4	L.O.A ...	"	9 " 45 " ..	"	"	Male, 7 lbs.	3½	4	5½	16	12½
21	176	American ..	I. 16 " ..	....	8	9	11	7½	7¾	7¾	4¼	4	L.O.A ...	"	17 " 50 "	"	" ..	Male, 6 lbs. 12 oz .	3¾	3¾	5¼	16	12
22	181	American ..	I. 19 " ..	....	8¼	9½	11¾	7	8¼	8¼	4¾	4	L.O.A ...	"	24 "	"	" ..	Male, not observed .	4	4	4½	14½	12½
23	185	Hungarian .	I. 20 "	....	8¾	9½	11½	7½	8¾	7¾	4¼	4	L.O.A ...	Spantaneous.........	16 " 55 mins	"	" ..	Male, 6 lbs 6 oz	4	4¼	5½	14½	12
24	204	Irish	I. 21 "	....	9¼	10	11½	7	8¼	8¼	4¾	4	L.O.A ...	Forceps.	19 " 25 "	"	" ..	Male, 8 lbs. 8 oz	3½	4	5½	15	13½
25	212	Irish	I. 37 "	....	9¼	10	10½	6½	8	8¼	..	..	R.O.A ...	"	23 " 40 "	"	" ..	Male, 7 lbs. 14½ oz .	3½	4	6¼	17	12½
26	218	American ..	I. 19 " ..	....	9½	10¼	11¼	7½	8½	8	4¼	3½	L.O.A ...	Spontaneous	22 " 55 "	"	" ..	Female, 6 lbs. 10 oz .	4	4	5½	15¼	12½
27	250	American ..	I. 20 "	....	8½	9	10¾	6¾	8	7¾	4½	3¾	L.O.A ...	"	19 " 15 "	"	" ..	Female, 7 lbs. 10 oz .	4	4	5½	16	13
28	319	American ..	II. 25 " ..	Normal	8¼	9¾	11¾	6¾	8	8	..	..	L.O.A ...	"	4 "	"	" ..	Female, 7 lbs 8 oz ..	3¾	3¾	5½	15	12
29	348	Canadian ..	I. 24 " ..	....	8¾	9¾	11½	6¾	7¼	7¾	4½	3¾	R.O.A ...	"	9 " 40 mins	"	" .	Male, 5 lbs. 2½ oz ...	3¼	4	5¼	14½	12
30	355	Black......	IV. 27 " ..	3 miscarriages ...	8¾	9¾	11½	6¼	8	8	4¼	3¾	Abortion .	....	....	"	....	Abortion.	..	..		.	

TABLE II.—FLATTENED PELVES—FOURTEEN CASES.

Series No.	Confinement No.	Race	Para and Age	Previous History	Spines	Crests	Trochanters	Ext. conjugate	Right oblique	Left oblique	Diagonal	Nur conjugate	Presentation and Position	Character of Labor	Total Duration of Labor	Puerperium Death of Mother	Child Living or Dead	Sex and Weight of Child	Biparietal	Sub-occipito Breg.	Occipito Mental	Occipito Mental	Sub-occip. Breg.
1	190	American .	II. 25 yrs .	Normal	9¼	10½	12	7¾	9	9	4	3¾	L.O.A ...	Spontaneous	13 hrs. 45 min .	Normal	Living. ..	Female, 6 lbs	4	4½	5½	15	12
2	304	English	VII. 36 " ..	1 miscar ; 1 instr.; others normal. .	10	11	11	6¾	7¼	7½	4¾	4	L.O.A ...	"	15 " 40 " ..	"	" .	Female, 7 lbs	4	4¾	6	15¾	13
3	385	American ..	I. 23 " ..	....	9	10	11½	6½	7½	7½	4	3¾	R.O.A ...	"	21 " 10 " .	"	" .	Female, 7 lbs. 8 oz .	4	4½	6	16	13
4	475	Irish	I. 20 " ..	....	9	10	12	7	8¼	8¼	4¼	4	L.O.A ...	"	33 " 10 "	"	" ..	Male 6 lbs 8 oz ...	3¾	4	5½	11¾	12
5	594	Irish	IX. 36 " ..	1 miscar.; others normal	10¼	11¼	13¼	7¾	8¾	8¾	4	4	R.O.A ...	"	6 " 25 " .	"	" .	Male, 9 lbs 8 oz ..	4¼	4½	5½	16	14
6	9	American ..	I. no note	....	9	10	10½	6¾	9½	9½	..	.	L.O.A ...	"	27 " 5 "	"	"	Male, 8 lbs	3	3	5	16	12
7	22	American ..	I. 21 yrs .	....	9	10	11¾	7	8	8	4½	3¾	L.O.A ...	Forceps.	22 " 15 "	"	"	Male, 6 lbs 8 oz ..	3¾	3¾	5	11½	12¼
8	26	Irish	I. 18 " ..	....	9¼	10½	13	7½	8½	8½	4½	3¾	L.O.A . .	Spontaneous	5 " 25 " ..	"	" .	Male, 7 lbs	3¼	4	5½	16	13
9	60	German. ...	XII. 36 " ..	4 miscar ; others normal	..	..	..	..	..	..	..	3½	.....	Podalic Version ...	1 " 10 " .	"	" ..	Male, 7 lbs.	3½	3¾	4½	13½	12¼
10	66	Swiss.	II. 31 " ..	Normal	9½	11	13	6¾	7¾	7¾		..	R.O A . .	Spontaneous	6 " 15 " ..	"	"	Male, 6 lbs. 8 oz	3¼	3½	4¾	13½	12¼
11	117	American ..	VI. 29 " ..	2 miscar.; 1 nor.; 1 forceps; 1 sym.;	..	..	..			..	4½	3¼	Unknown.	"	21 " 50 " ..	"	" .	Male, 5 lbs 9 oz	3¾	3¾	5¼	14½	12¾
12	161	German. ...	II. 27 " ..	History of rickets; symphyseotomy	9½	10½	12¼	7¾	8	8	4¼	3½	L.O.A ...	Forceps.	9 " 25 " ..	"	" ..	Female, 7 lbs. 8 oz ..	3½	3½	5	14½	[illegible]
13	356	Irish	V. 39 " .	1 miscar; 3 forceps	10¾	12	12½	7	9	8¾	4	3¾	R.O.A L.S.A ..	Spontaneous .... Man'lent of breech.....	13 " 40 " .. 13 " 40 " ..	Fever (foul lochia). Fever (foul lochia).	" "	Female .... Male	.. ..	.. .	..		
14	369	American ..	I. 20 " .	....	9	10½	12½	7	8¼	8½	4½	4	R.O.A .	Spontaneous	13 " 20 " ..	Normal	" .	Female, 6 lbs. 8 oz .	3½	4	5½	15	12¼

traction should go far to offset the much lower figures of Braun and Herafeld, Ludwig and Savor, etc. This higher percentage of contraction in Central Europe is generally admitted, and is explained in some quarters by the great prevalence of rickets and osteomalacia. Another element, which is perhaps ignored, is the habit of the German peasant women of doing men's labor, which would tend to make the pelvic bones thicker and diminish the size of the cavity. Contraction thus produced might be offset by the superior muscular development of such women. In England, judging from the small number of craniotomies at some of the maternities, the obstetricians of that country believe that contracted pelves are becoming very rare. General sanitation directed to promote the welfare of the poor is believed to be responsible for this amelioration, and Germany is declared to be remiss in this respect. The question of contraction in the British Isles cannot be settled off-hand in this manner, and it must be remembered that Spiegelberg once accused the English of neglecting the study of pelvic contraction. In America Williams' total material, including many negroes, shows 13.1 per cent. technical contraction against 7.15 for white women alone. The frequency of contraction in the negro is two and one-half times that seen in the white race, and, as the colored women live largely under the most unfavorable hygienic conditions, they are enabled to swell the percentage of contraction just as very probably happens with a certain class of Central Europeans.

England.—At the meeting of the International Gynecological Congress, Geneva, 1896, F. Barnes of London reported 38,065 cases of labor, all measured by the same method of pelvimetry, and found but 195 cases of contraction, or 0.5 per cent. At the meeting of the same Congress in Amsterdam, 1899, he also stated that in 40,000 deliveries at the Royal Maternity, London, there were no indications for cæsarian section, and but fourteen craniotomies. In his "Obstetric Medicine and Surgery" page 762, he attempts to explain this low percentage. The poorer classes in England are better fed, housed, and clothed than on the continent, where rickets and osteomalacia are much more common. Both Barnes and Radford believe that the prohibition of child labor in factories has greatly diminished the frequency of contracted pelves in England.

France.—At the Geneva Congress, 1896, Fochier reported for Lyons and vicinity 21.11 per cent. of contraction. Pinard noted ninety-five cases of contraction in one year at the Baudelocque Clinic, in a material of about 2,000 (about 5 per cent.) labors. In Budin's statistics at the Tarnier Clinique, April, 1898, there were 233 cases of contraction in 3,381 labors—a fraction less than 7 per cent. In another series of Budin's (period, etc., not known, there was 8 per cent. contraction in between 7,000 and 8,000 cases. Bormani once found 16 per cent. in a series of 715 cases of Tarnier's. He also appears to obtain a similar figure from averaging the percentages of others.

Germany.—At the Geneva Congress, 1896, Doehrn (Königsberg) placed the percentage for that country at about twelve, which agrees well with Winckel's estimate of ten to fifteen. Individual statistics vary from eight or nine to nearly twenty-five. The highest measurements were obtained by Leopold, who used external measurements largely.

Switzerland.—At two Swiss clinics the percentages obtained were respectively sixteen and eight.

Austria-Hungary.—Paulik, at the Geneva Congress, reported nearly 30,000 labors with 7.08 per cent. contractions. Ludwig and Savor, confining their statistics to a single clinic in Vienna, during fifteen years obtained a percentage of contraction of 3.83. Similarly, Knapp, confining his figures to a clinic at Prague for four years, obtained a percentage of contraction of but 2.44. Schauta of Vienna estimates that 14 per cent. of pelves are contracted.

Russia.—Hugenberger of St. Petersburg has a percentage of but 1.2; while Buchholz of Dorpat, gets 5.1 per cent.

Italy.—At the Geneva Congress, 1896, Pestalozza reported 18.13 per cent. contractions as determined by pelvimetry and the course of labor, in a material of nearly 8,000 cases.

Holland.—Treub of Amsterdam reports (Geneva Congress) a frequency of 3.51 per cent. of contractions.

United States.—Reynolds found thirty cases of contraction requiring operative intervention in 2,227 cases. The percentage thus calculated would be but 1.34, but this author thinks that with routine pelvimetry and inclusion of all mild degrees the percentage might be brought up to 6.8. At the Johns Hopkins Hospital 1,000 women were measured, nearly one-half being negresses. The number of cases of contraction was 131, or 13.5 per cent. This was so distributed that the percentage for white women was 7.14 and that for negresses 19.83. The number of cases requiring operative treatment was forty-six, or 35.11 per cent. (4.6 per cent. of the entire number), subdivided as follows: Forceps, twenty-one; version, fifteen; extraction, four; symphyseotomy, two; mutilating operations, four. The Johns Hopkins material comprised seventy-nine generally contracted, twenty-five simple flat, and twenty rachitic pelves, while seven were examples of irregular forms of contraction. Flint found but 1.42 per cent. contraction in 10,223 women confined at the New York Lying-in Hospital. Crossen of St. Louis found 7 per cent. contraction in 800 cases. The late Dr. Lusk taught that pelvic deformity was of rare occurrence among native-born American women, while rachitis and osteomalacia are unknown. Hirst holds that we have markedly underestimated the frequency in this country.

Conclusions.—1. Of our 1,200 consecutive cases measured 499, or 41.58 per cent., were American-born women; 215, or 17.91 per cent., Irish; 130, or 10.83 per cent., Russian; 105, or 8.75 per cent., German; 30, or 2.50 per cent., black, etc. (See page 241).

2. Contracted pelves occurred in forty-four cases, once in twenty-seven cases, or in 3.66 per cent. Generally, contracted pelves occurred in thirty cases, once in forty cases, or 2.50 per cent. Flattened pelves occurred in fourteen cases, once in 85.71 cases, or 1.16 per cent.

3. Twenty, or 45.45 per cent., of our cases of pelvic contraction were among American-born women, and deformity occurred once in 24.95 of these cases, or in 4 per cent.

4. Three, or 6.81 per cent., of the contracted pelves were among black women, and deformity occurred once in ten of these cases, or in 10 per cent.

5. Our material gives a frequency of contracted pelves (1,200 cases, 3.66 per cent.) midway between the conclusions of Williams (Baltimore, 1,000 cases, 13.1 per cent.); Crossen (St. Louis, 800 cases, 7 per cent.); Reynolds (Boston, 2,127 cases, 1.13 per cent.) and Flint (New York, 10,223 cases, 1.42 per cent.).

6. Our statistics, 3.66 per cent. of contractions in 1,200 cases, differ from those of England (F. Barnes of London, 38,065 cases, 0.5 per cent.); of France, 5 to 21.11 per cent.; Germany, 9 to 9 per cent.; Switzerland, 8 to 16 per cent.; Austria-Hungary,

2.44 to 7.8 per cent.; Russia, 1.2 to 5.1 per cent.; Italy, 18.13 per cent.; Holland, 3.51 per cent.

7. Special or irregular forms of pelvic contraction as osteomalacia, obliquely contracted coxalgic, double coxalgic, spondylolisthetic and kyphotic, fractured pelvis, are infrequent in this country.

8. The generally-contracted pelvis is the most frequent deformity met with in New York. I found twice as many generally contracted as flattened pelves in my material (30.14). Williams found practically the same condition in Baltimore (79.45).

9. Records kept of private and consultation cases in New York over a period of ten years show a somewhat higher percentage than the results obtained from the 1,200 hospital cases, namely about 5 per cent. for all deformities; the generally-contracted pelvis being twice as frequent as the flattened.

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The Tongue as a Diagnostic Factor in Disease.—L. G. LeBeuf says that the tongue should be examined for the following physical signs: (1) Movement or mobility: in all adynamic fevers of a low type, in nervous diseases or conditions following nervous debility the tongue is protruded very slowly or with a certain tremulousness; (2) Volume or thickness of shape, with indentation of teeth or not, conditions of the digestive system, conditions generated from the hygiene of the organ itself or from direct structural causes, as well as many other conditions, may be ascertained by observation of these points; (3) Dryness to the touch gives information in the exanthematous diseases, in affections of the gastrointestinal tract and in typhoid fever as to the exact condition of the glandular system; (4) The color of the tongue varies in jaundice, stomatitis, scarlatina, and measles. It is also very red in the other exanthemata, but pale and whitish whenever the blood is watery and deficient in red blood corpuscles. It is livid and blue when there is a mechanical obstruction to the flow of venous blood, or where there is improper pulmonary circulation; (5) The character and appearance of the coating is of a special kind in different affections. The author calls attention to the starvation or exhaustion tongue, characterized by a peculiar white, dry coating, cracked alongside of the median raphe, and having distinct rows of raised epithelium on both sides of the raphe.—*New Orleans Medical and Surgical Journal.*

SOME CHRONIC PATHOLOGICAL PROCESSES SEATED IN THE DEEP URETHRAL REGION INVOLVING THE MALE SEXUAL FUNCTION AND NERVOUS SYSTEM.

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It is only within the past decade that writers on genitourinary diseases have elicited any appreciable interest in or devoted any marked attention to the sexual and nervous phenomena associated with pathological processes seated in the deep male urethra. While the majority are convinced that the prostate gland and vesiculæ seminales are the organs essentially concerned in causing these phenomena, there are a few who still maintain that the prostate is not a contributing factor in the etiology of deranged sexual function. The claim of the latter authors is that affections of the prostate give rise to disturbances rather in connection with urinary drainage, and for the reason that this organ rarely loses its power of muscular contraction. Such a theory appears to be based on the assumption that the prostate gland is a urinary organ to some extent. A glance at its embryology and physiology, however, will show conclusively and beyond a question of doubt that it is not even related to the urinary tract, except by accidental position; on the contrary, it is a very essential factor in the make-up of the male sexual apparatus.

We need no stronger assurances than the theory of evolution that organic growth is not committed to chance or to accident, but that it goes on unceasingly in obedience to Nature's laws and demands. The prostate arises entirely distinct from the other parts of the urinary tract—a striking and most corroborative proof of the evolutionary principle, namely, the need of an organ is the cause of its development—and remains rudimentary until puberty, when, with the testes, it completes the cycle of its growth, and assumes full physiological importance to meet the demands of the sexual apparatus. Until puberty, then, the prostate possesses anatomical significance only. It is plainly evident that its function was intended to subserve the wants, not of the urinary, but of the sexual apparatus, and is threefold, viz., first, to supply a lubricant for the urethra previous to ejaculation; second, to preserve the vitality of the spermatozoa; third, to assist the seminal vesicles in the act of ejaculating the semen.

Like the prostate, the seminal vesicles play no part in the physiology of the animal economy until the sexual function has been firmly established. Until very recently nothing definite was known regarding the function of these bodies, of which our knowledge has been lamentably deficient beyond their anatomical existence. It is now settled beyond a doubt, however, that they share with the prostate and testes in the make-up of the male sexual apparatus. Each vesicle serves as a receptacle for the testicular secretion, and as a laboratory, so to say, in which to add its own product to complete the composition of the semen preparatory to ejaculation, in the performance of which act it assists the prostate. It will be seen, then, that in point of muscular and secretory functions, the prostate and seminal vesicles bear a strikingly close resemblance. The vesicular secretion, while not essential to the fecundating quality of the semen, nourishes and sterilizes it, so to say, by preserving the vitality of the spermatozoa till ejaculation takes place. Since the prostatic secretion precedes the ejaculation of semen, it is reasonable to suppose that the former was not innded to be a constituent of the latter. Inasmuch, too, as spermatozoa die in an acid medium it is necessary that some means should be provided to prevent the urethral walls, so constantly bathed in acid urine, from becoming a menace to the life of the spermatozoa at such times as the seminal fluid is likely to be expelled. This means Nature has provided in the prostatic fluid, the expulsion of which occurs in sufficient time before ejaculation to prepare a safe and clear way for the passage of the semen.

Through the prostate and seminal vesicles it will be seen that a peculiarly intimate relationship exists between the deep urethra and the sexual apparatus. To show that a no less intimate connection obtains between the deep urethra and the general nervous system, it is sufficient to state that the nerve centers which preside over erection and control the secretion of semen, as well as those which govern the action of the vasa deferentia and of the seminal vesicles, are to be sought in the lumbar region of the spinal cord.

When to the above is added the interesting fact that those organs which are the last in order of development are generally the first to be disturbed by disease, surely, it is not to be wondered at that nervous and sexual phenomena should be the inevitable consequence of chronic urethral processes involving the prostate gland or the seminal vesicles.

Conspicuous among those of the old school who devoted attention and study to "neuroses of the genitourinary system in the male" was Professor Ultzmann of Vienna. He pointed out the significance of the gonorrhœal process that, by extension, involves the prostate, thereby producing nervous and sexual phenomena of the most varied and complex character. Ultzmann viewed the subject from the standpoint of the neurorologist, and classified all sexual disturbances as neurotic, ignoring completely pathological and functional causes.

The late Dr. Beard of New York deserves mention in this connection. His untiring devotion for over half a century to the study of that large and perplexing family of functional nervous disorders so prevalent in America, contributed materially to our first knowledge of neurasthenia. His work on sexual neurasthenia, published in 1891, left little to be desired in point of symptomatology; but, as he saw everything from the vantage ground of the neurologist, his etiology is glaringly defective.

During the past few years contributors to genitourinary literature generally recognize the constantly increasing prevalence of impaired sexual function and neurasthenia in connection with certain forms of inflammation of the deep urethra. It is deeply to be regretted, however, that such wide discrepancy of opinion should prevail among them concerning the exact nature and extent of the pathological process.

According to the theory of Finger of Vienna, in those cases of chronic urethritis in which the sexual and nervous spheres are affected, the prostate is necessarily involved. He, therefore, designates them as cases of "chronic prostatic urethritis." Fuller of New York maintains that the seminal vesicles and not the prostate are the seat of the process, and bases his claim on the presence in the expressed product of spermatozoa, which, he says, are not found in the prostatic fluid. He, therefore, favors the title of "chronic seminal vesiculitis."

Finger asserts that in the prostatic form of chronic posterior urethritis a more advanced and serious condition is present, in which the pathological process has extended further and penetrated deeper into the substance of the gland giving rise to a catarrhal condition of the prostatic ducts, of the sinus pocularis and of the ejaculatory ducts, causing reflex excitability.

Those authorities opposed to the views of Fuller, while they do not deny that spermatozoa belong to the semen proper, do not allow that the presence of spermatozoa in the expressed material is sufficient evidence upon which to rule out prostatic involvement. That the fecundating elements of the semen are found in the prostatic product at times, as the result of regurgitation after ejaculation due to rigidity of the walls and to stenosis of the mouths of the ejaculatory ducts, has been demonstrated by finding spermatozoa in the diverticula of the prostate after death.

In the experience of the writer and of the majority of those who have published their results in the management of cases of chronic posterior urethritis affecting the sexual function and nervous system, the prostate has been involved no less frequently than the seminal vesicles. And when one considers that, in order to reach the vesicles, the urethral process must needs pass through the ejaculatory ducts, it is only reasonable to expect extension into the substance of the prostate.

Symptomatology.—The subjective and objective manifestations of this particular phase of deep urethral disease are so numerous and variable that only those will be considered that are characteristic and essential to diagnosis. The patient is likely to have a history of one or more previous attacks of urethritis of long duration, and complicated by extension into the bladder or by epididymitis. Sexual indiscretions are common in some, while unreasonably persistent continence may have been the rule in others. The present history will disclose chronic periodic discharge at the meatus, especially following erections, coitus, defecation, and sexual excitement. The urine is cloudy at times, and in very nervous patients has a milky appearance, especially at the end of micturition. There is more or less discomfort in the region of the perineum in some patients, with difficulty in starting the urine, which comes out feebly, and at times in spurts. Tenesmus of the vesical neck may be present. When the prostate and vesicles are involved, at first, sexual ardor is easily aroused, even by anything the least suggestive. Emissions are premature during coitus and devoid of the normal amount of satisfaction. Pollutions, too, are frequent, and are followed by a feeling of weakness and depression. Later, erections and emissions become less; sexual desire gradually disappears, accompanied by indifference to female society. The external genitals become relaxed, anæmic, shrunken, and cold, while the normal moisture secreted about the corona is absent. Pruritus ani and itching of the scrotum are not uncommon. The symptoms most significant of prostatic and vesicular involvement, however, are prostatorrhœa and spermatorrhœa, which are difficult to differentiate, except by aid of the microscope. The discharge in prostatorrhœa, an excessive or pathological amount of secretion from the prostate, does not contain spermatozoa unless in exceptional instances, where they are few in number; spermatorrhœa will show an abundance of either live or dead spermatozoa. It is possible, however, to find spermatozoa absent when the vasa deferentia are obstructed, as sometimes follows double epididymitis. In this event it will be necessary to allow the secretion to be exposed for several hours, when, if the spermatic crystals peculiar to the vesicular secretion are found, prostatorrhœa can be ruled out. The nervous phenomena are of a subjective type, and vary according to the temperament of the patients, always suggestive of neurasthenia, but not of any particular variety.

Diagnosis.—It can be said at the outset that in no form of urethral disease are mistakes in diagnosis so frequent as in that where the prostate and vesicles are involved, for no other form entails such extreme care and attention to details on the part of the physician. It is needless to say, then, that one should be certain of the exact nature and extent of the pathological process before attempting to administer treatment.

Inasmuch as many patients do not seek the advice of a physician till unmistakable signs of disease appear at the meatus, it is advisable at first to determine if any anterior urethritis exists. This will be demonstrated by the presence of the "good-morning drop," and the meatus will be glued together more or less during the day. Unless the amount of secretion in anterior urethritis is particularly scanty, a drop or more may be squeezed out at any time, while the morning urine—either clear or cloudy—will always contain shreds. The next step is to irrigate the anterior urethra thoroughly with warm water, by passing a soft flexible bougie back to the bulb. The patient then voids a small portion of urine into a glass, which will be either clear or cloudy. If this urine contains shreds (comma or hook-shaped) posterior urethritis is present. The physician should now ascertain whether the posterior process is superficial—purely mucous—or extends into the deeper tissues and involves the prostate or seminal vesicles. One should not be satisfied with the presence of prostatorrhœa, spermatorrhœa, and other signs of deranged sexual function, in reaching a decision, but should proceed at once to massage the prostate and the vesicles separately. Evidence of prostatic inflammation will appear either at the meatus or in the urine voided after massage. If the urine should be voided in three portions, the third will contain whatever is squeezed out by the muscular spasm at the end of micturition. In the same way one may determine the existence of vesicular inflammation. It is a good plan to substantiate one's diagnosis made by massage, through a microscopic examination of the urinary sediments and expressed products. Furthermore, to resort to the microscope, at times during the course of treatment in order to learn what changes are going on, is to be commended as the only reliable means of enabling one to render a prognosis.

The secretion thus obtained from the prostate—known as prostatorrhœa—presents under the microscope numerous pus cells, polygonal and cyndrical epithelia from the excretory ducts, amyloid bodies, and the colorless refracting granules of lecithin, which are smaller than red blood corpuscles; and when the secretion has been exposed for several hours Bottcher's spermatic crystals are found, designated by their peculiar needle or whetstone shape—all either isolated or imbedded in mucus.

When the deep urethral inflammation extends beyond the prostate into the seminal vesicles, the process may be considered somewhat more advanced and extensive. The expulsive power of the vesicular walls becomes affected—in fact, the vesicles, like the prostate, fail to meet the physiological requirements of the sexual apparatus in every particular. The result is that the testicular fluid is not retained properly by the vesicles, and the ejaculation of semen is more or less imperfect and incomplete. In consequence a pathological escape or discharge of semen oftentimes goes on without the knowledge of the patient. This seminal discharge, known as spermatorrhœa, appears at the meatus periodically and in the urine constantly. Under the microscope this will be found to contain spermatozoa, dead or alive, spermatic cells and granules, epithelial and puss cells, singly and in groups, entangled in mucus.

Treatment.—In the management of this deep urethral process the physician should be possessed of patience, perseverance, and a thorough knowledge of the therapeutics of urethral disease, born of wide practical experience. He should understand the mechanism and physiology of each and every part of the sexual apparatus, and have a clear conception of the importance that normal sexual vigor bears to the well-being of society and of the individual. He should remember, too, that neurasthenia and deranged sexual function are likely to render the patient skeptical, suspicious, and fickle of disposition. Therefore, it behooves the physician at the outset to gain the confidence of the patient, who, in turn, should abide by the letter and spirit of all therapeutic requirements; otherwise success is uncertain.

For the removal of the pathological process seated in the urethra and in the prostate gland and seminal vesicles, it will be necessary to employ certain remedial measures, which have been found by experience to prove efficacious. They may be divided conveniently into rectal (*a*), urethral (*b*), and constitutional (*c*).

(*a*). *Rectal.* This consists chiefly of massage, or stripping, of the vesiculæ seminales, of the prostate gland and of the ducts, and is employed at intervals of from three to seven days and more. In some cases, such as those which are not due to the extension of an acute infectious urethritis, but result from sexual indiscretions and unnatural practices, massage oftentimes appears to be sufficient in itself to remove the localized inflammation. Some writers recommend having the patient in a recumbent position, but this will not prove so convenient and satisfactory as the so-called "leap-frog" position, which requires the patient to stand, his feet about twelve inches apart, and body bent forward about 45° beyond the vertical line, resting the hands of his extended arms on the back of a chair. The legs should be straight, the body relaxed and at ease. The patient should be told to breath naturally and to avoid straining—in short, not to antagonize the operator in any way. The rectum should be relieved of fecal matter and the bladder moderately full of urine, a small portion of which should be voided before massage is employed to serve as a specimen for comparison with that which contains the expressed products. The operator is seated behind the patient, and near enough to pass comfortably the index finger into the rectum; the arm not in use may be passed about the patient's body to exert counter-pressure with the hand on the abdominal viscera in front of the vesicle that is being emptied. At first, and while the vesicles and prostrate are tender, the massage should be gentle and slight, the motion of the fingers being downward and inward toward the ejaculatory ducts, at an angle with the middle lobe of the prostrate of about 45°. In massaging the prostate the finger should move upward and inward toward the median line and in a semicircular direction, always bearing in mind the direction of the mouths of the ducts, through which the inflammatory product is to be expressed. Inasmuch as some of this product escapes forward into the anterior urethra, the patient should hold a glass receptacle near the meatus to catch the overflow. Experience will prove the only guide in determining the amount of massage indicated at each visit. Too little is always preferable to too much. In very nervous patients and those predisposed to hemorrhoids, extreme caution and discretion should be used in order to prevent the patient from abandoning treatment. It is invariably true, however, that patients who find massage disagreeable, or even painful, at first, as soon as they observe the expressed product diminish and the urine clear up, become very hopeful and improve rapidly till fully recovered.

(*b*). *Urethral.*—When the prostatic and vesicular products have been reduced to *nil* by the massage, treatment should be directed to the original urethritis, for the removal of which copious irrigation is no doubt the remedy *sine qua non.* Among the different agents employed for irrigating solutions, protargol appears to be the one most widely recommended, and should be preferred to the other silver salts and to permanganate of potash, as it can be prepared to meet all possible indications. Beginning with a solution of 1-1,000, which may be increased in accordance with the demands, protargol irrigations should be given every two or three days through a posterior recurrent irrigator, or through a soft flexible bougie, which allows the fluid to go into the bladder, to be siphoned out, or voided by the patient. It is a good plan to balloon the urethra occasionally as the flow returns, to make sure that the follicles and deeper tissues are reached.

Although some cases may appear to be quite cured after a course of stripping, it is not wise nor judicious to discharge the patient. A pathological process that has been present for months, not only in the mucous membrane, but also in the subepithelial tissues of the urethra, is not likely to disappear of its own accord. On the contrary, it must be removed, and this can be done best by copious irrigations with an agent that will penetrate the deeper urethral tissues, without provoking irritation and, at the same time, will exert proper antiparasitic, antigonorrhœic, and astringent power. In protargol, mentioned above, it is convenient for the physician to know that we find the desired combination of properties, in virtue of which it is *facile princeps* among the irrigating agents employed in chronic urethral inflammations. This salt is a chemical compound of silver and a proteid, in such proportions that aqueous solutions of it penetrate the tissues unchanged, without undergoing precipitation, even when left in contact for any length of time; neither do they form compounds with the normal tissue fluids. Besides, protargol destroys the gonococcus with absolute certainty, and the strongest solutions indicated do not irritate.

Some cases, especially those in which there has been marked atony and sluggish circulation, will be much benefited by cold steel sounds following, or alternating with irrigation. A sound of as large a size as will pass the meatus comfortably should be introduced and retained for several minutes about every five days. No better means can be employed to tone up the urethral mucous membrane and sexual function; moreover, the effect produced is likely to be a lasting one. Of late some physicians appear to prefer urethral dilators to steel sounds, the majority favoring the instruments devised by Kollman. In cases in which the meatus is particularly narrow and dilatation with irrigation is indicated, these instruments are useful, as they can be employed in the posterior as well as in the anterior urethra, and have a recurrent irrigator attached to them. When the need for dilatation is limited to certain well-defined areas in the urethra, Kollman's dilator is a convenient and satisfactory instrument, and oftentimes to be preferred. Patches of granulation tissue and strictures that give rise to a catarrhal secretion can be combated successfully with the Kollman instrument, but where a thorough dilatation of the whole urethral canal is called for, as in cases of impeded circulation and deranged sexual function, nothing takes the place of cold steel sounds.

A meatus that is noticeably small in relation to the diameter of the urethra, whether congenital or the result of previous history of localized inflammation (chancre, gonorrhœa, etc.), is an indisputable source of reflex irritation at the vesical neck as well as in the prostate and seminal vesicles. In stubborn cases of deep urethral inflammation and deranged sexual function a moderate meatotomy (28° to 32° F.) oftentimes proves to be the one remedial measure necessary to bring about the desired effect.

(*c*) *Constitutional*—Under this head are included all such therapeutic measures as are not local, or mentioned above under rectal (*a*) and urethral (*b*). It is to be suggested, however, that constitutional treatment should not be used as a routine practice essential in all cases, but rather to meet special and urgent demands. Medicinal remedies should be tabooed, except as a last and only resort to supply temporary and otherwise irremediable wants. Every patient must be impressed and in hearty accord with the truth of the old adage "know thyself" in its widest application, and should make the first law to himself that of self-preservation, which admits of no artificial support or stimulation. Whatever proves to be a nervous or sexual excitant should be avoided. Temperance, regularity, and discretion should guide one's mode of life and habits. Diet should be plain, abundant, and nutritious. Exercise, fresh air, sunshine, and bathing should receive the patient's attention daily; but horseback, bicycle riding, and such forms of exercise and recreation as produce exhaustion or local irritation are to be eschewed. The sexual power of the individual serves as an infallible guide, or barometer, of his physical condition and bodily well-being. A rise or fall in the latter effects a corresponding rise or fall in the former.

Case I.—Chronic Vesicoprostatic Urethritis, with Impaired Sexual Function and Derangement of the Nervous System. Etiology, gonorrhœa and persistent withdrawal during coitus for several years. A strong, vigorous, well-preserved man, aged forty-four years, nearly six feet in height, and weighing about 180 pounds; married eighteen years; presents a history of acute gonorrhœa contracted two years ago and lasting several weeks. Habits, temperate and discreet in every particular, beyond an indulgence in withdrawal during coitus for the past few years. Since his attack of gonorrhœa he has noticed a gradual decline in sexual vigor. For several months past he experienced, at times, discomfort in the region of the perineum and bladder, with a feeling of relaxation and weight in the scrotum. Occasionally there was slight tenesmus after voiding urine, and some difficulty in starting the flow. Of late, too, he became indifferent to coitus and has complained of a languid, tired feeling, with pain in the lumbar region. Despite sexual intercourse, he suffered from occasional pollutions, which he thought caused him to feel "dopey" the following day. He realized no disturbance of the nervous system till about a year ago, when he began to have restless nights, which developed later into insomnia. His attention was called to a slight discharge at the meatus for the first time on July 13, 1901, twenty-four hours following coitus. This discharge persisted without marked increase in amount or consistency, unaccompanied by pain, scalding, or other symptoms, till July 19, when, fearing he had contracted gonorrhœa, he consulted the writer.

As the patient was unable to avoid urine at the time of his first visit, and was not disposed to submit to rectal examination, a culture of the discharge was taken and diagnosis deferred till his next visit. In the meantime, however, he was ordered to take a tenminim capsule of sandalwood oil after each meal and at bedtime, with 7½ grains of urotropin morning and evening, and to avoid whatever was likely to irritate in any way the urethral mucous membrane. On July 22 the discharge was reduced to the "good-morning drop," and, as no gonococci were found to be present, a rectal examination was made for evidences of deep urethral disease. The vesicles and prostate were found to be enlarged, indurated, and extremely tender to touch. Massage proved almost unbearable, and the urine voided before and after was cloudy and contained an abundance of shreds (Fuerbringer's hooks) and clumps. The expressed product collected at the meatus during massage and the urinary sediment were submitted to a microscopic examination, which disclosed both prostatic and vesicular elements, with the results as illustrated in diagram 1.

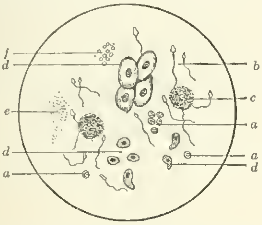

DIAGRAM I.

CASE I.—(*a*) pus isolated and in groups; (*b*) spermatozoa; (*c*) spermatic cell; (*d*) round, caudate, cylindrical, pavement epithelium; (*e*) spermatic granules; (*f*) lecithin granules (author's case)

In this case a thorough massage of the seminal vesicles and of the prostate gland was administered every five days. At first about forty minims of a thin, milky, opaque material, was expressed through the meatus, while a much larger quantity escaped backward and was voided in the urine. Under continuous regular treatment there was a steady and progressive diminution in the amount of the vesicular and prostatic products, so that massage was no longer deemed necessary after August 30, on which date the urine was voided clear and free from shreds. It should be remembered that in patients in whom sexual function is perfectly normal the appearance of a drop or two at the meatus and a slight murkiness in the urine occasionally after massage, is not inconsistent with normal sexual vigor, or with otherwise good physical well-being.

On September 1 the chronic process seated in the urethral mucous membrane proper and in the underlying layers was treated by irrigation of a quart of protargol solution, 1–1,000 in strength, by means of a soft flexible bougie, No. 15 F., passed at first just beyond the compressor urethræ, thus irrigating the deep urethra in the direction of the bladder. As soon as the patient experienced a feeling of distention or discomfort, the bougie was drawn forward gently till it reached the bulb in front of the compressor muscle, when the irrigating fluid was seen regurgitating at the meatus. With the bougie held in this position, the distended anterior urethra was irrigated till all the protargol solution had escaped from the reservoir, which generally hung about two feet above the level of the penis, and in such a position as to be easily raised or lowered according to the greater or lesser amount of pressure desired. Irrigation by this method was continued every three days till September 21, after which cold steel sounds from No. 22 F. to No. 28 F., were passed about twice a week to October 6, when the patient was discharged cured. He reports by letter on November 1 that he is perfectly well and as vigorous sexually as he has reason to expect.

Case II. Chronic Vesicoprostatic Urethritis, with Marked Sexual and Nervous Derangement. Etiology, gonorrhœa, combined with sexual irregularities and indiscretions for several years. A medium-sized, feeble, anæmic-looking man, aged thirty years; weight, 140 pounds; single, was considered delicate during boyhood and youth, while the past ten years have found him in possession of good general health. His habits have been exemplary, even to abstaining from alcohol and tobacco, and coitus was indulged in only occasionally to a moderate extent. He admits, however, that for many years, and at times, frequently, he suffered from ungratified sexual desire, but he never observed anything wrong with his sexual organs previous to December, 1897, when he contracted gonorrhœa, which required constant attention for six months. While he recalls no extension into the deep urethra, bladder, epididymis, or other parts, he is assured the attack was an exceptionally severe one and reduced his general health materially; in fact, ever since he has had more or less discomfort in the urogenital region, with periodic outbreaks of discharge at the meatus. As often as he sought and followed the advice of a physician, so often was he informed that he had a "new dose." On one occasion a diagnosis of stricture was made, and by the untimely or unskilful introduction of sounds, his condition became aggravated, whereupon he resolved to become his own physician, for a time, at least. About six months ago pollutions began to occur frequently, and loss of weight and strength became gradually and progressively more marked. He became languid, morose, and depressed in spirits, preferring solitude and quiet to the accustomed companionship of friends. He lost ambition, and, though a laborer and dependent solely upon his own efforts to earn a livelihood, occasionally would shirk duty which he was physically able, but mentally unwilling, to perform. It is scarcely necessary to add that all sexual desire had now become a thing of the past. Latterly, however, his discharge appeared to diminish and pollutions ceased altogether. He noticed at times a glairy, gelatinous, starch-like material oozing from the meatus after straining at stool. His nervous system was sensitive, and he was easily provoked and frustrated, while his arms and legs were tremulous and unsteady, especially in the morning. With renewed hope, and possessed of a determination to get well, he consulted three physicians on June 16, 1901, including the writer, under whose advice and treatment he decided to place himelf. As the case suggested deep urethral disease, no time was lost in making a digital examination per rectum, including massage of the seminal vesicles and of the prostate. Before and after this procedure the patient was requested to void urine into two separate portions, the sediment of which was submitted to a careful microscopic test. The right seminal vesicle and corresponding lobe of the prostate were found to be considerably enlarged, slightly indurated, but not tender, while the left vesicle and left lateral lobe of the prostate were nearly normal. Massage caused neither pain nor discomfort, owing, perhaps, to the relaxed condition of the parts. The expressed product was abundant, thick, and tenacious, and adhered to the urethral walls to such an extent that it was necessary to force it into a receptacle for examination. The urine voided before massage was clear, but contained some flakey material, while the urine in the second glass, after massage, was slightly murky, and contained a much larger amount of the same material, together with shreds and granular matter. Microscopic examination revealed prostatic and vesicular products, the composition of which is illustrated in diagram II.

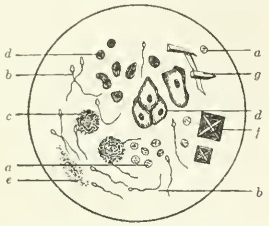

DIAGRAM II.

Case II.—(*a*) pus isolated and in groups; (*b*) spermatozoa; (*c*) spermatic cell; (*d*) pavement, round, caudate, cylindrical epithelium; (*e*) spermatic granules; (*f*) calcic oxalate; (*g*) Böttscher's crystals formed in specimen 24 hours after voiding (author's case).

As in Case I massage was employed every five days from June 16 to July 21, when copious irrigations of protargol, 1–1,000, were substituted and continued every three days to September 21. The strength of the solution was then increased to 1–800, which met the indications perfectly. On October 18 the protargol irrigations were discontinued, inasmuch as the expressed vesicular and prostatic products were reduced to *nil*, and the urine was clear and quite free from all pathological elements. Cold steel sounds, 23F. to 27F., were then introduced and retained for several minutes twice a week until November 1.

In additon, this patient received constitutional treatment in the form of iron, quinine, and strychnine after meals, and a cold plunge bath on rising each morning. When discharged he admitted frankly that he was cured, having gained under the treatment weight, strength, and sexual vigor. He was advised, however, to continue the general tonic measures, and to report occasionally for examination.

Case III.—Chronic Seminal Vesiculitis, with Deranged Sexual Function and Neurasthenia. Etiology: Excessive indulgence in coitus, though not frequent, was continued at times for nineteen years, together with prolonged, ungratified sexual ardor during the same period. A medium-sized man, dark complexion, aged thirty-nine years, weighing 135 pounds, single; occupation, healthful; habits, abstemious; past history, excellent, with no venereal disease; was never cognizant of any derangement of the sexual function previous to July, 1901. At that time his attention was aroused by a discharge of blood from the urethra following coitus, but unaccompanied by other symptoms. A month later he observed considerable blood mixed with the seminal product of a nocturnal emission, after which micturition became more frequent and urgent, with tenesmus at the end. The scrotal contents above the left testicle felt hot, swollen, and irritable, and his discomfort increased on standing. There was no discharge at the meatus, and no abnormal emissions. Fearful of the outcome, he now sought the advice of a physician, who, assuring him he was all right, prescribed a sexual stimulant internally three times a day and more intercourse. He failed to show improvement under this treatment and consulted the writer for the first time on August 19, 1901. In the face of such an unusual history the patient was requested to void into a glass a small portion of urine. On inspection this was distinctly opaque and of a dark reddish hue, and when allowed to settle was seen to contain flakes and clumps of thick, starchy, jelly-like material, the greater part of which resembled clotted blood. The bottom of the glass was literally covered with a fine granular deposit, which, in color and appearance, was not unlike cayenne pepper. Digital exploration per rectum proved almost unbearable. Both seminal vesicles were enlarged, exquisitely tender to the touch, and somewhat indurated. As it seemed inadvisable to perform massage, diagnosis was made from the microscopic manifestations revealed in the urinary sediment (a large amount of which was present in the second portion of urine, which was cloudy and shreddy), and illustrated in diagram III.

As the patient appeared to be in a state of high nervous tension and considerably alarmed, a somewhat expectant plan of therapy was pursued for a few days at first, consisting of rest, liquid diet, abstinence from sexual and nervous stimulants and excitants, and hot sitz-baths night and morning. Seven and one-half grains of urotropin twice a day and tincture hyoscyamus and fluid extract pichi, of each ten drops, every four hours, were administered. In six days he was much improved and at ease; the reddish hue had disappeared from the urine, and as he was able to tolerate a digital examination per rectum without discomfort, massage of the vesicles was begun. This treatment was carried out every seven days till October 31, when the vesicles were reduced to their normal size, and no pathological deposit was discernible in the urine or at the meatus; furthermore, there was an entire absence of all sexual and nervous phenomena. The patient reported a gain of nine pounds in weight, and was assured that his health in every particular was better than it had been for several years.

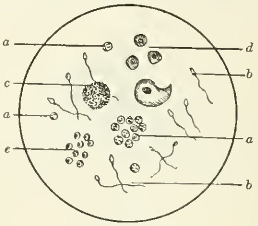

DIAGRAM III.

Case III.—(*a*) pus isolated and in groups; (*b*) spermatozoa; (*c*) spermatic cell; (*d*) round, caudate epithelium; (*e*) blood.

Remarks.—Whether the pathological process is limited to the vesicles or involves the prostate, the plan of therapy is practically the same, except that in cases of simple vesiculitis, massage alone will suffice oftentimes to meet all indications. It is good surgery, however, to irrigate the urethra two or three times, at least, even in the mildest cases.

As patients, while under massage, make a steady improvement almost invariably, evidence of which is seen in the diminished amount of the expressed product and in the clearing up of the urine, it will produce both a wholesome and a reassuring impression on the patient to keep him informed of the fact. The confidence and enthusiasm of the sceptical may be restored by permitting them to observe the spermatozoa under the microscope occasionally.

In addition to possessing the knowledge that is essential to a proper application of the therapeutic measures required, the physician should see to it that each and every patient learns to know what may be termed (if it be allowed the writer to coin a phrase) the limit of his own sexul power or vigor; otherwise, sexual impairment is likely to prove the forerunner of sexual impotence.

It is to be hoped that in the not distant future the pathological process discussed above will be classified under some appropriate and universally accepted title, and be relegated to its one and only rightful abode in the domain of genitourinary disease. The writer reports all cases of deep urethral disease that effect the sexual function and nervous sphere under the general head of chronic sexual neurasthenic urethritis, subdividing them under such titles as are used in the nomenclature adopted above.

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THE MYSTERIES OF LIFE AND MIND.

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I HAVE read with much interest some literature concerning researches which have been made and are being elaborated by Dr. Jacques Loeb and his colleague, Dr. A. P. Matthews, both professors in the Chicago University. Loeb has produced parthenogenesis, and has demonstrated, so he considers, the identity of vitality and electricity; and he submits that his findings hold out the possibility of arresting death and prolonging life. The elucidation of such propositions as these has from time immemorial been the aspiration of men given to speculation upon the universal mysteries. But it would seem probable that never before have such investigations taken so scientific a trend as in this work of Loeb's.

Matthew's, basing his investigations in large measure upon the findings of Loeb, considers that he has revealed the secret of the nerves, has explained the action of anæsthetics, and has come to some real and definite comprehension of the heretofore inexplicable nature of mind. If his deductions are well founded, we may expect the birth of a new psychology and of a new pharmacology. Therapeutics, too, will have to be studied from new view-points. Possibly the way in which drugs act, of which there is at present so little scientific knowledge, the mode of action in serumtherapy, the effect which toxins and antitoxins have upon the tissues, and similar phenomena, may all receive satisfactory elucidation.

The following paper is purely in the nature of an abstract. I first notice Loeb's work; and I devote a second section to the work of Matthews:

Loeb came to believe that the forces which control living things are identical with those which we know of in the inanimate world; his researches assail a number of long-established positions; *e. g.* the origin of all instincts. A moth flies straight for a flame; birds drawn by the glare to strike against heavy light-house panes are in the morning found dead and scattered about; a flower turns its petals to the light. To the birds we ascribe intelligence; to the flower the attraction of light. Yet it seems as if the same forces ruled over both. The caterpillar climbs to the end of a branch for the fresh bud upon which it feeds. When it is satiated it climbs down again. A fly will lay its eggs in meat, whereon its larvæ may feed, but not on fat. It seems as if some dim intelligence were at work. But Loeb offers a much simpler explanation of how all these, and countless like instances of adaptation of means to an end, come about. We need only assume that the light sets up certain chemical reactions which cause the animal to move, just as it sets up a reaction in a photographic plate, or explodes a mixture of hydrogen and chloride gas; there is "merely a working of positive or negative heliotropism, an attraction or repulsion by the light." Caterpillars will follow the light so long as they are hungry; if they find no food they will keep climbing, conceivably until they die; when they are cold they will not move; in the warm spring sun, they begin to crawl upward; they will do this anywhere and on any substance; when they come in contact with food, they will eat; on being filled, the effect of the light seems just reversed—they will crawl away from it. Certain chemical stimuli from meat (which are lacking in fat) cause a fly to lay its eggs. These stimuli can be produced artificially. There has been simply "chemotactism," a chemical reaction between the sense organs of the fly and the meat. So through many experiments. More curious still is the effect of mere contact. A starfish, turned over, quickly rights itself. This seems an intelligent act; however, suspended in water, and with bits of cork attached to its arms, it keeps turning over and over, with no seeming preference for which side is up. If a piece of wood or stone be offered to which it may cling, no matter in what position, it seems content. Unless its feet have something solid to cling to, the nerves are apparently stimulated; hence the turning motions. Contact brings the animal to rest; this is "stereotropism."

The morphologist declares that the appearance and structure of an animal result from complex arrangements in the germ from whence it springs; but Loeb considers that these can be altered at pleasure, even in the lower forms, by the same simple reactions of light and heat. He cut a cube from the body of a hydroid, a plant-like animal; no matter which side was uppermost, from the top grew the tentacles forming the head, from underneath the roots; this being inverted, from beside the upturned roots came a head, from beside the deposed head a growth of roots. Upon incision in the body of the cerianthus, there promptly came a new mouth, with its ring of tentacles, for seizing food. Mere contact with a solid substance would turn one organ into another. Organs were grown in most absurd places, others were transplanted. Thus by many experiments Loeb showed that there is no complex structure in the germ cells from which these lower animals spring, but that their varying forms are simply a reaction between a specific kind of protoplasm and the physical forces of light, heat, contact, and chemism, which mold it this way or that.

Developments in chemistry suggested to Loeb experiments upon the effect of various chemical stimuli. He took up the well-known problem of the rhythmical contractions of the jelly-fish; if its upper part be cut away, these contractions stop; when

Loeb placed the beheaded animal in a solution of common salt, the movements began again; a trace of potassium or calcium added, they stopped again. Loeb found that this, which was true of the lowly jellyfish, was equally true of the rhythmical beat of the heart. An excised heart could be kept beating for hours, stopped, started, quickened, or slowed, simply by changing slightly the chemical character of the solution in which it was placed.

The beat of the heart, then, is not due to a mysterious influence of the still more mysterious nerves; it comes from the presence or absence of certain salts. The new chemistry helped to show Loeb how these may act. A lump of common salt dissolved in a vessel of water makes the water a conductor of electricity; two ends of a copper wire dipped therein start an electric current; a lump of sugar has no such effect. This remained a problem of chemical philosophy until Arrhenius demonstrated that the molecules of the salts and acids are torn apart when they are dissolved, and apparently with tremendous force. The effect in dissolving the salts is an enormous electrical discharge on the individual atoms; in the tearing apart one set is charged positively, the other negatively; in the case of common salt the metal atoms (of sodium) take the positive charge, the chlorine atoms the negative; these electrically-charged atoms, long before their nature was understood, Faraday named *ions*. As Arrhenius stated: "It is the ions which act." This heritage of science enabled Loeb to make—so it seems—a tremendous discovery. That the ultimate cause of muscular action, and probably of all life processes, is electricity; it is the ions which may cause the heart or a muscle to contract; the negative charges start them—the positive charges stop them.

Loeb proceeded now *to manufacture living beings*. The beginning of life, the process of fertilization, has always been the burning question of biology. From countless myriads of eggs laid by the female organism and the equal hordes of the sperm cells, a single egg and a single sperm unite to form the single microscopic cell from which all forms of animal life originate; unfertilized by the male cells, the eggs quickly degenerate and die. All the problems of life, growth, heredity too, lie buried, then, within this microscopic cell; the sperm and the egg must be the carriers of all that the being transmits to its descendants; exterior forces play here only a minor rôle: such, heretofore has been the biological tenet. But Loeb's researches, on the other hand, tend to show that there is no such transmission; for he has succeeded in producing growth without sperm. He took the sea-urchin's eggs from the ovary, before there could be the slightest possibility of contact with sperm cells and placed them in the ordinary sea-water in which these animals live; a solution of chloride of magnesium caused them to develop to the same stage as they do normally in an aquarium. Thus did he unquestionably produce artificial parthenogenesis. This demonstrated the fact which Loeb came upon that the peculiar actions of the protoplasm are influenced largely by the ions contained in the solutions which surround the cells; by changing the relative proportions of the ions the physiological properties of the protoplasms are changed; thus it is possible to impart to a tissue properties not ordinarily possessed by it.

There is a common chain that links all these reactions—the heart which may be started or stopped with a pinch of this salt or that, the muscles which may be made to beat like a heart, the egg which may be vivified by chemical means. When they come to combine with other atoms, some of the atoms seem, so to speak, to have but a single arm with which to take hold, while others have two, or three, or four, or even five. When wood "burns" the four-armed atom of carbon can seize and hold two of the two-handed oxygen atoms, while in the molecule of water the two-handed oxygen atom will bind two of the single-handed hydrogen atoms, and so on; this is the "valency" of the chemist. Faraday saw that each "valency," each arm, could carry a certain amount of electricity; that was its capacity, and the electrically-charged atoms are therefore not alike; the two-armed atoms carry two charges, the three-armed three charges, and so on: it may be, then, that chemistry, like light, will have to be annexed to the domain of electricity. Loeb has done much to fix this belief; he has found that a pure solution of common salt will not keep the heart or the muscle of the jelly-fish going; a little calcium added sets things right, though too much will act like a poison. Some of the ions, then, are toxic; some are antitoxins. Loeb surmises that this may be true of all poisons—that their actions results from the positive or negative charge of electricity they bear.

Loeb believes that the chief rôle of food is not, as is generally held, to be digested and "burned" in the muscles and organs, but to supply ions; the heat developed is a by-product; the chief action is the production of electricity; the body is in some sort a dynamo; food is of value according to the amount and kind of electricity it affords.

That will o' the wisp, the possibility of prolonging life, naturally occurs to one. From Loeb's work in parthenogenesis it seemed to him that there were two distinct processes going on. "Death and disintegration are not a mere breaking down, a going to pieces, but a specific process that is checked by the life process. Possibly such action may be checked chemically as well. Loeb, by placing the unfertilized eggs in a week solution of potassium cyanide, kept them alive for seven days; 'if seven days, then it is a mere matter of experiment to produce a condition of equlibrium which will endure indefinitely. It seems paradoxical that life may be thus maintained by a powerful poison; but if we conceive of a specific mortal process which may be held in check, and regard the potassium cyanide as substituting a condition of suspended action, the matter seems clear.'"

When Loeb had shown that the muscles might be made to beat or stop under the influence of certain ions, it was but a step to suppose that these same ions might have an equal effect on the tissues of the nerves; Matthews took this step. Much material was already on hand for him; fifty years ago Graham distinguished between substances which crystallize when they solidify and those which do not; the latter he called the colloids, the glue-like substances, as a hen's egg or gelatin, or, speaking broadly, the human body, which is about 75 per cent. water, the rest being jelly and bones. The nerves and the brain cells are 80 or 85 per cent. water. Hardy demonstrated that the colloid particles bear an electrical charge, that these complex molecules act just like a simple ion; further, that the colloids carry positive electricity, and are precipitated by the negative kinds of ions. Then others showed that the anæsthetics—chloroform, ether, and the like—dissolve fats; they deaden, stop sensation—that is, retard the progress of the nerve impulse. The nerves are simply highly phosphorized fats in a weak salt solution. The quick mind of Matthews bridged over from one to the other of these striking facts. Here must be the proces by which a nerve loses its ability to be excited; the thinner the solution in the nerve, the less easily it conducts; the process of stimulation must be just the opposite; a nerve conducts better, is more easily stimulated the nearer it approaches a state of jelly; this would be brought about by precipitation of the colloid substances; and if the latter are positively charged, as Hardy showed, then it would be a negative current, which would effect the precipitation, and hence a negative current that produces a stimulation of a nerve. So Matthews found that a stimulation of a nerve from an electric current always proceeds from the negative pole, the cathode. The muscles of a frog, to which the motor nerve was still attached, jerked when bathed in various solutions of salts; the nerve, then, must somehow have effected a release of negative ions at the point where it blended with the muscular tissue. How? If the negative ions be in excess in the solution, and the positive and negative ions in the nerve be just balanced, the effect would be a precipitation of the first layer of colloid particles bearing positive charges, and in contact with the solution; this would release a certain number of negative ions lying next in the nerve sheath, and these, in turn, would precipitate the adjoining colloids; a wave of precipitation would travel thus along the nerve, and at the end would be a set of free negative ions, ready to call the muscle into action; the nerve impulse, then, is a consecutive series of precipitations. All this, with much else, is as yet simply a working hypothesis; but Matthew's investigations, like those of Loeb, promise to be epoch-making; among much else, they bid fair to revolutionize nervous pathology, psychology, pharmacology, and the like.

HYPERTROPHIC RHINITIS AND ITS SEQUELÆ.

SOME SUGGESTIONS ON DIAGNOSIS AND TREATMENT.

By F. M. HAYES, M.D.,
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During twenty years of special medical practice it has been my privilege in treating many hundreds of cases of these two diseases to have exceptional opportunities for the observation and study of their complications.

I have found hypertrophic rhinitis and the usual accompanying nasal growths most troublesome complications, and they often interfere markedly with the successful treatment of asthma and hay fever. There is a tendency on the part of many general practitioners to pass over these cases too lightly. The term chronic nasal catarrh is commonly applied to all inflammatory and degenerative processes in the nasal cavity. It is to avoid the use of this general and unprofessional term and the errors to which it leads that I strongly urge a careful examination before a diagnosis be made. There is usually a pathological condition which is easily recognized. It is as much the duty of the physician to discover the real cause of the catarrhal symptoms of the nose and pharynx as to make a correct diagnosis of inflammatory changes in any other part of the body.

A lady from a neighboring State recently asked me if catarrh could be cured. On my answering her in the affirmative, she said, "My doctor says nothing but a change of climate will cure me." An examination disclosed hypertrophic rhinitis, involving the mucous membrane covering the inferior turbinates on both sides, while one side showed evidence of polypoid degeneration. No climatic change could remove these growths. I sent her to a rhinologist to have the hypertrophies cauterized and the polypoid growths removed. To prescribe a change of climate in that case was at best only temporizing—the operative treatment was necessary to remove the cause.

Such radical measures are by no means necessary in all cases. I recall that of F. S. H., a farmer, forty-four years of age, who consulted me for nasal catarrh. He gave a history of poor digestion, poor appetite, and gradual loss of flesh. His father died of tuberculosis when the patient was a child. There was no obstruction in the nares. I was convinced that the mucous discharge was due to no local condition, but to his generally lowered vitality. The hypophosphites, with small doses of iron, quinine, and strychnine, and daily cool salt sponge baths, completely restored him to health and all evidence of catarrh disappeared. I again aimed to reach the *cause.*

Give the tonic or alterative treatment indicated and direct the use of Dobell's solution, or Seiler's tablets, for a cleansing spray first, if you choose; but do not stop here, and if your patient returns in a few weeks, showing little or no improvement in the catarrhal symptoms, you have not found the *cause* and must now look for pathological conditions in the nasal cavities.

It is possible for every practitioner to intelligently diagnose hypertrophic rhinitis, polyps, or adenoid growths, and definite pathological conditions will be found in the majority of cases presenting themselves for treatment, with the history of nasal stenosis or nasal discharge. Having made your diagnosis, the indications for treatment are plain, and the advice to seek the skill of the rhinologist for removal of the nasal growths will convince the patient that you have found the cause of the trouble. How much better such a course than to prescribe a change of climate without a thorough examination.

It is my custom to get a minute history of each case before making an examination, and it is remarkable what accurate information can be obtained, from a thorough study of the rational symptoms, and how much it aids us in really recognizing what is found on exploring the nasal cavity. A full family history, including the grandparents, should be required in order to trace any inherited predisposition or tendency to morbid changes or neuroses which will have any bearing on the case. You must also learn if any acquired diathetic condition or constitutional dyscrasia exists. It is necessary to obtain a description of the patient's environment, occupation, habits, diet, and his state of digestion and nutrition. It is very important to discover whether impaired health is the cause or the result of nasal changes. All these points should be distinctly brought out by your questions to the patient.

The local symptoms may be those of polyps, or polypoid degeneration, hypertrophy of the mucous membrane, adenoid growths, disease of the antrum, frontal sinuses, or ethmoidal cells. It is impossible to determine from local symptoms alone the pathological condition present, as some of the symptoms are common to two or more different morbid changes, and these changes rarely exist singly in any given case.

Let us now consider in detail the five pathological conditions which may be found in an ordinary case of nasal catarrh.

Nasal polypi are benign neoplasms and of three varieties—mucous, fibrous, and cystic. They are sessile or pedunculated, and are found growing from the mucous membrane covering the posterior portion of the middle or lower turbinated bones. They are usually of a bluish color, soft and gelatinous if of the mucous variety, but hard and firm if fibrous; not usually very sensitive to touch with the probe, but the slightest atmospheric disturbance will excite the characteristic attacks of sneezing. Indeed, frequent attacks of sneezing are suggestive, especially when excited by sudden changes in temperature, dust, odors, or currents of air striking exposed portions of the body, and should lead to suspicion of the presence of polyps. The cavities of the nose and throat give tone and resonance to the voice, and any encroachment on them is soon detected by the diminished vocal quality. The tone becomes dull and flat, and is said to be nasal. There is often a thin, watery discharge from a polyp, which is very annoying, for it is non-irritating, and a slight change of position of the head will precipitate a discharge of this limpid secretion without warning.

Hypertrophic rhinitis causes obstruction to the free passage of air through the nose by thickening and deformities of the turbinates and the septum. Patients complain that they take cold easily, and that, when they lie on one side, the lower nostril closes. The latter symptom occurs in consequence of the blood gravitating to the turbinates, on the lower side, and making them swell. A slight exposure results in occlusion of both nostrils and, as a result, the constant passage of air through the mouth instead of the nose dries the throat and larynx and gives rise to more or less irritation or inflammation of these parts.

Adenoids are usually found in the vault of the pharynx, growing from the pharyngeal tonsil during childhood and early adult life, and often so plug up the posterior nares as to cause mouth breathing. They secrete a thick mucus difficult to dislodge.

Disease of the Antrum or Frontal Sinus.—A purulent discharge, with an offensive odor, may come from ozæna, but in that case the odor is not recognized by the sufferer, owing to the loss of the sense of smell. It may come from caries of the vomer, but its origin is then easily found, for the ulceration of the septum is plainly seen on examination. The odor may arise from carious teeth, but if so, the absence of pus in the nasal discharge and the presence of decayed teeth would indicate its origin. Having eliminated the above causes, you may be pretty sure that the offensive discharge from the nose points to disease of the antrum or frontal sinuses.

Disease of the antrum is unilateral, for seldom are both antral cavities involved at the same time; hence the pus is only observed on one side. The patient discovers that the discharge is worse when lying on the side that favors emptying the affected antral cavity. Neuralgic pain, referred to the malar bone on the affected side, is a common symptom. When the frontal sinuses are the seat of the trouble the presence of pus, with a sense of fulness or frequent frontal headaches, would point to them as the seat of the trouble.

A rhinoscopic examination of the nasal cavity is necessary before our diagnosis is complete. The examiner should sit immediately in front of the patient and facing him. A three-inch forehead-mirror is required, for only reflected light can be used to advantage in this practice. The surgeon should wear the mirror in front of his eye in such a manner as to look through the perforation in the glass and at the same time shade his eyes from the light. Dilate the alæ of the nostrils, so as to admit the most light; place the hand on the head of the patient and tilt it so that the light will illuminate the cavity of the nose. Artificial light should always be used in these examinations. A Mackenzie's condensor, made to fit an Argand gas-burner or that of an ordinary student lamp, is necessary to focus the light so it can be reflected by the head mirror. This light should be at the patient's back, on a level with his head.

If you find a very narrow space between the septum and the middle or inferior turbinated bone, or if at any point you find contact between the vomer and the turbinates, you have a sufficient explanation for the persistent catarrhal symptoms, for even though contact is not actually present, it will take only a slight congestion to bring the mucous surfaces together. When contact exists between two mucous surfaces in the nose, irritation, congestion, swelling, chronic inflammation, and thickening result; therefore, if the septum touches the turbinates at any point, it is necessary to remove the protruding portion. Exostoses may project from the base of the vomer till they touch the inferior turbinates. There may be deflection of the septum to one side, so as to occlude the nostrils, or there may be sufficient hypertrophy of the mucous membrane covering the turbinates to make them impinge on the septum. Each condition must receive the treatment it requires, the bony growth sawed out, the deflected septum straightened, and the hypertrophied membrane cauterized. All obstructions to free passage of air through the nose must be removed.

We have shown the necessity for operative interference when there is stenosis of the nasal passages or contact of the mucous membranes. A further examination may disclose a convex, glistening mass of bluish-gray color growing from the edge of the middle or lower turbinated bone. This is the typical appearance presented by a polyp. It may be so prominent that nothing else can be seen.

Recently, J. C. called at my office. An examination of his nose disclosed an immense polyp projecting from each nostril, so that it could almost be seen by one sitting across the room. The amount of disturbance produced is no indication of the size of the polyp causing the trouble, for in the above case many of the usual symptoms were absent. Often a polypoid degeneration of the mucous membrane, so small as to escape the notice of many an observer, will cause more nervous disturbance than a polyp large enough to entirely occlude the nasal passage.

The glistening surface of the polyp, or polypoid degeneration, is very significant. In order to confirm your diagnosis, and also to give you a clearer view, spray the nose with a 2-per-cent. solution of cocaine, which will contract hypertrophied tissue, but will not affect polyps. If the glistening protuberance is visible after use of the spray, you may be pretty sure it is of a polypoid nature. A polyp reflects the light so well that its glistening surface may be seen when the rest of the posterior portion of the nasal cavity remains in shadow.

A mucous discharge observed on the back of the pharynx requires an examination of the post-nasal space to determine its origin. This is made with the laryngoscopic mirror, and it requires some practice to manipulate the mirror so as not to touch the pharynx and cause nausea. The practitioner should become familiar with the appearance of the post-nasal space in health, so that he may be able to detect the growth of adenoids from the pharyngeal tonsil. Adenoids secrete a stringy mucus, and may be the origin of the discharge observed on the pharynx; if not, the mucus will be observed to flow through the posterior nares from the nasal cavity.

I have already touched on disease of the frontal sinuses and antrum, so will not refer to them here. Having found sufficient cause in the nose for the catarrhal symptoms, send the patient to a skillful operator. So many rhinologists are satisfied if they can remove one polyp or cauterize the part most easily reached, when nothing but thorough treatment will cure. Miss C. showed, by examination, polyps on both sides, and I advised her mother to take her to a rhinologist. The mother said: "Why, we have just consulted a specialist, and he said there was nothing more to do." I inquired what he had done, and found that he had removed some adenoids from the pharyngeal tonsil. I then asked her if he had made an examination of the nose, and she said "No." A few days later the young lady returned with a large-sized homeopathic vial full of polyps that had been removed since her previous call.

The rational symptoms, of hypertrophic rhinitis and polyps, are often sufficiently diagnostic to point to the presence of nasal obstruction or growths before examining the nose, but the constitutional condition of the patient enters so often as a factor in producing the symptoms of chronic nasal catarrh, that only after a thorough exploration of the nasal cavity can a definite diagnosis be made. As general practitioners, we have been in the habit, in all cases of nasal catarrh, of treating any lowered vitality or dyscrasia with the proper tonic and restorative medicines, hoping that this, with antiseptic and cleansing sprays, would accomplish the cure. It is therefore not necessary for me to touch upon the importance of constitutional treatment.

There is, however, a class of cases, neurosal in origin, that prove exceedingly puzzling, and often lead to errors in diagnosis. These cases are termed by Bosworth "vasomotor rhinitis." They give all the symptoms of frequent attacks of acute head colds, or the exacerbations so common in hypertrophic rhinitis.

The frequent attacks of sneezing, followed by swelling of the nasal mucous membrane, with an abundant discharge, point to the existence of polyps and hypertrophy of the mucous membrane. If, during the height of an attack, an examination is made, the appearance seems to confirm the condition indicated by the rational symptoms, but examine the patient again after the attack has subsided, and you will be surprised to observe no evidence of hypertrophy, and will search in vain for polyps or polypoid degeneration. Here, certainly, is not a case for operative treatment, and the sufferer shows no evidence of lowered vitality, but, on the contrary, seems perfectly well between the attacks.

If the vasomotor rhinitis occurs only during the summer season, you give it different names according to the exciting cause, such as rose cold, peach cold, ragweed catarrh, etc. You advise your patient to go to an exempt locality, where his exciting cause cannot be found, and if he stays away from home until frost has killed vegetation, he may pass through the season without a symptom of his trouble, and think he is cured, but if he should fail to leave for his mountain, forest, or seaside resort till after the date for the appearance of his annual catarrh, it visits him punctually, and drives him from his home. If he returns one week before vegetation is killed, his tyrant is awaiting him. Change of climate is only a relief, and after a few years the victim finds his symptoms returning even in so-called exempt regions, and he is obliged to seek a new locality.

Vasomotor rhinitis is frequently most troublesome in the winter season, and is accompanied by an obstinate cough. If the case progresses, the cough is followed by an attack of difficult breathing, and it is often said that the catarrh has brought on asthma. Occasionally neurosal cases are seen where violent attacks of sneezing occur, frequently without regard to season. Although cough or asthmatic symptoms may be absent, the paroxysms of sneezing may be so frequent and violent as to be more or less exhausting and produce constitutional depression. It is, of course, very important, in all these neurosal cases to exclude all reflex causes. Not only should the nasal cavity be explored, but the eyes should be examined, as eye strain may be the cause of motor disturbance along the respiratory tract. In the concluding paragraphs of this paper, I wish to emphasize the fact that neurosal affections of the upper air passages require a constitutional treatment that will eradicate the cause in order to cure the disease. Never be satisfied with the use of relief measures alone.

Diathesis is a predisposition of the body to certain forms of disease, and is usually inherited. This is especially true of chronic neurosal affections, and it is therefore of the utmost importance that this predisposition should be carefully studied and the treatment directed to it. Any remedial measure necessary for the temporary relief of the painful outbreak of the disease should be taken only until relief is obtained, but the constitutional course of medicines should be given continuously. As changes are brought about in the body by the use of a restricted diet, so by feeding the nerve centers daily with alterative medicines we can permanently remove their morbid tendency. Asthma, hay fever, sick headache, and eczema, comprise a class of diseases in which the treatment is usually aimed at relief or suppression of the symptoms instead of at the diathetic condition.

Reliefs wear out, and local treatment often suppresses the manifestation in one direction, only to have it appear in another form in some other part of the body. I knew a rhinologist who cauterized the so-called "sensitive area" in the nose for the cure of hay fever, and the first attack of asthma the patient had ever had appeared before he left the chair of the operator.

Having carefully removed or excluded all local causes and constitutional dyscrasia, the diathetic condition, the neurosal predisposition is seen to be the true cause of the catarrhal symptoms, and this must be eradicated before a cure is complete. Treatment must consist of tonic and alterative medicines, given in such small doses that their use can be continued for months, for the change in the nerve centers which substitutes a healthy action for the morbid tendency is a slow process.

716 MAIN STREET.

Antitoxin Treatment in Diphtheria.—John H. McCollom, from a comparison of the health reports of Boston before and after the introduction of the anti-diphtheritic serum, from a comparison of the health reports of other cities, from a study of hospital reports, from a clinical observation of more than 10,526 cases of diphtheria, concludes as follows: (1) That the ratio of mortality of diphtheria per 10,000 of the living was very high in Boston previous to 1895; (2) That the ratio of mortality per 10,000 has been very materially reduced since the introduction of antitoxin; (3) That the percentage of mortality in the South Department is lower than that of any of the hospitals taken for comparison; (4) That since larger doses of antitoxin have been given the death rate has been materially reduced, this reduction having occurred in the apparently moribund cases; (5) That no injurious effect has followed the use of the serum; (6) That to arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease.—*The Providence Medical Journal.*

THE MOSQUITO ON BOARD OF VESSELS AT QUARANTINED PORTS AS A FACTOR IN THE TRANSMISSION OF YELLOW FEVER.

By EDMOND SOUCHON, M.D.,
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PRESIDENT OF THE LOUISIANA STATE BOARD OF HEALTH.

It was about fifteen years ago, in 1886, that the importation of fruit from the tropical ports to New Orleans really began. The main regulation was that no vessel should have any communication with the shore. During that time an average of seven vessels a year were engaged in that trade. Each vessel made an average of two trips monthly during the quarantine season—that is, during six months. There were, therefore, eighty-four trips per year, and during the fifteen years 1,260 trips or vessels. During these fifteen years five fruit vessels arrived at the Mississippi River Quarantine Station with yellow fever on board during the quarantine season. They were:

1887—*City of Dallas*, from Belize, July 6........one case
1888—*Foxhall*, from Limon, August 14.........one case
1889—*City of Dallas*, from Livingston, October 1..one case
1897—*Jarl*, from Bocas, October 27, one case at quarantine and two in the city.
1900—*Adler*, from Limon, August 26..........one case

The percentage of vessels with yellow fever on board is about one-third of one per cent.

During the same fifteen years 1,343 vessels plying between New Orleans and the West Indies, Central American and Mexican ports, arrived at the Quarantine Station. The vessels belonged to the Harrison Line and to the Leyland Line of regular steamers, whose agents kindly furnished the figures.

Besides these, it is estimated that about 250 irregular vessels arrived also at the Quarantine Station, making a total of 1,600 vessels in round figures.

The following thirty-four vessels with yellow fever on board arrived at the Mississippi River Quarantine Station:

1886—August, 15, bark *Scotia*, from Colon......one case
1886—September, 24 bark *Montreal*, from Colon.one case
1887—July 12, S. S. *Inventor*, Colon *via* Belize.three cases
1887—October 20, S. S. *Altmore*, Colon.........two cases
1887—October 20, S. S. *Red Sea*, Colon........one case
1888—March 16, S. S. *Historian*, Colon........one case
1888—March 17, S. S. *Elmsfield*, Martinique....two cases
1888—August 11, bark *America*, Havana......one case
1888—August 16, ship *Marcelina Jane*, Havana.one case
1889—April 18, S. S. *Navarro*, Havana........one case
1891—August 10, S. S. *Wm. Cliff*, Progresso and Vera Cruz..........................three cases
1892—June 11, S. S. *Clintonia*, Havana........one case
1892—August 26, S. S. *Denia*, Havana........three cases
1892—August 28, S. S. *Violante*, Havana......one case
1894—August 6, S. S. *Architect*, Vera Cruz and Tampico.............................one case
1894—August 26, S. S. *Vesta*, Vera Cruz and Tampico...........................three cases
1896—March 13, S. S. *California*, Santos *via* Rio one case
1897—December 8, S. S. *Ainsdale*, Kingston (Jamaica)...........................two cases
1898—August 20, S. S. *Tampican*, Vera Cruz, Tampico, Colon......................one case
1898—August 30, S. S. *Highland Prince*, Vera Cruz, Tampico, Colon.................two cases
1898—October 3, S. S. *Wm. Cliff*, Vera Cruz, Tampico, Colon......................one case
1899—May 18, S. S. *Clinton*, Havana..........one case
1899—May 27, S. S. *Navigator*, Colon, Vera Cruz, Tampico............................one case
1899—July 25, S. S. *Traveller*, Colon, Vera Cruz, Tampico............................one case
1899—October 11, S. S. *Whitney*, Havana......one case
1899—October 18, S. S. *Sardinia*, Colon, Vera Cruz, Tampico......................one case
890—July 3, schooner *Bertha Louise*, Vera Cruz and Chilipec........................one case
1890—July 5, S. S. *Hugin*, Vera Cruz and Tampico.................................one case
1890—August 27, S. S. *Orion*, Vera Cruz and Progresso...............................two cases
1890—October 17, S. S. *Electrician*, Colon and Mexican ports......................seven cases
1901—January 25, S. S. *Atlas*, Vera Cruz, Progresso, Tampico.......................two cases
1901—September 13, S. S. *Darien*, Colon *via* Vera Cruz, Progresso and Tampico............four cases
1901—October 2, S. S. *Astronomer*, Colon *via* Vera Cruz, Progresso and Tampico........two cases
1901—October 29, S S. *Traveller*, Colon *via* Vera Cruz, Progresso and Tampico...........four cases

The study of these vessels show that 8 came from Havana, 8 from Colon, 6 from Colon, Vera Cruz and Tampico, 3 from Vera Cruz and Tampico, 2 from Vera Cruz and Progresso, 1 from Colon and Belize, 1 from Vera Cruz and Chilipec (Mexico). Of these, twenty-nine vessels had yellow fever on board during the quarantine season. The percentage of yellow-fever vessels is about 1½ per cent. These vessels took no measures to prevent communication with the shore.

Remarks.—Of course, no measures were taken against mosquitos in any cases. That mosquitos will reach vessels at anchor in bays has been established by a previous communication of the writer in the MEDICAL RECORD of July 5, 1902. Many other proofs will be forthcoming at the end of the quarantine season.

It is remarkable that the vessels which took measures to prevent communication with the shore developed so few cases of yellow fever, five in 1,260, whereas those who took no such measures developed comparatively so many, twenty-nine in 1,600.

This surely shows that the mosquitos aboard had very little to do with the development of yellow fever, and that the cause of the infection was truly ashore. It may be said, with justice, that this was because mosquitos in houses ashore are much more likely to be infected than the mosquitos in the open and aboard vessels. It may be that the mosquitos aboard are different from those ashore. This point is now under study by this Board.

But the believers in fomites may claim with equal justice that the cases became infected because they came in contact ashore with fomites.

It may also be argued that two or three or more of the five cases are truly due to surreptitious violations of the qarantine regulations by which some from the vessel went ashore unknown or unreported. That is what we believe, because if the infections were due to mosquitos on board there would surely have been more than five cases on 1,260 vessels in fifteen years.

It is true that the fruit vessels came from ports that were not all as badly infected as the ports from which the other vessels came, yet two of these infected fruit vessels out of the five came from Limon, which is perennially as much infected as the West Indies and Central American and Mexican ports.

At least one-third (or about 400) of the 1,260 fruit vessels came from Limon, it being the port of a region whose fruits are of a superior quality. The percentage is one-half of one per cent.

Conclusions.—Let all that be as it may, we cannot see, in the light of such cases, how we can modify without risk the quarantine regulations preventing vessels from having communication with the shore in quarantined ports until those ports have permanently and reliably eradicated the yellow fever by destroying the mosquitos and all other possible causes of infection.

Gift of Osborne House.—King Edward has signalized his coronation by the gift to the nation of Osborne House, one of the favorite residences of Queen Victoria. In the letter announcing the gift the King expresses the hope that the palace may be devoted to national purposes and be converted into a convalescent home for officers of the navy and army whose health has been impaired in rendering service to their country.

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THE QUESTION OF PROGNOSIS.

EVERY physician who has inadvertently committed himself to a positive opinion regarding the outcome of a case under his care, learns by bitter experience and becoming chagrin how difficult—in fact, impossible—it is to be absolutely sure of his ground. There are in the vast majority of instances so many incidental circumstances to be considered in forming conclusions that he is never safe in trusting to a possible chance. The verdict, whether pro or con, always determined by time, is sure to settle the question for or against him beyond the chance of explanation for his demonstrated mistake. Thus the wise man always qualifies and inserts the "if" in all his prognostications. In this, avoiding conclusions which are obviously beyond his control, he is willing to venture in a purely suggestive way, as to probabilities, rather than actualities. His reasons for such a course are well-founded and beyond the range of ordinary argument.

He is not long in practice before he becomes aware of the fact that the most unexpected things happen; the most trivial diseases in apparently strong patients end disastrously, while the severe ones, generally looked upon as hopeless, recover. Oftentimes also death occurs as suddenly and unexpectedly as with a stroke of lightning from a clear sky. No one of the signs of dissolution are absolute. Even the hippocratic face sometimes survives to smile at the would-be prophet. The old physician who said he never acknowledged that a patient was dying until after he was dead, was certainly cautious enough not to be caught. Even when at his wits ends to account for the result, he found it safer to accept the explanations of the patient's friends than to offer any himself. It was in one way the cultivation of the faculty of never being surprised at anything, but quietly expecting everything. Ordinarily there are difficulties enough in trying to guide the ship without attempting to govern the storm or the fog. The only cheerful thing to say is that the vessel will eventually reach the port if there be no accident—and death is always the accident. We are told by the highest authorities that the sudden deaths give no preliminary sign. Before an attack of apoplexy, the stroke of which is so often given during sleep, the patient often says on retiring, that he never felt in better physical condition. With heart disease, the victim often passes away with an unfinished sentence on his willing lips. Death simply touches the pendulum and he stops ke a clock. The wasting consumptive, wearily awaiting the messenger, asks that his head be raised—and the last gasp is given. The fatal coma of uræmia often comes on as suddenly as the blowing out of a light. So far as human prediction is concerned, the exact time depends upon a mere whim of the wasting destroyer; and yet the physician is expected to explain the when and the how.

In his contemplation of conditions controlling the outcome of disease he must take many-sided views as to correctness of the diagnosis and treatment, the often uncertain action of remedies, the variable vitality of the patient, and reconcile all to the reactionary tendencies of the particular case in hand. While it is always necessary and proper to be optimistic to the patient, it is never safe to say he is absolutely beyond danger. This would obviously apply with more particular force to the patient's friends, who are not supposed to communicate suspicions to the one most particularly interested. "May he die suddenly?" "I hope not, although sudden deaths are not uncommon in this disease."

When we sum up the situation on the question of the always unknown quantity—the vitality of the particular individual—what more can be said and what more can be expected?

THE TRUE PRACTICAL VALUE OF CRYOSCOPY.

WITH all the mass of evidence which has been accumulating since Koranyi in 1893 applied the freezing test to urine with a view of determining the functional condition of the kidney, cryoscopy is still in the experimental stage. Thousands of observations have been made in all parts of the world, and yet, not only the practical application of the freezing test, but the very theory underlying it presents phases that are awaiting solution.

The disadvantage of cryoscopy over other means of laboratory diagnosis is that the freezing-test has been worked out most ingeniously from a series of physical laws and physiological theories which form inseparable links in a chain of reasoning which leads to its practical application to clinical work. A link in this chain broken, and the whole structure so laboriously wrought, threatens to fall.

To any one who has followed the trend of research in cryoscopy, it must be apparent that whilst most of the work that has heretofore appeared has strengthened and enlarged the possibilities of cryoscopy as a means of diagnosis, there has appeared of late a number of researches which show that the theoretical basis of cryoscopy is by no means necessarily correct in all respects, and that it certainly needs most careful revision.

Cryoscopy—the determination of the freezing point of a solution—is, as we know, dependent upon certain physico-chemical laws affecting solutions which were discovered by Raoult (Comptes rendus de l'Academie des Sciences, November, 27, 1882) and Van t'Hoff (Mem. de l'Academie Royale des Sciences de Suède, Stockholm, 1886). The simplest of these laws states that the freezing-point of a solution varies as the number of molecules dissolved in a constant quantity of the solution. The more concentrated the solution, the lower the freezing-point. The more salt added to ice, the lower the temperature of the mixture. As urine is a solution of various kinds of molecules, organic and inorganic, its freezing-point varies with the number of molecules dissolved in it, and as the diseased kidney excretes fewer molecules of certain constituents, *e. g.* urea, the freezing-point of the urine in a case of nephritis will be higher, *i. e.* nearer to zero than that of a normal urine. The greater the deficiency in excretion, the further away from the normal; the higher will be the freezing-point. In other words, cryoscopy is said to show the functional value of the kidney as an excretory organ.

While even Raoult and Van t'Hoff's laws suffer exceptions on account of ionization, *i. e.* the splitting of molecules into their constituent ions, each of which acts on the freezing-point as an independent molecule, lowering it proportionately to the number of ions instead of to the number of molecules, yet this is a comparatively negligible discrepancy. The chief point of contention as regards the theoretical basis of cryoscopy lies in the province of the physiology of the kidney.

Koranyi (*Zeitschrift für klinische Medicin*, 1897-98) sought in his theory of renal secretion to reconcile the theory of Ludwig (Mechanismus der Harnsecretion, Marburg, 1843), who regards the kidney as a simple filter, and that of Haidenhain (*Arch. f. d. ges. Physiol.*, 1879, IX), who considers the kidney purely as an excretory gland. Koranyi agrees with Haidenhain as regards the supposition that water and sodium chloride are filtered by the glomeruli, while the epithelium of the tubules secretes the other urinary constituents, but he also admits with Ludwig, that the sodium chloride solution filtered out of the blood by the glomeruli is in part reabsorbed by the canalicular epithelium. At the level of the canalicular epithelium, which acts as an excreting surface, as well as a living osmotic membrane, there takes place, according to Koranyi, an exchange which results in the final excretory product—the urine. The blood is separated from the salt solution which has filtered into the tubules through the glomeruli only by a layer of tubular epithelium, The blood outside the tubule and the salt solution inside of it are in a condition of perfect equilibrium as regards osmotic tension, and, according to the laws of osmosis, a diffusion of one fluid into the other takes place in such a manner that for each molecule of urea or other metabolic products that passes out of the blood into the tubule, there passes one molecule of sodium chloride from the tubule back into the blood. The number of molecules dissolved at any one time in the tubular contents and in the blood is therefore always the same.

While disputable and disputed in some minor features, this theory of Koranyi, which forms the backbone of cryoscopy as applied to urine, reconciles most experimental findings of recent studies upon the osmotic pressure of urine and blood with older researches on the relative significance of glomeruli and tubules in the excretory function of the kidney. If the validity of Koranyi's theory be admitted, the then quality of a given urine depends, other things being equal, upon the integrity of the osmotic membrane—the tubular epithelium.

The solids in solution in urine may be divided into two groups—the inorganic group, which is represented by sodium chloride, and the metabolic group, represented by urea. The sodium chloride of the urine is, as physiology teaches us, not a product of metabolism, but a substance which is taken into the body and excreted as such, without entering into the permutations of atoms representing the metabolism of the body. Its acts simply as a solvent and vehicle. On the other hand, urea and its congeners are substances which are formed in the body as the result of the most important of all metabolic mutations—nitrogenous exchange. As the freezing-point of urine shows the comparative total number of molecules in the urine, the ration between the freezing-point and the factor indicating the amount of chlorides in the urine shows the comparative number of metabolic molecules in the urine. When this ratio is normal the tubular epithelium and the glomeruli are, or ought to be, according to Koranyi, normal in structure and function. When, on the other hand, the number of chloride-molecules is in excess, the tubular epithelium is presumably diseased and incapable of excreting the normal amount of urea, while, when metabolic molecules are in excess, the glomeruli are presumably diseased not being able to filter enough salt solution to balance accounts with the urea.

While a number of authors, such as Claude and Balthazard, Casper and Richter, Bouinevitch, etc., have added clinical and experimental evidence in favor of Koranyi's hypothesis, another set of observers, equally trustworthy, have recently brought forth evidence apparently contraverting the ingenious story of the Hungarian savant. Thus, for example, Ascoli (quoted by Maragliano, *Gazzetta degli Ospedali e delle Cliniche*, March 23, 1902) studied a case of diabetes insipidus during the past year in which he could not find a balance of exchange between the chloride-molecules and the metabolic molecules. His findings were not only divergent from those of Koranyi and his followers, but were directly negative. In the same clinic, De Grazia not long since also investigated the experimental basis of Koranyi's hypothesis, and concluded that "the figures obtained, if considered in the light of Koranyi's theory, would show that lesions exist in healthy individuals," and that the elimination of metabolic products is not always in proportion to the freezing-point of the urine, nor to its contents of sodium chloride molecules.

A third research, which leads to conclusions that tend to impair the stability of Koranyi's theory, is that of Waldvogel (*Archiv für exper. Pathol. u. Pharmakol.*, XLVI, 1-2), who concludes as follows: "The theory that a molecule exchange goes on in the tubules between the molecules of chlorides and the excretory substances has no basis whatever. The ratio between the freezing-point of urine and that of water containing the percentage of chloride found analytically in this urine is not at all constant in nephritis. Besides, the same oscillations in this ratio may be observed in a variety of conditions of the kidney which have nothing to do with nephritis, *e. g.* compensatory hypertrophy of one kidney when the other is removed by operation. Finally, bloodletting and the injection of saline solution do not counteract the tendency of the urine of uræmics to show a high freezing point.

The three researches mentioned have as yet not been refuted, and it remains for further investigation to establish the true status of Koranyi's theory of renal function. Until then the question of the value of cryoscopy must remain unsettled. The subject is one of grave importance, as cryoscopy promises to become one of the most valuable aids to diagnosis in renal diseases, medical as well as surgical.

The Ambulance Surgeon.

While in some hospitals the ambulance work is assigned to the men who have been on the staff for six months, there are many hospitals in which this work is done by the juniors. In case a junior has never "substituted" on a hospital house staff, he comes to the responsible post of ambulance surgeon with little or no previous training. Ordinarily his college work has given him some skill in diagnosis and in the treatment of emergency cases, so that it is merely a matter of weeks before he has something of the technical facility of the experienced ambulance surgeon. Still the position of officer of a hospital is for him quite novel, and in his attention to the details of his cases he may overlook his proper relations to the public.

Of course, whether the hospital be a public or a private institution, its avowed purpose is the relief of suffering and the aid of the injured. This aim implies an attitude of ready sympathy with distress and a desire to be of service to those who may need the offices of a physician. The ambulance surgeon should accordingly so conduct himself that the by-stander shall not receive a false impression of his indifference to apparent suffering. His opinion, as one who is trained in the observation of disease, may differ entirely from the superficial ideas of the untrained onlooker, and yet he should not produce upon the mind of the casual eye-witness of his treatment an impression of carelessness or levity. Such unfortunate impressions tend to the injury of the hospital and the profession and indirectly of the public itself.

Toward the "man in the street" who in his interest forgets the proprieties of the occasion and annoys or interferes with the surgeon's work, his attitude should be quite impersonal. He should, as an officer of the hospital, not consider personal anything said to him and he should not resent as reflecting upon his own honor anything said in the foolishness of ignorance or hysteria.

Finally, it must be said that the relation of the hospital to the patient is essentially the same as that of a physician to his patient; and that in consequence the ambulance surgeon, its officer, is always to consider himself the guardian of his patient's interests. From this it follows that he should approach his work not from the standpoint of one who dispenses charity and is afraid of being imposed upon; but, with larger charity, he should have an eye single to his patient's best welfare, the hospital's supreme purpose.

The conduct of an ambulance surgeon should thus be always guided by the principles of sympathy, dignity, and professional duty, considerations that are perhaps obvious but too often forgotten in careless haste. We call attention to them not so much by way of reflection upon the character of the average ambulance surgeon, but rather because of that character, feeling confident that if they are brought to his attention during the first weeks of his service, these ideals will be carefully considered, and in most cases conscientiously adopted.

Tuberculosis and Public Action.

Dr. Alfred Hillier, an English medical practitioner, who has spent a large part of his life in South Africa, and who has interested himself greatly in all problems appertaining to tuberculosis, writes in the *Fortnightly Review* of April on "Tuberculosis and Public Action."

The writer finds that the primary necessity for public action arises from the fact that effective sanitation is the fundamental and principal means of prevention of tuberculosis. He shows that smallpox, leprosy, and the pestilences which devastated Europe in the Dark Ages were almost wholly due to uncleanliness, and demonstrates how these diseases have been controlled and, in some instances, extirpated, by cleanly methods of management of cities and dwellings.

The decline in tuberculosis has been enormous since 1835, and Dr. Hillier, referring to this, says "Let us consider more exactly what that decline has been, and endeavor, in the light of history and modern research, to understand its causes. From a death rate from tuberculosis of 3,800 per million in 1838 to one of 1,305 in 1896 the drop is a great one. The decline has not, however, been a perfectly regular one. The first striking fall in the death rate occurred in the decade from 1840 to 1850, which was about the time serious attention began to be given to sanitary reforms, and especially to land drainage. The rate continued to fall more gradually after this, till 1867, from which time forward it has been fairly continuous. It is during this latter period that nearly all the great sanitary works have been carried out in England. To these measures, to the improved condition of living and of working in factories, to better food among the working classes, and, most of all, to the improved housing which has been introduced in most of our great cities, there can be little doubt that the fall in the tuberculous death rate is chiefly due. In other words, the soil, though far from being rendered sterile to tuberculosis, has been, through the improvement in man's physical environment, rendered considerably less favorable to the growth of the seed."

Dr. Hillier concludes his article with this advice, "The vast majority of tuberculous cases are those in which the tubercle bacilli have been conveyed from man to man. On the appreciation of this main fact all intelligent preventive action must be based. Inasmuch as public opinion and public action are essential to the prosecution of this work, it is obvious that congresses, such as those held in Berlin, Naples, and London, serve a good and useful public as well as scientific end."

Good housing and efficient sanitation is the key of the situation in dealing with tuberculosis, and unless public opinion becomes aroused to this necessity, no great headway will be made toward prevention. The American public, and especially the New York public, have disregarded this aspect of the case, and needs to be thoroughly awakened to the danger of permitting a large portion of its population to exist in unhealthy environments. When this day dawns, the hardest blow will have been struck against tuberculosis.

Hydrotherapy in Tuberculosis.

Dr. Myer Solis-Cohen of Philadelphia is contributing to *The Trained Nurse* a series of lectures delivered by him before the nurses of the Jewish Hospital in Philadelphia.

In the course of his remarks he makes mention of the uses of water in the treatment of consumption.

The beneficial effects of the ingestion of water in disease has not, perhaps, received the praise that is, undoubtedly, its due. In tuberculosis the uses of water are manifold, and as a remedial agent it frequently surpasses all expectations.

Dr. Solis-Cohen speaks thus on the subject, "The ingestion of large amounts of water will assist in eliminating the toxins, while the drinking of hot water an hour or so before meals has the additional effect of keeping the digestive tract clean of facilitating secretion. The external application of water in consumption varies with the stage of the process and the condition of the patient.

In the first stage, that of lessened vital energy, hydrotherapy is employed for its hardening effects. It improves innervation, invigorates the circulation, and educates the vessels to resist changes of weather, stimulates nutrition, and acts as a respiratory tonic.

In the stages of pulmonary tuberculosis following the invasion of the tubercle bacillus, with destructive changes in the lung.

Hydrotherapy is of great value. The curative process in the lungs depends in large measure upon the active circulation of this organ. These hydriatic measures induce active hyperæmia. They strengthen the circulation, remove the circulatory weakness in the lungs, and the obstruction of the lesser circulation, and improve the flow of blood through the lungs."

Pure Milk for Brooklyn.

The milk supplied to Brooklyn is not giving satisfaction, and the King's County Medical Society and affiliated medical societies of the borough have resolved to endeavor to secure a comparatively good milk supply. Such milk will be certified and labelled as to its quality, so that purchasers will be able to place a reasonable amount of reliance upon its purity. A guarantee will be given that the milk does not contain more than thirty thousand bacteria to a cubic centimeter.

Brooklyn milk examined recently in the Hoagland laboratory revealed the fact that much of it is bad, one specimen of fifteen drops being found to contain as high as 43,000,000 bacteria. The object of the Brooklyn physicians is to be enabled to obtain sufficient good milk to prescribe to their patients. Of course, a milk of this description will cost more than the ordinary article, and that containing the label of the medical society probably twice as much. On this account the movement will, unfortunately, not benefit those most greatly in need of pure milk, the children of the tenements, for naturally the denizens of these regions will buy in the cheapest market, and consequently get the dirtiest and most inferior milk sold. The King's County Medical Society, however, is setting a good example by its action, and may assist in educating the poorer classes to a better knowledge of the need of a pure milk supply.

The New York Charity Associations.

Few, if any, cities of the world are more generous in aiding their poor than is New York. Money is poured forth lavishly in the attempt to better the condition of the indigent classes. Among the most prominent of the organizations to provide a needed change to the dwellers of crowded New York is the Children's Aid Society. This is one of the largest and most efficient of the New York associations which support summer homes for the poor children and endeavor to place permanently in country homes the little waifs who come under their charge. The large home of this society at Bath Beach accommodates thousands of children every summer, and excursions are made daily there in the hot season for the benefit of those who can only get a day's outing.

The Working Girls' Vacation Society is organized to give working girls in the city a chance to get a little rest and recreation in the country in summer, and to send those who have broken down under the strain of their labors to the Santa Clara home in the Adirondacks.

The St. John's Guild now supports a hospital in New York City, a hospital at New Dorp, and three floating hospitals, which daily carry the sick and weary mothers and children for short trips down the bay in hot weather. The passengers are also provided with wholesome food and milk, and hot and cold baths. Together, these hospital ships give some 50,000 people a chance to breathe salt air in July and August. The Gilbert A. Robertson home in Westchester gives whole families an opportunity to refresh themselves for a few weeks in the country.

The Association for the Improvement of the Poor has a place at Sea Breeze, L. I. The Edgewater Crèche near Fort Lee has one of the prettiest and best-equipped country playgrounds and recreation places for the poor in the country.

The above is by no means a complete list of the summer charity organizations of New York, but will serve to give a fairly accurate notion of the extent to which charity is distributed in the city.

The Charity Organization Society of New York and the Prevention of Tuberculosis.

A committee of the above society has been formed for the purpose of assisting in the prevention of tuberculosis. The members of the committee are Dr. E. L. Trudeau, Dr. Lederle, Commissioner of Health; the Hon. Homer Folks, head of the City's Department of Public Charities; Professor F. H. Giddings, the sociologist; there are besides many other well-known men, eleven of whom are physicians. The object of the committee is thus outlined by the Charity Organization Society.

Aside from the investigation into the social aspects of tuberculosis, the objects of the Committee have been formulated in part as follows:

1. The promulgation of the doctrine that tuberculosis is a communicable, preventable, and curable disease.
2. The dissemination of knowledge concerning the means and methods to be adopted for the prevention of tuberculosis.
3. The advancement of movements to provide special hospital, sanatorium, and dispensary facilities for consumptive adults and scrofulous and tuberculous children among the poor.
4. The initiation and encouragement of measures which tend to prevent the development of scrofulous and other forms of tuberculous disease.

There are said to be at least 20,000 consumptives in New York City alone, therefore, the formation of such a committee is fully justified by the situation. The social character of the disease has been greatly overlooked, owing to the fact that laboratory researches have almost wholly occupied the attention of scientists within recent years, to the consequent neglect of other causes. However, there are signs of a reaction against the germ theory run mad, and in the future it is likely that more common-sense views will prevail, and that while to bacteriology will be given all due honor and attention, the matter will be treated from other and just as important standpoints. The public require education with regard to tuberculosis, and the Committee will doubtless be the means of spreading enlightenment on the subject.

News of the Week.

An Appreciation of Lister.—The following editorial note, under the caption, "Long Live the King!" which appeared in the *Sun* of August 10, needs no comment:

"The coronation of Edward yesterday had a far broader significance than the crowning of a mere titular monarch.

"It was the coronation of modern antiseptic surgery.

"The Englishman on whose head the crown was placed in Westminster Abbey was really Joseph Lister—the head from which came the discoveries in the application of the antiseptic treatment by which the life of Edward and the lives of many thousands of other sufferers apparently doomed to death have been saved.

"Long live the King!"

A Quarantine Station at San Juan.—The President has recently placed Milaflores Island, in the harbor of San Juan, Porto Rico, under the control of the Public Health and Marine-Hospital Service for use as a quarantine station or site for a marine hospital, or both, as need may suggest.

The Belgian Society of Surgery.—The annual meeting of this society, held usually in June, will take place this year on Septemper 8, 9 and 10 at Brussels. The sessions will be devoted to a discussion of three topics:

(1) "The Treatment of Appendicitis," to be opened by A. Drs. Broca, Paris: A. Gallet, Brussels; C. Roux, Lausanne, and Sonnenburg, Berlin. (2) "The Treatment of Fractured Limbs," opened by Drs. A. Depage, Brussels; Rottschild, Frankfort, and Th. Tuffier, Paris. (3d) "Asepsis of the Hands, of the Operated Area, of Sutures and Ligature Material," opened by Dr. Walravens, Brussels.

The presence at the annual meeting of this Society of so many foreign surgeons has induced the members to lay the foundations of an International Society of Surgery, in ac-cordance with a proposition of the President. An invitation to this meeting has been sent to many prominent surgeons in every country. Those who have not yet answered the invitation are requested to do so without delay, addressing Ch. Willems, M.D., Chairman, or H. Verneuil, M.D., Secretary, Rue Royale 310, Brussels, Belgium.

Dr. Carl Gerhardt, an authority on pediatrics and also on pulmonary diseases, died on his estate of Damberg in Baden on July 21. He was one of the attendants of the Crown Prince Frederick and discovered the laryngeal growth to which his patient, then become German Emperor, succumbed. He was the editor of a handbook of Children's Diseases published in 1887.

Crusade against Malaria.—The New York Health Department has issued a circular for general distribution in the less thickly settled portion of the city, dealing with malaria and the means of its prevention. After a concise statement of the relation of anopheles to the spread of malaria, the circular continues: "To prevent malaria, therefore, we must either destroy the dangerous mosquitos or avoid their bites. In practice, both expedients are desirable. As the malarial mosquitos bite, as a rule, only at night, one will be usually safe by protecting his bedroom either with screens at the windows or a mosquito bar carefully arranged over the bed. Before going to bed one should kill all the mosquitos resting on the bedroom walls, in the closets or under articles of furniture, as the insects already in the room are most apt to give trouble. Moreover, all cases of malaria already developed must be carefully isolated under mosquito netting until pronounced by a competent physician to be cured. The other and still more important measure is to prevent the breeding of mosquitos in one's neighborhood. All mosquitos require standing water to lay their eggs in. To kill the mosquito larvæ, therefore, the rule is simple: No standing water. Where standing water must be had for washing or drinking, the top of the receptacle should be closely covered with wire gauze—not the smallest opening being left at the margin. When drainage cannot be made possible, the surface of the water should be covered with a film of kerosene oil. The oil may be poured on from a can or sprinkler. It will spread of itself. One ounce of oil to fifteen square feet of water is enough. The oil must be renewed about once a week during the mosquito season. Mosquitos do not fly far from their breeding places, and if all the householders in a given neighborhood will observe the simple rules given, experience has already amply proved that the results will be amazing. Persons keeping stagnant water on their premises are guilty of maintaining a nuisance, and it is the purpose of the department to proceed against all who neglect the warning of the department in this respect. Where large bodies of water, the drainage of which is too expensive for private enterprise, are in question, the department hopes to enlist the assistance of the proper city authorities, so that there need be no reason why the plague of mosquitos and malaria in the suburbs of New York should not be entirely removed. In order to make these recommendations effective, the city will be districted, and each district inspector will prepare a map, showing every pool or accumulation of stagnant water where the larvæ of the mosquito can grow. Richmond and Queens are already districted for this purpose, and action is taken by the department as fast as the reports of inspectors come in. The owner of each piece of property on which water is stagnant receives at once an order to abate the nuisance.

Complaints of British Transport Service.—Captain Shields, medical officer of a transport carrying returning troops from South Africa to Melbourne, has made a report in which he condemned the service in the strongest terms. He said that "the overcrowding of the ship was shameful and scandalous, and without consideration for health or loss of life. The air was poisonous and foul, and the decks were always wet, causing pleurisy and pneumonia." He said, further, that the supply of medicine on board was absurdly small, and that the condition of the ship was directly responsible for the epidemic and deaths on board.

A New Medical Journal.—The *Old Dominion Journal of Medicine and Surgery* is the name of a new periodical published at Richmond, and edited by Dr. Greer Baughman, assisted by Dr. A. B. Greiner. It is the official organ of the alumni society of the Medical College of Virginia.

News from Minneapolis.—Dr. William Asbury Hall, President of the Minnesota Medical Society, in an interesting address recently delivered before that society, gave utterance to the following curious statement: "The code of ethics of the American Medical Association is, in my opinion, a grand exposition of the principles of upright professional character, and it has been shown that those who oppose it are those who have never read it, or those who are governed by the spirit of commercialism. The spirit of commercialism caused the old New York State Medical Society to renounce it, and after a trial of eighteen years they have found that their action did not pay." We fear Dr. Hall has been misinformed as to the facts. We were not aware that the Medical Society of the State of New York was on the stool of repentance, but we are assured that the code of ethics of the American Medical Association is to be revised and amended. The news of this seems not yet to have reached the Falls of Minnehaha.

Dr. Florence Hull Watson, First Assistant Physician of the Delaware State Hospital at Farnhurst, formerly in charge of the Pathological Department of the State Hospital for the Insane at Norristown, Pa., has resigned to continue work in Europe.

The New Brunswick Medical Society.—The twenty-second annual meeting of the New Brunswick Medical Society was held in St. John on July 15 and 16. The attendance was the largest since 1895. The officers elected for the ensuing year were: *President*, Dr. G. A. B. Addy; *First Vice-President*, Dr. J. D. Lawson, St. Stephen; *Second Vice-President*, Dr. A. R. Myers, Moncton; *Treasurer*, Dr. G. G. Melvin; *Secretary*, Dr. J. H. Scammell; *Corresponding Secretary*, Dr. Clara Olding.

The American Association of Obstetricians and Gynecologists will hold its fifteenth annual meeting in the Convention Hall of the Hotel Raleigh, Washington, D. C., Tuesday, Wednesday, and Thursday, September 16, 17, and 18, 1902, under the presidency of Dr. Edwin Ricketts, of Cincinnati. The secretary, Dr. William Warren Potter, 284 Franklin Street, Buffalo, should be communicated with on all other subjects pertaining to the meeting. All physicians, and especially those in Washington and vicinity, are most cordially invited to the scientific sessions. The preliminary program contains the titles of forty-four papers.

A Wireless Ambulance Call.—While the *Kaiser Wilhelm der Grosse* was making her way to this port last week, one of the passengers was taken ill with symptoms of appendicitis. An operation was indicated, but as land was so near it was deemed advisable to wait until the ship arrived. Accordingly, a wireless message was sent while the boat was still fifty miles away, and in response to the call an ambulance was in waiting when the pier was reached. The patient, a son of former Prime Minister di Rudini of Italy, was taken to hospital, operated upon, and is now convalescent.

Cholera is spreading in Manchuria with alarming rapidity. The deaths at Kharbin, on the Eastern China Railway, number between 100 and 130 daily, chiefly Chinese. It is feared that the epidemic may reach Irkutsk and Vladivostock. The Russian sanitary precautions are wholly inadequate. A similiar report comes from Blagovestchensk, where between July 22 and August 3 there were 161 cases and 101 deaths, the medical resources being inadequate to cope with the epidemic. At Manila, on the other hand, the disease is rapidly subsiding since the temporary recrudescence of two weeks ago. Outside of Manila a total of 5,967 cases has been reported, with 4,290 deaths, since the epidemic began. In the city there have been 1,350 cases, with 1,100 deaths. The people in the small towns are very ignorant. They consider cholera a visitation of Providence and cannot be induced to take proper precautionary measures. Among those attacked have been two officers and sixty-two men in the army. Most of these cases occurred in Laguna and Batangas. The cause in the majority of instances was the drinking of infected water. A few cases were due to food, contaminated either by handling or by flies. In Samar and Loyto some cases are reported, but the disease has not spread widely. In the Camarinos Sur the epidemic seems to have been stamped out, but in Laguna and Batangas and the adjacent parts of the province of Tayabas, cholera has spread in virulent epidemic form, many case having occurred without report.

The International Congress for Improving the Condition of the Blind was opened in Brussels on August 6 under the patronage of the King of the Belgians and Duke Charles of Bavaria. There were many representatives at the Congress from the various European countries and elsewhere. The objects of the Congress were to examine into the best means of enabling the blind to gain a livelihood, and the methods of recreation adopted in various institutions, as well as the causes of blindness in populous centers and the best means of prevention.

The Board of Health on Public Baths.—A recent report to the Health Department, by Assistant Sanitary Superintendent Dillingham, says that investigation of the floating baths situated on the water front of this city shows that many of them are in an unsanitary condition, and are located near the mouths of adjacent sewers which cause the water to become contaminated with the sewerage. Previous investigation of the baths on the land show that many are kept in an unsanitary condition and that the water is not changed oftener than once or twice a week. These baths, Dr. Dillingham urges, should be directly under the supervision of the Department of Health, and he recommends that the Sanitary Code be amended to read that no baths be maintained in the city of New York or along the water front without a permit from the Board of Health.

Professor Albert von Kolliker, the anatomist, has resigned from the chair of anatomy at the University of Würzburg, which he occupied for fifty-five years. He is eighty-five years old, but still vigorous in mind and body.

The Leper Colony in Guam.—The Navy Department has received a report from Commander Schroeder, governor of the island of Guam, saying that the leper colony he proposed to establish would be ready for occupancy by July 1. It was supposed that the lepers had all disappeared from Guam, but investigation developed that many victims had been secreted by their friends in various parts of the island, and Commander Schroeder determined that they should be gathered in one place to prevent the spread of the disease.

The Colored Home and Hospital.—Permission has been granted this institution by the Supreme Court to change its corporate name on September 15th next, to the Lincoln Hospital and Home.

To Improve the Breed of Royalty.—A dispatch to a London news agency from Rome, probably manufactured for summer use, announces that the Pope has notified the Catholic reigning houses of Europe that no more dispensations for consanguineous marriages will be granted. It is the wish of the Pope, says the dispatch, that royal personages contract marriages outside of royal families in order to put a stop to the tendency to physical and mental decadency now so apparent. As there are but four thrones of any importance occupied by Catholics, the Pope's remarks, if he ever made them, might be regarded as somewhat personal.

A Muscular Surgeon.—Dr. Rorke, of St. Catherines Hospital, Williamsburg, was the other day on an ambulance with a patient in great straits, and in order to save a long detour attempted to drive through a street which was closed for repairs. There was room for the ambulance in the completed center of the street, but the foreman refused to remove the bar. Dr. Rorke then moved it himself and the foreman struck him, but was laid low by the surgeon, and the ambulance went on to the hospital. The law of necessity is superior to the law of street repairers.

An International Tuberculosis Congress.—An international conference on tuberculosis under the auspices of the Central International Office for the Prevention of Consumption, will be held in Berlin from Oct. 22 to 26. Each country has been notified of the approaching congress, and invited to send at least two delegates.

Obituary Notes.—Dr. BRUNELL of Montreal died suddenly in camp at Mountain View, N. Y., where he was passing the summer, on August 6. He was a graduate of the University of the Victoria College of Cobourg, Canada, in 1875.

Dr. HENRY DARLING of Washington died at his home at Brightwood, D. C., on August 7, aged fifty-eight years. He was a graduate of the University of Virginia, and of the medical department of the University of Maryland.

Dr. ERASMUS DARWIN BEACH, the oldest physcian in New Orleans, died there on August 6, aged eighty-seven. He was born near Cincinnati, was graduated in medicine at the Medical College of Ohio in 1842, went to New Orleans in 1846, and had practiced medicine for more than half a century.

Dr. JESSE BRADFORD LOSEY of Conesus Centre, Livingston County, died August 5, aged seventy-five years. Born at Dansville, N. Y., Dr. Losey was graduated from the medical college of the University of Vermont, and went to Conesus Centre, where he practiced his profession for more than forty years. During the civil war he served in the Twenty-second New York Cavalry, and rendered efficient services at the battles of the Wilderness and Malvern Hill.

Dr. ABNER M. MILLER died at Bird-in-Hand, Pa., on July 28, at the age of sixty-eight years. He was a graduate of the now-extinct Pennsylvania Medical College of Philadelphia, in the class of 1858.

Dr. J. AUBREY DAVIS died at Philadelphia on July 30 of meningitis complicating nephritis, at the age of thirty-seven years. He was graduated from the medical department of the University of Pennsylvania in 1887 and became a resident physician in the Philadelphia Hospital. Subsequently he was appointed a medical inspector of the Bureau of Health, continuing in this office until two years ago.

The Present Aspect of the Cancer Problem.—Roswell Park reiterates the fact to which he has more than once called attention, that there is no other disease characterized by progressive infiltration which has not a parasitic cause, or a parasite as a cause. He declares himself to be a most ardent advocate of the parasitic hypothesis. He describes a number of experiments by investigators which support this view. Czerny states that there is more reason for believing in the infectiousness of cancer than of leprosy. As to the relationship between cancer and tuberculosis, he says that one must admit that the tuberculous process is at least capable of acting as an irritation which, like any other continued irritation, may provoke epithelioma, while at the same time it probably also lowers local tissue resistance. Lubarsch found, by careful study of statistics, that from 4 to 5 per cent. of tuberculous patients suffer also from cancer, while about 20 per cent. of cancerous patients suffer from tuberculosis. These figures have been fairly confirmed by results obtained elsewhere by Zenker, Cordua, and Loeb.—*Medical Review of Reviews.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S CONVALESCENCE—REFORMING THE BRITISH MEDICAL ASSOCIATION—MIDWIVES' BILL—EGYPTIAN RESEARCH—THE ROYAL COLLEGES—CANCER RESEARCH—HOSPITAL FUNDS—OBITUARY NOTES—THE KING RECOVERING—CANCER RESEARCH—COLLEGES AND DEGREES OF LONDON UNIVERSITY ARMY MEDICAL MATTERS—HERBERT SPENCER ON VACCINATION—REGISTRAR-GENERAL—KING EDWARD'S HOSPITAL FUND—OBITUARY.

LONDON, July 18, 1902.

ON Tuesday the King was removed to Cowes, where he is enjoying the sea breezes and continues to progress rapidly. Could any case of the kind run a more satisfactory course? Of course, special arrangements had to be made for the journey, so that his Majesty might complete it in the recumbent position; but difficulties which would be insuperable for an ordinary patient were easily overcome for the King, and a bulletin was issued to say he had accomplished the journey without fatigue.

Residing on the royal yacht, the King has the full benefit of the sea, which he always enjoys. Each day his couch is carried on deck. His favorite spot is beside the great wheel on the quarter-deck, where he has a full view of the entire water-front from the pier at East Cowes to the castle of the Royal Yacht Squadron.

The weather has been favorable, though sometimes oppressively warm, but the royal invalid has not suffered from the heat. The wound is healing steadily, if somewhat slowly, and there has been no setback of any kind. Comfortable nights, with sound sleep, have been passed, the appetite has continued to be natural and the diet has now been increased and more varied. Altogether, the convalescence is uninterrupted and the condition of the King will no doubt be improved by the further rest and restricted diet which such a case necessitates, as well as from the freedom from social engagements and state cares. He has been able to give various audiences and to attend to the business involved in the change of ministers without fatigue. In fact, to the physician's eye, he looks better than for a long time preceding his illness. In view of this satisfactory progress the coronation has been provisionally fixed for the 9th of August, and the fleet is to assemble for a review in the following week.

At the approaching meeting of the British Medical Association the scheme for reorganization has to be submitted for final approval, and it seems likely that the discontent of some members will lead to lively discussion. The scheme has been worked at with much patience by the committee appointed to draw it up, and has been approved by many branches and at special general meetings.

But the malcontents say, "What are eighty-three votes out of thousands who could not attend?" Dr. Glover, who usually speaks with moderation, was moved to pronounce the new rules "fantastic, new-fangled, costly, and altogether degrading," and declared they would "add immensely to the combinations of the association and impose another set of masters on the executive."

That is a tolerably severe communication, but there are others who go further in their expressions of disapproval. It is a grievance with some that a good deal of money, they say about £2,000, has been expended on the elaboration of the scheme, and certainly much valuable time has been devoted to it by earnest reformers. A proposal to increase the subscription by four shillings per annum seems to irritate a good many, and others are specially annoyed that they are to be compelled to belong to a branch—many members having always been "unattached" to the local branches.

Apart from such minor objections, there is no doubt that the scheme involves a great dislocation of the existing organization, so that there is plenty of room for differences of opinion, and such differences were vigorously expressed at the meeting on the 9th inst.

Sir Victor Horsley and Mr. Whitaker, who have taken a large share in preparing the scheme, strongly urged its acceptance. Dr. Glover, who had previously offered no opinion, led off the opposition, and was seconded by Dr. Brassey Brierley, who has actively opposed it all along. The proposal to expend large sums on delegates who are bound to vote as directed in resolutions of their constituents was pronounced wasteful and useless, as the resolutions could, without cost, be inserted in the *Journal*. Annoyance was also expressed that with this meeting, called for two o'clock, a council meeting should also have been called for three o'clock, as if the old tactics of the wire-pullers had been resumed with a view to hustling the general meeting

The Midwives' Bill has passed the Lords with slight amendments, and, for good or evil, we must now abide by it. The apathy of the profession has allowed a new order to be organized and has retained practically no control over it. The Medical Council is, indeed, to have the regulations of the Midwives' Board submitted to it for consideration, but the Privy Council need not follow its advice. Perhaps this may be no great loss, for the Council has all along failed to appreciate the efforts of the new competition. The main purpose appears, at first, simply to register midwives so as to distinguish qualified from unqualified. But a period of grace of eight years is allowed for any one to obtain a certificate, and in the meantime to practise without one The tendency of the new order will, in time, lead to the claim to be the principal or even sole practitioners of midwifery, and yet these women are only to have a short training in this branch. Thus the medical acts which required practitioners to be qualified in medicine, surgery, and midwifery, are to this extent set aside and partial qualifications recognized for women. At the same time, the medical assistant who has completed his hospital curriculum, but has not obtained a diploma, is left in his anomalous position, and cannot attend a case except under the supervision of his principal. The women have, indeed, scored a triumph, but whether for the public good may be well doubted.

A very interesting exhibition has been held at University College, representing the Egyptian research of the year, carried out by Professor Flinders Petrie and Drs. Grenfell and Hunt. Their explorations seem to connect prehistoric with historic times, the objects showing continuity from the last stages of the prehistoric age to the period of the royal tombs.

Some of the most interesting finds are manuscripts. Old letters, bills, receipts, etc., seem to have been used to stuff animals that were to be preserved, and some of these papyri have been deciphered. Mummies of men, children and animals, with many toys, personal ornaments, portraits on wood, statues, etc., already explored, have been brought over from the tombs. Perhaps the most striking object in the collection is a "Panama hat" which is not Panama, having been made so many centuries before the discovery of the New World, though its texture is equal to the finest example of modern workmanship.

The College of Physicians has a sum of over £100 remaining from preparations for the coronation. This is to be put aside as a nucleus of a fund for a portrait of the King (honory fellow of the College). At the annual meeting of the fellows of the College of Surgeons for the sixth time, there was no quorum.

The two colleges have let a part of their joint laboratories to the Army Medical Department for three years at the substantial rent of £1,050 per annum.

The Cancer Research scheme of the colleges has been approved by both. It will encourage and assist cancer research in the British Empire and provide for systematic investigation into the causes, prevention, and treatment of the disease.

The Hospital Sunday Fund now exceeds £45,000, and some returns have yet to be forwarded. There is no hope of the amount reaching much over £60,000, even if that amount be secured.

St. Thomas's Hospital will benefit under the will of the late Charles Gassiot by about a quarter of a million sterling.

Mr. Chamberlain's wound healed well, and he has resumed his work.

Dr. Alexander Marsden died on the 2d instant, aged seventy years. His father, Dr. William Marsden, founded the Cancer and the Royal Free Hospitals. These institutions have also enjoyed a large proportion of the work of the son. He was on the committees of management, a trustee surgeon, and later consulting surgeon to each In his early days he served in the army, was in the Crimea. at work in the trenches, and one of the first to enter Sepastopol.

The death is also announced of Dr. H. T. Parker, Principal Medical Officer of the Prisons Department, Cairo. He was M.D., B.S., Lond. D. P. H., etc., and only thirty-three years of age.

Another young physician of great promise was Dr. E. de la Fosse Bond, an Oxford graduate, who died at the Fever Hospital on the 1st instant, from scarlet fever contracted in the course of his duties. He was only twenty-eight years old, had had a distinguished career at the University, and was very highly esteemed by his many friends.

LONDON, July 25, 1902.

"THE King continues to make uninterrupted progress." That is the opening statement of yesterday's bulletin, which goes on to say that "although he is not yet able to leave his couch, his strength is returning satisfactorily." Only two bulletins are now issued in the week, a fact which of itself is significant of good progress. Granulation is going on well and the general health is all that can be desired. His Majesty's couch is wheeled on deck whenever the weather permits, and it has permitted it on most days this week. Yesterday it was expected a short cruise might be taken, but the Royal yacht did not leave her moorings. Preparations for the coronation on the 9th prox. are being actively pushed forward.

The Middlesex Hospital is taking advantage of the interest aroused in cancer research to appeal for funds to reinforce the work done in their own cancer department. This department was founded more than a century ago with the twofold object of providing for cancerous patients and to investigate the nature and cause of the disease. Forty-five beds are maintained for advanced cases and many others are treated in the wards or as out-patients. About two and a half years ago a new wing was built and equipped and further provision made for laboratory research. The work is well organized, and for more than two years has been under the direction of Mr. A. G. R. Foulerton. A report on this work is in the press. There is an opportunity of extending the laboratory accommodations and increasing the staff, and the managers ask for subscriptions of some £2,000 a year for about ten years to enable them to take full advantage of that opportunity. Toward that sum the governors have already been promised upward of £700 a year, chiefly through the instrumentality of Mr. Pearce Gould, who is surgeon to the hospital. The work proposed to be done does not conflict with the scheme which is being organized by the two Royal Colleges of which I have already given you some account. The fact that the hospital provides so much clinical material for study, and that its staff will work hand in hand with the laboratory staff, distinguishes the cancer department of the Middlesex Hospital, and I should hope that their appeal for funds will be well responded to.

Sir H. G. Howse has been re-elected President of the Royal College of Surgeons. He stated at the quarterly meeting of the Council, on the 10th inst., that at the next meeting a report would be submitted by the committee appointed to receive a deputation from the association of members and licentiates of the two colleges. These gentlemen are anxious that as holders of the double qualification the colleges should endeavor to effect some kind of combination with the newly constructed University of London, so that they might have the degree of doctor. There is a good deal of force in the contention that the double qualification of the colleges, is just as good, so far as examinations go, as the university degree. Yet the doubly qualified gentlemen cannot call themselves "doctor." It is one of the results of the variety of our qualifications. We have licentiates, members and fellows of colleges on the one hand; on the other, bachelors and doctors of the universities. The former think that the title of doctor gives an advantage with the public which is not deserved, and, as their cirriculum is concluded, they cannot even present themselves for examination at a university for the doctorate. The London University, which has been hitherto merely an examining board, has so arranged its regulations that only students who knew all about it and determined at the outset, could obtain its degrees. A qualified practitioner, who wanted to take its degree, would have to begin his cirriculum over again, as no study would be recognized until after the preliminary examination had been passed. One or two men have gone back to their school studies and passed the preliminary and then gone over their hospital career again—more or less perfunctorily. But it is impossible for many to do this, and it is by such regulations and excessive examinations that the university tried to make its degrees esteemed. That is the chief reason why some of the greatest of our medical leaders were never graduates of London. Now that Latin as well as Greek is to be dispensed with, it would seem reasonable to admit to examination men whose education is complete.

It may interest you to hear that Sir William Taylor, Director-General of the Army Medical Department, is inclined to follow the example of some foreign services by issuing a journal. He has inquired by a circular the opinion of his officers by way of estimating the support that might be reckoned on. There are many officers, I believe, who would be glad to contribute valuable papers. Not a few such papers have been, so to say, buried in the blue books of the department, and remain practically unknown except to the few who carefully read their appendices to the annual reports. Of course, if properly edited, the new journal would contain full information on all subjects connected with military surgery, medicine and hygiene, and would keep up the interest of officers in the general progress of medical science.

I would suggest that it would be as well to include the Sister service and so produce a journal which should represent the scientific and practical work of both the military and naval services.

The recent examinations for the army medical service was really competitive, over seventy candidates coming forward for thirty-two places.

There is no further announcement as to the great Netley School. The establishment of the Medical Staff College in London must render it unnecessary to keep up the school at Netley, although the hospital will remain. Perhaps the professors will be transferred to London, a plan which would secure continuity in the work. Earl Roberts is to distribute the prizes on Tuesday next. Perhaps he will make some announcement.

A great many people exhibit considerable hostility to sanitary measures. No doubt, in many cases, because they touch the pocket. But some I have met with say they are actuated by their love of liberty, and they hold that sanitarians are always restricting the liberty of the individual. It seems rather unreasonable of them, but they may now quote a philosopher in their support. Mr. Herbert Spencer in his new book "Facts and Comments," puts the sanitary class with the military and clerical classes and holds that the sanitarians have an interest to keep up, just as he thinks the army and navy exist for the benefit of officers and the church for that of the clergy. I am not sure it is merely sanitarians he objects to, I rather think he is prejudiced against the whole body medical. He is almost, if not quite, an anti-vaccinationist, and that on grounds which seem no more satisfactory from a philosophical point of view than from the aspect of "Facts" to which his "Comments" are altogether opposed. He assumes that "interference with the order of Nature has various sequences other than that counted upon," which is not worth while to dispute. Then he goes on to say that "the assumption that vaccination changes the constitution in relation to smallpox, and does not otherwise change it, is sheer folly." That may also be granted, but the philosopher should remember that such change as he declares must take place cannot be injurious, since millions who have been vaccinated have not only escaped smallpox but have enjoyed healthy lives afterwards. This is a "fact" on which he might well "comment." His confidence in his own knowledge of medical questions is as full as that of the man in the street and his assertions almost as authoritative. He talks of measles and influenza in a way to make epidemiologists laugh. He assumes they have become more serious in the last half century, and implies that this may be due to vaccination having produced a relative debility of constitution. The suggestion reminds me of a gentleman who labored hard to persuade people that the potato disease was produced by laying down railways.

The vacancy in the office of Registrar-General has once more been filled by the appointment of a politician instead of a scientific man. A relative of Lord Iddesleigh was given the post two years ago to the disgust of the profession. He is now made under-secretary for Scotland, for which possibly he may have some qualification. But the assistant under-secretary, who also might have been qualified for promotion, is brought to London to be Registrar-General. Is it not "very like a job"? The experience of an under-secretary is no qualification for such an office as the Registrar-General. It is true that he need not trouble himself, as the staff is thoroughly efficient. But then why should not the chief of the staff be promoted. If not let the office be abolished rather than remain a sinecure for political aspirants.

The King's Hospital Fund has received £10,000, being a coronation gift sent to His Majesty by Mr. R. Lucas Tooth of Australia.

Dr. Stiven of Harrow died on the 12th inst. of acute pneumonia. He took an active part in municipal matters in Harrow, where he was much appreciated for his good works, both public and private. He was only fifty-one years old.

Mr. J. E. Edwards, who died on the 9th inst., at Eastbourne, had reached the age of ninety.

Surgeon Lieut.-Col. McKenna, I.M.S. (retired), died in France on the 4th inst., aged sixty.

HOSPITALS AND CHRONIC CASES.

To the Editor of the Medical Record:

Sir: It is of very frequent occurrence that patients suffering from chronic or incurable diseases are refused admission to the various private hospitals in this city. The public at large not familiar with hospital work may condemn the action of the hospital authorities who are sometimes obliged to send patients back in the very conveyance in which they are brought to the institution, not aware that the hospital may be overcrowded, and that, perhaps, fifty or more urgent cases are on its waiting list; and that by admitting a patient suffering from chronic disease a great injustice would be done to those who could be benefited or cured in the hospital within a short time, while the chronic patient may occupy a bed for months, and keep away ten other patients within this period.

While a good many physicians in this city are thoroughly acquainted with these facts, and act accordingly, there are many, however, who ignore the existing conditions, and frequently send to hospitals patients in the last stages of phthisis, nephritis, diabetes, and other similar diseases. When a patient in such a condition arrives at the hospital he is, of course, examined, and if found in an extremely weak condition or, as often happens, pulseless, the institution is compelled to admit him without question. I am cognizant of instances in which physicians have boasted to friends of their patients that it was only through their influence that the patient was kept in the hospital.

If a physician feels thoroughly convinced that even a chronically sick person is a suitable hospital case, it is his duty to communicate with the hospital authorities before sending his patient to the institution. This would save physician, patient, and hospital officials unnecessary and unpleasant anxiety and trouble; general hospitals are primarily for the acutely ill; this is the keynote of my letter.

G. A.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 7, 1902.

A Variety of Skin Lesions Treated By X-Ray.—Edith R. Meek reports a case of lupus vulgaris, another of hirsuties, and a third of excema, treated successfully by the use of the *x*-rays.

Electricity: Its Use in Gynecology.—W. H. White gives a brief historical sketch of the uses of electricity in gynecological practice, and enumerates the different forms of electrical apparatus employed at present. For the purpose of faradization he recommends the use of a high-tension coil like the Kidder coil, or a set of those called the "Engleman coils." The galvanic apparatus that he uses is an office cabinet connected with the street current and controlled by lamps, besides being fused. In addition to these two forms of apparatus, the sinusoidal and the static machine are considered useful. The principal disorders in which electricity in its various forms may be applied are amenorrhea, menorrhagia, metritis, ovarian inflammations, and salpingitis. In most cases of tumor surgical treatment is regarded as preferable to electrolysis.

Multiple Fibroids of the Uterus.—Samuel Breck describes a specimen of multiple fibroids obtained by autopsy from an unmarried negress. The largest of the tumors, the size of a small watermellon, had become cystic and had ruptured into the peritoneum in its upper and posterior portion. The opening was sealed by exudate at the time of the autopsy. The tumor and the abdomen were full of rather thin greenish pus, in quantity about half a pailful. The tumors and the peritoneum were covered with a recent fibrinous exudate. In addition to the main tumor, which was pedunculated and rose to the epigastrium, were numerous small ones, varying from the size of a cherry stone to that of an orange. They were subserous, the uturus being but little enlarged. The tubes and ovaries were healthy. As a rather rare complication there was complete prolapse of the vagina, with elongation of the supravaginal cervix. The prolapse had evidently been of long standing, as the original wall was much thickened and showed ulceration.

Journal of the American Medical Association, Aug. 9, 1902.

Results Obtained in the Treatment of Acne by Exposure to the X-Rays.—R. R. Campbell reports fifteen cases of acne treated with uniformly good results by the *x*-rays, a medium soft tube with weak light being used. None of the patients were subjected to either internal treatment or external applications while under exposure to the rays.

Plastic Surgery of the Female Urethra, with a Report of a Unique Case.—Henry P. Newman reports the case of a woman who, as the result of a difficult labor two years before, suffered an extensive tear of the bladder floor and complete obliteration of the urethral tract, which was laid open the entire length. When seen by the writer, she had a veritable exstrophy of the bladder, the walls of which were inflamed and thickened. No trace of the urethra could be made out. The small, hyperinvoluted uterus was deformed by tears and resulting scars, the cervix drawn forward and downward by the large cicatrix in the small vagina. Three attempts were made to reestablish the urethral canal by taking flaps from the vulva on either side and suturing them after splitting the bladder and vaginal wall. The results having been only partially successful, the author proposes, in another case presenting all the formidable features of this one, to operate in this wise: After the opening of Douglas's culdesac the tubes and ovaries are ligated with catgut and severed, and as much also of the broad ligament as is necessary to allow of the uterus being turned downward through the posterior vaginal opening and sufficiently inverted to close the gap in the floor of the bladder. The mucous and serous surfaces coming in contact with each other and intended for approximation are denuded and stitched together by interrupted silkworm-gut sutures. An opening is made through the wall of the uterus into the uterine cavity at a point corresponding with the location of the external meatus and a retention catheter inserted up through the dilated cervical canal into the bladder. The parts are approximated with sufficient firmness to prevent leakage from the now fully-constructed bladder. The vagina is loosely packed with iodoform gauze; permanent drainage is established by means of the catheter. The newly-formed bladder is washed out with a saturated solution of boric acid every eight hours and the external parts bathed with the bichlorid solution, followed with sterile water, and dusted with aristol or some antiseptic powder.

Medical News, August 9, 1902.

Physiology of the Pancreas.—Russell H. Chittenden says that as one scrutinizes the various results obtained by many investigators during the past few years, it seems probable that in the pancreas there must be certain specialized cells which manufacture an internal secretion; something which exercises a controlling influence on certain lines of metabolism in the body. When it is wanting, disturbance and distortion of the nutritional rhythm result. But while the pancreas has a marked effect on the metabolism of carbohydrate matter, and while disturbance of the gland, or any insult offered to it may result in temporary or permanent glycosuria, there are indications that some forms of so-called pancreatic diabetes are to be explained, not through a simple disturbance of the pancreas, but rather as the result of a physiological disturbance of the inter-relationship of several allied glands or structures.

Report of Two Cases of Temporary Hypertrophy of Glands of the Skin of the Axilla in Puerperæ.—C. S. Bacon has had two cases of swelling in the axilla appearing about the third day after labor. In the first case there were two masses, apparently in the skin; the axillary mass measured about one and one-half inches from side to side, and about two inches from below upward. The mass on the front of the chest over the pectoral muscles was about three inches broad from side to side, and two inches from below upward. There was very little discomfort, and it disappeared in three or four days. The second case was almost identical with the first, except that it disappeared five days after it was first noticed, on the ninth day of the puerperium, and then reappeared two days later, to remain several days more. Both cases were primiparæ. The The condition appears to be a hypertrophy of certain sepcialized sweat glands of the axilla that produces these masses in the skin.

Some Aspects of the Pathology of the Pancreas from the Standpoint of Recent Investigation.—George Blumer states that the work of Opie, and of Wright and Jeslin, has shown that in a certain proportion of cases of diabetes the islands of Langerhans are extensively changed, while the great mass of the gland is to all intents and purposes normal. It may be that the older writers who described the pancreas as without lesion in diabetes, failed to take these changes into account. On the other hand, the pancreas may be extensively destroyed without the occurrence of diabetes. This, according to Opie, is because there are two classes of pancreatitis—the interlobular and the interacinar. In the former, even when extensive, the islands of Langerhans are not involved. In the interacinar form they are gradually encroached upon and destroyed by the newly-formed connective tissue, but even here it is only late in the disease that they become extensively involved. It is, however, evident that the study of the islands of Langerhans in diseases of the pancreas, and in diabetes particularly, is yet in its infancy, or at least in its childhood, and it is reasonable to hope that further study will render still more clear this hitherto obscure field.

Note on the Administration of Water in Disease.—G. Frank Lydston concludes that while the ingestion of large quantities of water in various affections is often of great value, the treatment is sometimes extremely detrimental, causing impairment in the nutritive value of the blood by the relative hydræmia produced, disturbances of the circulatory and nervous systems, and serious digestive disturbances, involving impairment of the secretion and composition of the gastrointestinal juices, and gastromotor insufficiency. Œdema and anasarca, while often relieved by the free ingestion of water, are not infrequently increased by it. Renal water habit may develop, by virtue of which the kidney becomes permanently sluggish, unless it receives its wonted stimulus of large amounts of water. Acute and chronic inflammatory affections of the kidney are sometimes aggravated by giving water in excess, simply by overworking the renal organs. Inflammatory affections of the lower portion of the genitourinary tract are often deleteriously affected by excessive water drinking, through the mechanical disturbance necessituated by the resultant frequent and copious micturition.

New York Medical Journal, August 9, 1902.

Artificial Respiration in an Asphyxiated New-born Babe.—George W. Greene has devised a simple instrument, which consists of a rubber-bag with one-half of a rubber ball on the nozzle. To excite respiration in a case of asphyxia the ball is applied to the mouth of the baby, whose nose is held, and the bag is squeezed repeatedly until the lungs are filled.

The Vaccination Question.—Theresa Bannan thinks that, in spite of a century of evidence of the protective power of vaccinia, it is safe to say that not 1 per cent. of the children coming under the notice of the public vaccinator would be vaccinated were they not required to give evidence of its successful operation before they were admitted to school. Many parents object to it on the ground that they have known, or heard of, cases of disease or death which have followed the operation; others are opposed to revaccination. The paper deals chiefly with the various kinds of vaccine virus the writer has used and the method of performing vaccination.

The Successful Treatment of Hay Fever.—J. Wilkinson Jervey considers that the disease can be controlled by the removal of the three essentials that form the tripod of its existence, *viz.:* (1) A peculiar nervous susceptibility; (2) Some abnormality (a hyperæsthesia or a malformation, or both), perhaps apparently ridiculously trifling, in the nasal structures; (3) The presence of some individually irritating substance in the atmosphere. The local treatment advised is the application of an aqueous solution of suprarenal extract after a thorough spraying with an alkaline antiseptic solution alternately with a 10 per cent. solution of cocaine. A drop or two of the suprarenal solution may also be instilled into the conjunctival sac. The after-treatment, carried out by the patient himself, consists in spraying the nose three or more times a day with Dobell's solution, and in the internal use of three grains of suprarenal extract every three hours. The bowels should be kept very regular, and the diet should be simple. An excellent tonic and nerve food is the elixir of glycerophosphates of lime and soda.

A Fluoroscopic and Percussion Sign of Pleuritic Effusion Hitherto Undescribed; Report of Two Illustrative Cases.—Charles Lyman Greene presents a preliminary report, which is in brief as follows: (1) In unilateral pleural effusion the heart border corresponding to the opposite side shows a marked change in position as between full inspiration and full expiration, when the patient is sitting or standing erect; (2) This is easily demonstrated by percussion, sustained by the evidence afforded by inspection and apex auscultation, and absolutely confirmed, if necessary, by the fluoroscope; (3) Such a range of excursion does not occur in the normal chest or in those conditions likely to be confounded with pleuritic exudation; (4) The technique consists simply in percussing the free cardiac border in full inspiration, and again in forced expiration, with the patient in a standing or sitting posture, and noting the change of position. The border will be displaced outward by the expiratory movement; (5) Percussion of the upper border of flatness posteriorly shows a well-defined rise of the fluid in full expiration coincident with the outward displacement of the heart.

American Medicine, August 9, 1902.

A Case of Secondary Anæmia of the Pernicious Type Associated with Marked Jaundice; Rapid Recovery.—Eleanor C. Jones reports a case which is of interest because of the remarkable rapidity with which the alarming symptoms and grave anæmic changes in the blood developed, and because of the equal rapidity with which restoration was accomplished. The patient was admitted to the hospital January 10, and was discharged after an illness of only two months, the blood in that short time having undergone deterioration to a point that gravely threatened existence, and having afterward become so nearly perfect that on her discharge from the hospital, March 13, all the functions of life were properly and easily performed. The case is also interesting and unusual because of the grave and pernicious type of anæmia and other severe constitutional symptoms following in a case beginning as a simple one of catarrhal jaundice.

The X-Ray Treatment of Carcinoma.—Wallace Johnson and Walter H. Merrill report sixteen cases of carcinoma treated regardless of their length of existence, extent of tissue involved, and previous treatment received, and of these, ten patients, or 62.5 per cent. are apparently cured. In addition, four cases show improvement, and three of these give promise of ultimate recovery under further treatment. Only two cases failed to derive benefit from the treatment other than a leviation of pain and diminution of discharge. Seven additional cases of carcinoma were treated, all of which were classified as inoperable by the surgeons who referred them for treatment, and these merely had relief from pain—probably a temporary delay in the final fatal termination. From the table submitted it is seen that lupus vulgaris and superficial epithelioma or rodent ulcer hold out every prospect of complete cure by this treatment, whereas the deeper-seated carcinomas are at best merely relieved of pain and forcibly retarded in their progress. Fibromas show no change at all.

Epiphenomena of Cerebral Hemorrhage.—F. Savary Pearce describes the epiphenomena of the attack itself are the great arhythmia of the heart, and disproportionate high temperature on the paralyzed side of the body in cases of hemiplegia following apoplexy and continuance of extreme mental depression with lacrymosis. Sensory paralysis may persist on the palsied side, and there may be acute or chronic Bright's disease. No matter how apparently well the patient becomes after cerebral hemorrhage, it should be insisted upon that he is a disabled person, and must be cautious in conserving energy, especially of brain work. There should be interrogation as to specific disease, since these are the most fortunate cases in prognosis by the persistent use of iodides and mercury bichloride. The patient with fairly good arteries and nutrition passing the fifth year after the "stroke" will probably survive many years with the hemiplegic disability, provided the greatest care in hygiene is maintained. Occasional venesection is of value in preventing relapse. The frequent use of Kissingen or Carlsbad salts is of value through the depleting effect upon the overloaded blood vessels. Nitroglycerin, and static electricity dilate the vasomotor system and relieve the embarrassed circulation. Massage, hot baths, and Swedish movements, accompanied by the long spark of the static current, relieve the painful condition in the paralyzed parts due to an arthroneuritis.

Philadelphia Medical Journal, August 9, 1902.

A Case of X-Ray Dermatosis.—Linnaeus H. Prince described three attacks of dermatitis produced on his left hand by the use of the *x*-rays in examinations. Whatever the cause, there appears to be present a disturbance of the nutritive function of the part, associated with a chronic fibrosis in the tissue of the true derma. The later appearing desquamation was a part of the general process, from the changes in the nutritive areas of the skin. Local tissue necrosis with ulceration has never been a part of the process. Two attacks subsided while exposed to the influence of the conditions which induced them. Quite recently the author subjected both hands to the action of an excited Crookes' tube, and at once noted a sensation of irritability in the diseased member, while its fellow was uninfluenced.

Ascites with Abdominal Tumors.—A. Lapthorn Smith thinks that we may have ascites caused by an abdominal tumor in one or both of two ways: First, the tumor may be solid enough and free enough to rest upon the inferior vena cava and cause obstruction or back-pressure sufficient to cause serum to exude through the walls of the veins; or if the tumor is malignant it quickly affects the liver by metastasis and blocks the portal circulation, as well as the inferior vena cava passing behind it, causing back-pressure and exudation of serum from both the veins of the stomach and intestines, as well as from the inferior vena cava and its branches. The other explanation is that there is some irritant poison given off by a diseased ovary which either increases the secretion of the peritoneal surfaces or closes the mantles of the absorbents, which under normal conditions are able to carry off large quantities of serum in a few hours. The author agrees with Osler as to the importance of looking for an abdominal tumor in cases of ascites.

The Normal Third Stage of Labor, with Special Reference to Its Management.—Rudolph Wieser Holmes believes that in the management of the third stage we must adopt a compromise between the purely expectant and the Credé methods. The child is disposed of, the buttocks, vulva, etc., cleaned with antiseptics, fresh linen placed under the patient, and a sterile pad applied to the vulva. The cord is placed over one groin, the thighs being closely apposed to keep air from the vagina and promote retention and clottage of blood. The pulse is watched and the hand placed lightly on the uterus. In from 10 to 30 minutes, exceptionally an hour or more, the fundus will rise, and the cord advance. Now the placenta is outside the uterus, and further advance is to come from abdominal pressure, which is an uncertain factor. Vulva and vestibule are rendered sterile, and bladder emptied. The uterus will take a position in midline, or be brought there. Four fingers pass behind it, and raise it until its long axis is perpendicular to the plane of the brim. When it has reached the acme of its hardness, the thumb is flexed, which permits the hand to firmly hold the uterus, and with a downward movement the placenta is forced out by the upper segment, telescoping the lower. If this procedure is not hurriedly carried out the membranes will slowly escape.

The Lancet, August 2, 1902.

Chronic Sphenoidal Suppuration: Some Observations on Operation and Cicatrization.—David McKeown discusses the question as to what is the condition of the sphenoidal sinus when as the result of treatment it has ceased to be a discharging cavity. As a result of his experience with three cases in which he removed, in addition to the whole of the anterior wall, as much as he could of the floor, he has come to the conclusion that one cannot be sure that no secretion is penned up either in anatomical pockets or cicatricial pockets—*i. e.* pockets formed by the coalescence or contract of opposing granulations leaving cavities behind unlined by dry membrane. A cure may not thus have been effected, although for a considerable period there has been no discharge from the sinus.

The Simulation of Acute Peritonitis by Pleuropneumonic Diseases.—H. L. Barnard discusses the symptomatology, diagnosis, and pathology of a class of cases in which it is easy to mistake thoracic for abdominal disease. This deceptive likeness of two diseases is not of purely theoretical interest, for a mistaken diagnosis is often followed in such a case by an unnecessary operation. The thoracic diseases which can give rise to such severe abdominal signs as to simulate peritonitis are all situated in the lower part of the chest, either in the base of the lung or the adjacent pleura—diaphragmatic or parietal. Three of the author's cases were those of pleuropneumonia of the base of the lung, involving the diaphragm. Two were cases in which apparently a tuberculous focus in the apex of the lower lobe ruptured into the pleural cavity, producing pyopneumothorax. One case was most interesting in that the pleurisy was traumatic, due to a localized injury and associated with broken ribs; it was recognized, and yet the abdomen was opened, so definite were the abdominal signs.

Purpura Fulminans Following Scarlet Fever.—Herbert E. J. Biss gives a summary of the clinical and pathological features of a case of this kind, interesting not only because of its great rarity, but also on account of the difficulty of distinguishing it from hemorrhagic scarlatina. The child had a very severe attack of scarlet fever, which did not present any unusual features, and convalescence appeared to be established. He still had some ulceration of the soft palate, but the other symptoms had either passed off or had much abated, the temperature was settling down, and he was bright and comfortable. At this point cutaneous hemorrhages in enormous abundance took place, accompanied by hæmatemesis, bloody stools, and oozing from the gums. In thirty-six hours from the appearance of the first hemorrhages he was dead. The chief feature of the post-mortem examination was the state of the kidneys. These were transformed almost entirely into fat, a small blood clot being found in the calices. This blood clot must have been very recent, as none was found lower down the urinary tract, even the urine in the bladder being free from blood.

Deutsche medicinische Wochenschrift, July 17, 1902.

Surgical Treatment of Pulmonary Ulcerative Lesions.—Rudolf Riegner says that of all pulmonary ulcerative lesions, acute and subacute gangrenous processes are the most suitable for operative treatment. However, the lesion must be circumscribed, not multiple and located near the surface of the lung. Simple abscesses do not, as a rule, require surgical treatment. Chronic gangrenous, bronchiectatic, and tuberculous deposits, on account of their multiplicity, are not usually suitable for pneumotomy. For operative treatment an accurate diagnosis of the location of the lesion is absolutely necessary. In the absence of cavity signs such a diagnosis is possible if the three following conditions are established: (1) A circumscribed area of dulness surrounded by normal resonance; (2) the presence of shreds of lung tissue in the expectoration; (3) a Röntgen picture which shows a circumscribed lesion. Nine cases are reported in detail.

Massage and Leucocytosis.—Erik Ekgren has observed the effect of massage (general and abdominal) upon the number of leucocytes in the peripheral blood. The observations were made upon nine persons. Five of these received general and four abdominal massage. In all of the cases the leucocytes were increased in number (from 8.3 to 15.5 per cent.) following the treatment. As a rule, the increase reached its maximum ten minutes thereafter. In a few instances this period was increased to 20 or 25 minutes. The multinuclear leucocytes showed the greatest increase in number. Usually the most pronounced increase was observed following abdominal massage. It is, of course, impossible to say whether the number of leucocytes is actually increased or whether the cells are forced in increased numbers from the center toward the periphery of the body as the result of the massage, but the author is inclined toward the former view.

Septic Endocarditis Successfully Treated by Silver Injections.—C. L. Klotz reports a case of septic endocarditis, following a rheumatic attack, which was successfully treated by intravenous inoculations of silver. Three inoculations were given in an amount of 9.9 and 7 centigrams, respectively, in a 1 per cent. solution. At the time of the first inoculation the temperature was 39.2°C., and the pulse not countable. Two hours thereafter the temperature was 38.2°C., and the pulse 112. The improved condition lasted for about twenty hours when the alarming symptoms returned, and the inoculation was repeated to be followed by a similar favorable result. At the end of the next twenty-four hours a slight relapse occurred, the pulse reaching 98. The final inoculation given at this time sufficed to permanently relieve the symptoms. In view of the high mortality of this disease, the results obtained in this case are thought to be of the greatest interest.

Berliner klinische Wochenschrift, July 21, 1902.

Tetanus from Subcutaneous Injections of Gelatin.—Paul Krause reviews the literature relating to the development of tetanus following subcutaneous injections of gelatin which have been employed for therapeutical purposes. It is evident that such tetanus-infection is due to an insufficient sterilization of the gelatin used. The only method by the means of which a gelatin solution can be surely sterilized is that in use in bacteriological laboratories for the sterilization of culture media. This is known as the fractional method, and consists in exposing the gelatin to a temperature of 100° C. for half an hour on each of five successive days. This method should be employed in all hospitals and by all druggists for the sterilization of gelatin solutions for subcutaneous injections.

Topical Diagnosis of Ulcers and Tumors of the Stomach.—Karl Glaessner draws attention to the fact that both pepsin and the milk-splitting ferment are secreted in the fundus of the stomach, while in the pylorus only the former is produced. Observation has shown that this fact may be utilized in the topical diagnosis of ulcers and tumors of the stomach. The usual test meal is given and the stomach contents tested for the presence of these ferments. If both pepsin and the milk-splitting ferment are reduced in amount the fundus is the portion involved, while if pepsin only is reduced the pylorus is the seat of the lesion.

Münchener medicinische Wochenschrift, July 22, 1902.

Loss of the Patella Reflex in Lobar Pneumonia in Children.—Meinhard Pfaundler has examined fifty-five cases of lobar pneumonia occurring in children under ten years of age with respect to a loss of the patella reflex. In children of this age who are attacked by lobar pneumonia this reflex is very frequently reduced or entirely absent. Oftentimes this sign is present before the appearance of characteristic local symptoms. In positive cases it is of great value in the differential diagnosis between meningitis and lobar pneumonia.

Myxoma of the Ovary.—Carl Hennig reviews the symptomatology of the sixty cases of gelatinous cysts of the ovary which have hitherto been reported, and adds the personal observations of another case. The patient was sixty years of age and had suffered with the tumor for about seven months. Pain was a prominent symptom, and in this respect the case differs from the majority of those which have been observed. During the operation the cyst was broken and about six liters of gelatinous material thus evacuated. It was found impossible to remove all of the cyst wall, and hence the wound was loosely packed with gauze and allowed to drain. Recovery followed, and no recurrence has as yet taken place, the operation having been done in October, 1901. The gelatinous material evacuated contained many plasma cells and hyaline bodies.

French and Italian Journals.

Syphilitic Genital Chancre.—Renault states that the diagnosis of syphilitic chancre is far more difficult in reality than at first appears. The more one sees of chancres the more does their diagnosis seem beset with difficulties. In a great number of cases, therefore, it would be prudent to reserve judgment on the nature of the lesion, until the diagnosis can be made with absolute certainty. The author then reviews certain anomolous forms of the chancre. The characteristics of the classical lesion are superficial loss of substance, a rose-colored base with a slight secretion resting on an indurated zone.—*La Tribune Médicale*, June 9, 1902.

The Intravenous Injection of Oxygen in Man.—F. Mariani, from his experimentation, concludes: (1) That oxygen injected into the veins is completely absorbed by the red blood cells, and therefore does not cause gaseous emboli; (2) The injection should be done slowly, so that not more than 500 c.c. of oxygen will be injected in the course of an hour, in order that all of it may have time to be absorbed; (3) Intravenous injections of oxygen are indicated in all cases in which pneumatosis is threatened, their immediate and pronounced action being due to the increased production of oxyhæmoglobin.—*La Riforma Medica*, July 19, 1902.

The Poison of Glanders.—From his researches Angelo Marc-Antonio reaches the conclusion that the serum of animals suffering from acute glanders, from which the bacilli have been removed by a Chamberland filter, does not, when injected in healthy animals, provoke the formation of specific nodules in the parenchymatous organs. This is the opposite of what occurs in tuberculosis. But it does cause fatty degeneration of the liver, interstitial pneumonia, and a destruction of red blood corpuscles, as shown by the accumulation of hematic pigment in the spleen. Therefore it is evident that in contradistinction to the dead bacillus tuberculosis, which can reproduce tuberculosis, the cadaver of the glanders bacillus cannot reproduce the glanders nodule.—*Giornale Internazionale delle Scienze Mediche*, July 15, 1902.

Fibroadenoma of the Breast.—Brin and Papin describe this interesting tumor, which occurred in a woman fifty-eight years old. The growth had been of long duration, as it had been increasing in size gradually for more than ten years. It had never been painful, and was only annoying from its weight. When it was not supported, the tumor reached to the thigh. It was attached to the wall of the thorax by a long and loose pedicle. Its extirpation was very easy. Between it and the thorax there was loose, cellular tissue. Histological examination showed the growth to be an adenofibroma. The entire mammary gland was transformed into the tumor. It was hard to cut, as there was a considerable amount of calcareous salts in its tissues. The size of this tumor is rarely attained by any but a sarcoma.—*Bulletins et Mémoires de la Société Anatomique de Paris*, February, 1902.

A Note on Simple Hypertrophy of the Liver in Pernicious Anæmia.—A. Gilbert and M. Garnier report another case of pernicious anæmia, in which the liver was increased in volume without being the seat of very serious microscopical alterations. It was a case of simple hypertrophy of the liver. There was a little infiltration of very fine ferruginous particles limited to the periphery of the lobule and not appearing to disturb at all the function of the cell. There were also minute areas of necrosis analogous to those noted in experimental anæmia, and seen only on the closest examination. But most of the cells were normal. Hypertrophy of the parenchyma constitutes the principal alteration in certain cases of progressive, pernicious anæmia.—*Le Bulletin Médical*, July 9, 1902.

Muscular Interposition in the Treatment of Osseous Ankylosis.—Nélaton declares that the treatment of ankyloses is sometimes very difficult, and the reestablishment of function in an articulation which has become ankylosed is not always obtained by an osteotomy or by resection. As in a case of fibrous ankylosis of the thumb in which resection was rewarded by a good degree of motion, nevertheless this result did not prevent a second ankylosis taking place in two months. Nélaton praises a method which consists in interposing, after resection, a muscular band between the bony surfaces. He reports two interesting cases. The first was a patient with ankylosis of the hip following acute rheumatic polyarthritis. After resection the operator interposed a large muscular band between the surfaces. Two years afterward, although the patient limped, nevertheless he could stand upright and he could take long walks and he had the movements of flexion, abduction, and rotation to a marked degree. The second patient had ankylosis of both hips. The same treatment procured for him mobility of the joint.—*Journal des Praticiens*, July 5, 1902.

Bulletin of the Johns Hopkins Hospital, July, 1902.

The Surgical Treatment of Tuberculous Cervical Adenitis.—James F. Mitchell concludes, from the study of his own cases and from the results of others, that: (1) Tuberculous cervical adenitis is primarily a local disease of very frequent occurrence, more often in young persons; in itself not extremely serious and rarely, if ever, proving fatal; (2) It bears, however, a certain definite relation to tuberculosis of the lungs, and serves as the starting point from which tuberculosis may spread; (3) The tuberculin test as an aid to diagnosis is positive and harmless; (4) While recovery may often take place under good hygienic conditions, surgical interference is clearly demanded in most cases; (5) When surgical treatment is resorted to the operation should be radical in all cases; (6) Recovery may be predicted in 70 to 80 per cent. of cases so treated. Tuberculosis of the lungs after complete removal of the glands is comparatively rare; (7) Tuberculosis of the lungs, unless far advanced, is not a contraindication to operation, the removal of the glands apparently exerting a beneficial influence on the condition of the lungs.

The Leucocyte Count in the Summer Diarrhœas of Children.—J. H. Mason Knox, Jr., and Louis M. Warfield summarize the results of their investigations as follows: (1) A differential count of leucocytes in the blood of well children under two years of age, when compared with the blood of adults, shows that there is a relative increase in the small mononuclear elements and a decrease in the number of polymorphonuclear cells; (2) In the summer diarrhœas of infants the number of leucocytes in the blood is usually increased, but the count of the white cells varies within such wide limits, even in the milder forms of the affection, that a high or low leucocytosis cannot be regarded as of diagnostic value; (3) In the simple dyspepsias of childhood a differential count of the leucocytes does not show any marked variation from that of a healthy infant, but, as the cases become more severe in type, there is apparently a progressive increase in the polymorphonuclear neutrophile cells and a decrease in those of the small mononuclear variety, thus presenting a picture more like that of adult blood; (4) As pointed out by Japha, the polymorphonuclear leucocytosis is an indication of an intoxication with decomposition products in the intestine or of the toxins of pathological bacteria, *i. e.* it takes place both in the cases of acute intestinal poisoning and in the more severe forms of ileocolitis; (5) The cases of simple infantile atrophy present a nearly normal differential leucocyte count, but it would seem that an increase of the polymorphonuclear cells may indicate the setting in of an inflammatory intestinal complication.

Typhoid Fever; Report of a Case with Three Relapses; Remarks.—Louis M. Warfield, after describing a case of typhoid fever with a history of three relapses, states that a relapse is never caused by external and exciting causes alone, such as sudden emotion, etc., but it is due to a reinfection of the organism with the typhoid bacillus. He then discusses Durham's new theory of the etiology of the typhoid relapse. He assumes that an infection is a complex phenomena, due to the infection with the varieties and subvarieties of the infecting agent, no one of which is identical with or equivalent to any other one. Each kind is assumed to have its corresponding antibody formed in the blood. Probably a pure infection never occurs. If the different antibodies are called forth in sufficient number to take care of the toxins of the different varieties the organism recovers and no relapse occurs. If the varieties are remote there will be a preponderance of certain groups of antibodies, but a scarcity of others, so that if the corresponding bacteria to the latter start to grow, there will be a reinfection as there are no antitoxins in the blood corresponding to these toxins. On this theory multiple relapses can be readily explained. This theory is more adequate than any yet advanced, and it suffices as a working basis.

The American Journal of the Medical Sciences, August, 1902.

A Case of Hyperplastic Tuberculosis of the Vermiform Appendix.—Thomas R. Crowder believes that secondary tuberculosis of the vermiform appendix is a frequent condition, and usually occurs by extension from the cæcum. Primary tuberculosis of the appendix is a rare disease. The tuberculous appendix may undergo hyperplastic changes similar to those occurring in other parts of the bowel, chiefly the cæcum. Hyperplastic tuberculosis may be limited to the appendix, but such limitation is rarely met with. The etiology of tuberculosis as a distinctly hyperplastic process is not well understood.

Spontaneous Non-Tuberculous Pneumothorax.—M. H. Fussell and David Riesman state that: (1) Spontaneous non-tuberculous pneumothorax occurs in healthy individuals, but it is rare. It is most common in young men; (2) The pneumothorax is simple, *i. e.* there is no formation of fluid; (3) There is rarely any febrile reaction, except, perhaps, in the very beginning; (4) There is probably a moderate amount of emphysema in the lung, which is not recognized during life and is not incompatible with health; (5) Aspiration is a certain and safe means of relief, and should be resorted to in severe or prolonged attacks; (6) This form of pneumothorax is benign. All but one of the reported cases recovered, and only once was there formation of fluid.

Paratyphoid Fever; Report of Four Cases; Analysis of All Reported Cases.—William B. Johnston concludes that: (1) There is a type of disease due to infection with the paratyphoid bacilli which in all its variations presents a clinical picture identical with that frequently produced by infection with B. typhosus; (2) Diarrhœa and a termination of the fever by crisis are apparently of more frequent occurrence than in typhoid fever; (3) Myositis and purulent arthritis, rare complications in typhoid fever, have been recorded; (4) Though the disease may be severe, it is usually mild, and fatal cases are rare; (5) Absence of intestinal ulceration may prove to be a distinctive feature of the disease; (6) The disease, though widespread and occurring in localities where typhoid fever is present, is comparatively rare; (7) Every instance of negative Widal reaction is not due to infection with paratyphoid bacilli.

Paracolon Infection, Together with the Report of a Fatal Case, with Autopsy.—Warfield T. Longcope declares that broad conclusions cannot be drawn from one or two cases, but, if later pathological findings confirm the results so far obtained, the distinction, made on a bacteriological basis by various observers between these infections and typhoid fever, will be fully confirmed by anatomical evidence. The wide distribution of the bacillus in the body; its constant occurrence in the circulating blood, and the absence of any localizing lesions, all point to the fact that the condition is simply one of general infection. Typhoid fever, as a rule, is now considered a general infection with localized lesions and not a local disease, so it is not surprising that the symptoms of these two affections are so similar. There is a close relationship between the B. typhosus and the paracolon bacillus. Possibly later on a closer connection between the paracolon infections and typhoid fever will be discovered. However, it is now known that the paracolon bacillus can produce a fatal infection distinct from typhoid fever.

Report of a Case of Paratyphoid Fever.—Albion Walter Hewlett, after reviewing some of the late work on paratyphoid fever, reports a case. The patient was a stoker, thirty-four years old, who presented all of the essential clinical features of enteric fever except the presence of a palpable spleen and a Widal reaction toward typhoid bacilli. It is possible that the spleen was enlarged, but was not palpable on account of the distention. On the ninth, nineteenth, and thirtieth days, the blood serum agglutinated typhoid bacilli fairly well, but not typically, in a dilution of 1 to 10. No agglutination occurred in a dilution of 1 to 50, and no intermediate dilutions were used. There was a rise of the fever after several days of normal temperature, and on the fourth and tenth days of the second fever. The first and last cultures were negative in result. On the second occasion one flask showed a growth of a bacillus called for convenience B. "Noonan." The patient's serum agglutinated this organism in a dilution of 1 to 100. The B. Noonan is a short bacillus decolorizing by the Gram method. In early bouillon cultures most of the organisms are motile, the movements being more darting than those of the typhoid bacilli. The organism differs also from the typhoid bacillus in that it produces gas in glucose, and does not cause a diffuse clouding of the Hiss semisolid medium. It differs from the colon bacillus in not fermenting lactose, not coagulating milk, and not, at least readily, producing indol. The results of the agglutinating experiments, with typhoid bacilli, have been given above.

A Case of Hemorrhagic Exudative Erythema (Henoch's Purpura).—Herbert Swift Carter reports this case, which was one of a modified form of Henoch's purpura. The patient was a woman aged twenty-nine years. The interesting points in this case are: (1) At first apparently an ordinary attack of rheumatic purpura, with typical eruption and joint symptoms, preceded by sore throat; (2) Excessive amount of indican in the urine at first, later never more than a trace; (3) Temperature, pulse, and respiration never above normal; (4) No hemorrhage from visible mucous membranes; (5) Very severe abdominal pain, limited to the upper half of the abdomen and usually most marked over the stomach area, which began shortly after the appearance of the skin eruption and increased in intensity, reaching its climax when the eruption was most marked, except for the slight modification in the last relapse, when the pain was most severe just before the eruption was at its height; (6) Relapses three to ten days apart. The entire illness lasted for three and a half weeks; (7) No hyperleucocytosis; (8) The course of the disease and relapses and pain were uninfluenced by salol, salicylates. ergot, gelatin, acetanilid, iron, bismuth, alkalis, aqua, chloroform, calx chloride, and poultices, all tried in various ways. The pain was only relieved by morphine. It seems fair, the author believes, to place this case among the exudative erythemas associated with purpura and gastrointestinal crises (Henoch's purpura). The intestinal hemorrhages in Henoch's series were presumably due to the purpuric eruption on the intestinal mucous membrane, and although in the case here reported there was no intestinal hemorrhage and only a slight streak of blood in the vomitus during the second relapse, still the writer thinks that the intraabdominal symptoms were in all probability due to an eruption, either purpuric, exudative, or both, into the gastric or intestinal mucous membrane.

Russki Arkhiv Patologii, etc., June 30, 1902.

A Contribution to the Study of Glioma of the Brain.—W. A. Mouratoff reports a case of a woman suffering from cephalalgia, vomiting, and complete blindness. The disease began acutely a week and a half after her menstrual period. with unconsciousness and an epileptiform attack two months before her admission to the hospital. Aphasia and complete paralysis of the lower limb followed, and death occurred with symptoms of general marasmus. At the autopsy multiple hemorrhages and softening of the left frontal lobe were found. The microscopical examination showed that there was a glioma. The whole of the anterior commissure was found to be dotted with granular black globular bodies. The case, therefore, proves that degeneration of the anterior commissure follows focal destruction of the white matter of the frontal lobes.

The Pathological Anatomy and the Pathogenesis of Syringomyelia.—P. A. Préobrazhensky, in the examination of four cases, found that in each the primary cavity was found by a dilatation or a diverticulum of the central canal. The cavity was lined with epithelium. Obliteration of the cavities is a constant symptom of gliomatous syringomyelia, and it may be partial or complete, according as the bundles of neuroglia partly or entirely fill the cavity. This proliferation of neuroglia is not identical with glioma. The initial stages of the disease may long be latent, and so may even the advanced stages, so that the original cause (hematomyelia neoplasms, traumatism, infectious diseases. chronic pachymeningitis, etc.) is always uncertain. In true syringomyelia there is always some anomaly of the central canal, with the formation of caverns from gliomatous softening and disintegration.

The Plague at Batoum in November, 1901.—N. Bérestneff states that the bacillus of plague was isolated from a patient and was found to be extremely virulent and in every way character stic. Plague bacilli usually perish in the bubo or about the fourteenth day of the disease in cases unaccompanied by septicæmia and with a fall of temperature on the eighth and ninth days without specific treatment. The cultures may or may not be viscid. In the case under consideration, the colonies were round, projecting, and whitish in color. The charasteristic colonies of plague, surrounded by a transparent zone, were found only when oxygen was deficient, or when the growth of the colony was in any way retarded. Cultures of the plague bacillus easily became desiccated, but those taken from the blood or the exudate resist longer than those cultivated in the ordinary media. If preserved in blood or peritoneal exudate in sealed tubes. they undergo the same morphological changes as in the organism. Plague bacilli mixed with other microbes can easily be demonstrated by means of the stalactites and superficial pellicles which they form in a bouillon culture. In suspected cases, when the bacteriological result is negative, tests should be made for agglutination, which is a specific reaction.

Disease of the Muscle of the Heart.—H. W. Syers writes of the cause and detection of this affection, and in regard to the treatment says that the right management consists in regulating the mode of life, both as regards physical and mental exertion and diet. Those whose hearts are unsound in the sense here considered are not fit subjects for active exercise, and are totally unfit for training by mechanical movements (dumb bells, etc.). Horse exercise, a well-manned cob being selected, is the kind of exertion most suitable to these patients, and, failing this, they must be content with walking. Graduated exercises and warm baths, so much in vogue as a method of treatment, the author considers to be highly dangerous when the heart muscle is affected. Hot baths are likely to cause fatal syncope. Food should be moderate in quantity, and the meals should be not too far distant the one from the other. Nitrogenous food is preferable to a carbohydrate diet, and but little fluid should be taken at meals. A moderate amount of stimulant is sometimes desirable. Smoking is almost always injurious. Constipation is often a troublesome symptom, and should be overcome by enemata and small doses of cascara sagrada, and aloin, with anoccasional mercurial purge. Heart stimulants do more harm than good, but nux vomica and strychnine in very small doses tend to promote the appetite and to increase the peristaltic action of the intestines.—*Treatment.*

Cultivation of the Virus of Variola.—T. Ishigami concludes, from his researches, that certain protozoa found in the epithelial cells of dissected preparations of vaccine virus are the active agents in the causation of variola. They belong to the sporozoa Their growth is not restricted to the interior of cells, as has been believed heretofore. They can be cultivated in a special medium made with epithelial cells of a non-vaccinated animal. By inoculating a calf with this artificial culture we get vaccine vesicles accompanied by fever in from three to four days or less. These vesicles do not differ in the changes they excite nor in the kind of sporozoa which they contain from those produced by the inoculation of ordinary vaccine lymph. The calf, once inoculated with this artificial culture, is completely minimized against the vaccine virus. By inoculating other calves with the lymph from the vesicle formed by this culture we can get regular vaccine vesicles possessing protecting power against variola. It is, therefore, clear that these sporozoa are the originators of variola.—*The Sei-I-Kwai Medical Journal.*

Pericardial Friction Sound Extensively Propagated.—E. Devic and J. de Teyssier state that the non-propagation of the pericardial friction sound is generally considered as an important element in the diagnosis. They, however, report a case of their own and several of other observers in which the sound was transmitted to a considerable distance. Several factors are concerned in this transmission of the pericardial sounds. In the first place, the abundance and consistency of the pericardial exudates, the size of the heart and the energy of its contractions, and finally, the density of the tissues situated between het pericardium and the listener's ear. The intermediary good conductors are the skeletal bones, the liver and the lung tissue which is compressed, congested or hepatized. The subject is one that demands further investigation.—*Archives Générales de Médecine.*

The Language of Pain.—B. E. Dawson urges a more attentive study of painful symptoms as a guide to diagnosis. External pains frequently inform us of organic changes or deranged function of internal viscera; pain in the auditory canal or the upper portion of the anterior part of the external ear speaks in no uncertain sound of a different cause from pain in the back part or anterior and lower portion of the ear. Pain upon the scalp may be an expression of the fifth nerve, or the great or small occipital. Pain between the shoulders or over the inferior angle of the scapulæ may not be rheumatism, or cold, or neuralgia, but a message from the abdominal viscera, due to the connection between the great splanchnic, and the fourth, fifth, and sixth dorsal nerves. Pain over the stomach may mean spinal disease. Examples could be multiplied, but enough has been said to suggest that pain should not be too hastily lulled by opiates, but studied carefully, and. of course, relieved as well.—*The Kansas City Medical Record.*

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventieth Annual Meeting, Held at Manchester July 29, 30, 31, and August 1, 1902.

(Special Report to the MEDICAL RECORD.)

GENERAL SESSIONS.

Tuesday, June 29—First Day.

THE seventieth meeting began officially on Tuesday, but on Monday evening there was a formal opening of the annual exhibition (the thirty-fifth of the kind—by the Lord Mayor of Manchester, Mr. Alderman Hoy. This was held in the Drill Hall, which was prettily decorated and fairly filled with exhibits. There was a good attendance. Dr. Woodcock, chairman of the exhibition, introduced the Lord Mayor, who made a brief speech and declared the exhibition open. Afterward the audience was entertained with music, instrumental and vocal.

At 9.30 A.M. on Tuesday there was a meeting of the 1901–2 council, which, of course, was private. In the forenoon there was a service in the Cathedral, when Bishop Thornton preached the sermon. Simultaneously there was a service in the Roman Catholic Church, where the Rev. C. Coope preached.

The Bishop took for text "Neither shall there be any more pain," and spoke of the profession as dear to the heart of the people, and as having, among other things, by God's help, given them back their King. Contrasting the beliefs of Epicurus and Zeno in regard to pain, sickness, and death, he said the one made toward pessimism; the other toward optimism. Turning to Christian belief, he recognized death and pain as evils of themselves, and their alleviation and elimination as the ultimate purpose of God and the legitimate aspiration of God-like men. They were penal, remedial, and preparatory, but were tempered by self-preservative instincts, philanthropic sympathy and medical science. A collection for the Benevolent fund and college was made.

Mr. Coope discoursed on the relations between laymen and doctors. He said there were two attitudes toward the doctor, one of credulity, the other of superstition. Young, healthy people sometimes professed unbelief in medicine. That was foolish, and due to inexperience. To such he pointed out the King's case. The function of the physician was similar to that of the priest, and the two greatest sciences were theology and medicine. Turning to the other attitude, he said superstition was common as to both religion and medicine. It was possible to put up prayers to God which were obviously absurd and to make demands on the physician which were equally absurd. He counselled honoring the physician—expecting much from him, but not all.

In the afternoon the first general meeting was held in the beautiful Whitworth Hall, which is an extension of Owens College.

Address of the Retiring President.—The retiring President, DR FERGUSON, took the chair, and in opening the proceedings said this had been a very eventful year. It was to have included the coronation, but instead of that it included the King's grievous illness, over which the whole civilized world watched with trembling sympathy. But the year also included the King's happy recovery, which his Majesty owed to his own courage and the skill of his professional attendants. These attendants were most of them members of the Association, and their triumph was a triumph for the Association as well as for the art for which they lived and which had brought them together that afternoon. Therefore, the universal joy was theirs in a special degree at the recovery of their august patient.

Induction of the New President.—DR. FERGUSON then introduced his successor in the chair, Mr. Walter Whitehead, Consulting Surgeon of the Royal Infirmary, as a man who would confer as much honor on the Association as that Association could confer on him, for the great Manchester surgeon, he said, was known throughout the world as one of the rare original minds in surgery.

MR. WHITEHEAD then took the chair and said his first duty was to ask the meeting for a vote of congratulation to the King on his marvellous recovery. When he reminded them that his Majesty was the patron of the Association, he felt that they could not commence their ordinary proceedings without discharging that as their first and most pleasant duty. He proposed to send the following telegram. "That the loyal congratulations of the members of the British Medical Association, assembled in annual meeting, in Whitworth Hall, Owens College, Manchester, be respectfully offered to his Most Gracious Majesty King Edward VII upon his recovery from his serious illness, with an earnest prayer that he may long be spared to reign over a devoted empire." This telegram was unanimously approved and then dispatched.

A vote of thanks was passed to Dr. Ferguson for ably presiding over the Association during the past year and he was elected a vice-president for life.

The Report of the Council was then presented and adopted. In it the council expressed a conviction that the seventieth meeting would prove memorable in the history of the Association not only as a most successful one, owing to the efforts of the local members, but also as the first meeting after the greatest changes which had been made in the constitution of the Association since its foundation. The council trusted these changes would increase the influence of the Association and enable it to carry on its scientific, social, medico-ethical, and political work more readily. During the year 212 members died, 478 resigned, 1,046 were elected. The number now on the register was 18,758. The council noted with satisfaction the honors conferred on members, and especially congratulated Sir Victor Horsley, whose work in the Association the council gladly acknowledge. The income for the year was £43,730; the expenditure £37,767, leaving a surplus of £4,963 which was applied to reduction of the mortgage debt, now standing at £5,000. This year a second and further sum of £100 had been granted to the Special Chloroform Committee for the purpose of investigating methods of quantitatively determining the presence of chloroform in the air and in the living body. The sum of £375 was voted for scientific research and £650 for scientific research scholarships. The total amount which had been spent in scientific research through this Committee since its institution in 1874 was £17,023, independently of £1,650 granted to societies and bodies outside the Association. The interest taken by members of the Association in the subject of contract practice had been reflected in the pages of the official journal. The papers and discussions published from time to time have, it was noted, contained many valuable suggestions for remedying the evils generally admitted to exist, and much information as to the conditions prevailing in different parts of the country had been collected. The council reported with satisfaction that the bills in Parliament for projected tube railways in London which threatened the premises of the Association had been thrown out. It would be difficult, if not impossible, to obtain another freehold site so conveniently situated in so important a thoroughfare as the Strand. A committee having reported to the council on the subject of preliminary general education for those entering the medical profession, the council recorded the steps taken during the year with a view of raising the standard. A record was also given of the action taken by the Parliamentary Sub-committee with regard to the Public Health Bill, vaccination, the reorganization of the Army Medical Service, the Midwives' Bill, and the amendment of the Coroners' Act

MR. ANDREW CLARK, F.R.C.S., the retiring treasurer, moved the adoption of the financial statement for the year. He estimated the income and expenditure for the coming year as both increased, but he would be satisfied with a profit of £2,000 or $3,000.

Dr. Brassey Brierly took exception to the estimate, and said there was no justification for expecting an additional income from subscriptions, for the increase, if obtained, promptly went to the branches. He hoped the new organization would be for the welfare of the Association, but they must not picture too rosily what they might never attain. The report admitted they could not estimate accurately; he agreed with that and regarded the tremendous cost of working the new constitution as a speculation. He, therefore, urged caution.

Mr. Clark replied that the money received from increased subscriptions would go to the branches, but if it did not come in it would not go out. He felt justified in anticipating that it would come in, and he expected an increase of members, although some would resign. The resolution was passed. A vote of thanks was accorded to Mr. Clark for his services during the last three years. He was elected a vice-president, and Dr. Markham Skerritt was elected treasurer in his place. The meeting then adjourned until evening.

The Lord Mayor presided at the adjourned meeting and made a short speech of welcome. A number of visitors were presented and then Mr. Whitehead delivered his Presidential address, which was followed by a soirée in Owens College, given by the President and local committee.

Presidential Address.—Mr. Walter Whitehead took as the subject of his address the medical history of Manchester. The British Medical Association had met in Manchester just a quarter of a century ago, at which time the medical school had only just been amalgamated with Owens College, of which it has ever since been one of the most important departments. The day this address was delivered was the twenty-sixth anniversary of the death of John Owens, and the speaker asked his hearers to join with him in honoring the memory of one who was among the first in this country to show an appreciation of the fact, now so widely recognized, that the prosperity of a community, as of a nation, must have for one of its foundation stones a true respect for learning and intellectual inquiry, and an ardent desire to place the advantages of education within the reach of all who are capable of profiting by them.

Many had passed away who took an active part in the meeting held twenty-five years ago in Manchester. Dr. Eason Wilkinson, the President; Sir William Roberts, who delivered the address in medicine; Edward Lund, who was President of the Section of Surgery; Bradley, one of the secretaries of that Section; Leech, one of the local secretaries for the meeting, had all joined the majority. Dr. Eason Wilkinson, who welcomed the Association to Manchester from the presidential chair twenty-five years ago, devoted his address to a consideration of the principles of hospital construction, and pointed to improvements which, he urged, should be made in the Royal Infirmary. This was one of the last public acts of Dr. Wilkinson's life. Sir William Roberts, in his address in medicine, discussed the doctrine of *contagium vivum* and its application to medicine. He pointed out that it was the distinguished merit of Lister to have perceived that infective-wound diseases came from without. He protested, however, against confusing the broad principle that it was the duty of the surgeon to prevent infection of the wound, by a blind following of the method devised to achieve this end by Professor Lister. At the present day it might seem remarkable that so acute a man as William Roberts perceived no alternative between the application of antiseptics to the wound and a system of free drainage which enabled the surgeon to ensure that the poisonous products of infection were discharged, and thus avoid the occurrence of septicæmia through the absorption into the system of these poisonous products. It was the ideal of the antiseptic surgeons of that day to find an unirritating antiseptic, but it is now recognized that the quest was mistaken, and that in absolute surgical cleanliness of the patient's skin, purity of the surgeon's hands, and an aseptic condition of his dressings we have the true ideal. Sir William Roberts was the first Professor of Medicine in Owens College, and for nearly thirty years a member of the medical staff of the Royal Infirmary.

Mr. Whitehead then spoke of the beginnings of the educational and medical institutions of Manchester. First probably, in point of time, as well as in intrinsic importance, came the Royal Infirmary, which was at once a general hospital, an isolation hospital for those ill with infectious diseases, and a hospital for lunatics. It began just one hundred and fifty years ago when Charles White fitted up a small house. The needs of the city soon outgrew this modest building, and a plot of ground was purchased on which the present institution stands. The first building erected in 1755 had accommodation for forty patients. Ten years later a wing was added for the reception of patients with mental diseases. In 1796 a building was erected to serve as an isolation ward. The speaker then referred to the other hospitals in Manchester, and in particular to the new sanatorium for poor consumptives, now under course of construction at Bird Hill in Delamere Forest, the gift of Mr. Crossley.

Passing to the theme of medical education in Manchester, the beginnings of a medical school in that city were due to Charles White, the founder of the infirmary, in 1786, assisted by his son, he began a course of lectures on anatomy and physiology. Thomas Henry gave concurrently a course of lectures on chemistry. Henry, who had become a visiting apothecary to the infirmary in 1778, was one of the founders of the chemical industry in Manchester, and the discoverer of an improved method of manufacturing magnesia alba, called after him Henry's magnesia.

Dr. Ferriar, Dr. Roget, Mr. Ainsworth, and Mr. Ransome also took part in the courses given at the Infirmary, but Mr. Joseph Jordan was the real father of the Manchester Medical School. In 1814 he commenced the systematic teaching of practical anatomy in Manchester. He was assisted by Dr. Hull, physician to the Lying-in-Hospital and a botanist of distinction, and by Mr. Brigham. Their school began with four students, but the course was practical from the first. The foundation of the first complete medical school in Manchester was due to the energy of Mr. Thomas Turner, who, during his life of eighty-two years, accomplished a great work for medical education. In 1822 he began a course of lectures on human anatomy, physiology and pathology before the Manchester Literary and Philosophical Society. Encouraged by the interest shown in these lectures, he put forth, two years later, a scheme for a school of medicine and surgery. The school was started in a house in Pine street, and John Dalton, one of the most illustrious names in the intellectual history of Manchester, gave the lectures on pharmaceutical chemistry.

The school was recognized in 1825 as a fully-equipped medical school by the Royal College of Surgeons of Edinburgh, and is therefore the oldest as well as the largest of the great provincial medical schools of England.

Other medical schools were established from time to time, and flourished for a season, but the original one, founded by Turner, which later bore the title of the Royal Manchester School of Medicine, continued, and was largely influential in bringing about the foundation of a university college in the city, through the benefaction of John Owens. This foundation, the Owens College, broad in its conception, though small in its beginnings, has grown with the growth of Manchester, and with the increased love of knowledge and learning, until it is now one of the greatest educational institutions in Great Britain. The Medical Faculty has steadily grown in numbers and importance since it first formed part of the Owens College. In 1872-73, when the amalgamation took place, the medical students constituted 28.45 of all those studying in the College. In 1883-84 the proportion rose (excluding the women's department) to 40.8 per cent., and in the last two years to over 42 per cent.

Mr. Whitehead then spoke briefly of some of the Manchester physicians who had done great works in their day and generation. One of the first of these was Thomas Percival, a physician remarkable not only for his scientific attainments and benevolent character, but also for the breadth of view and width of culture which made him a pioneer in many movements, the effects of which were felt not only in the Manchester district, but throughout the whole country. He was the first president of the Manchester Literary and Philosophical Society, and also took a leading part in a movement which foreshadowed the establishment of technical schools, for he was one of the founders of the College of Arts and Sciences, at which courses of lectures were given on (1) Mathematics and Natural Philosophy; (2) Fine Arts; (3) Chemistry, with reference to arts and manufactures, and (4) the "origin, history and progress of Arts, Manufactures, and Commerce, the commercial laws and regulations of different countries, commutative justice, and other branches of Commercial Ethics." He was the author of a book on "Medical Ethics," which had its origin in a set of rules for the guidance of the staff of the Infirmary, and in their preparation he had the assistance of Dr. Ferriar and Mr. Simmons. To these rules Percival afterward added a series of chapters defining the course which should be pursued by practitioners in private practice toward each other and toward their patients. His labors to increase the welfare of the people made him a pioneer of sanitary reform and one of the earliest advocates of factory legislation.

In his endeavors to improve the sanitary state of the working classes, Percival had an able and eloquent helper in Dr. John Ferriar, a man of considerable literary attainments and learning, but especially a sanitarium of broad and advanced views, who advocated many reforms in the housing of the poor and the hygiene of their lives. In concluding his address, the President quoted the following words of Lord Bacon, written three centuries ago, in his preface to the Elements of the Common Laws of England, which expressed aptly the sentiments which should actuate the medical man of to-day: "I hold every man," said Bacon, "a debtor to his profession; from the which as men, of course, do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto. This is performed, in some degree, by the honest and liberal practice of a profession; when men shall carry a respect not to descend into any course that is corrupt and unworthy thereof, and preserve themselves free from the abuses wherewith the same profession is noted to be infected; but much more is this performed, if a man be able to visit and strengthen the roots and foundation of the science itself, thereby not only gracing it in reputation and dignity, but also amplifying it in profession and substance."

On the motion of Mr. Bryant, seconded by Dr. Alexander of New York, a vote of thanks was accorded for his address to the President, who in his turn proposed a similar acknowledgment to the Lord Mayor for taking the chair. This was carried by acclamation and briefly acknowledged.

Wednesday, July 30—Second Day.

The new council met 9.30 A. M. and elected Mr. Andrew Clark chairman. The sections met at 10, and when they separated they fund a notice posted cancelling the succeeding general meetings. It was said all the important business had been transacted at the first meeting. Others said the delegates under the new constitution had not met and they must appoint the business. Very few cared anything about it. There were two garden parties on hand, a number of excursions and unbounded hospitality.

Delegates or no delegates, whether a properly constituted general meeting or not, there was a good assemblage of members and friends in the evening when the President assumed the chair and read a telegram which had arrived in acknowledgement of that sent to the King.

The President-Elect.—Mr. ANDREW CLARK then stated that at the morning council meeting it had been resolved to recommend that an invitation to Swansea for 1903 be accepted and Dr. T. D. Griffiths nominated President-elect.

The recommendations were unanimously accepted and Dr. Griffiths in a modest speech promised that his own shortcomings would be compensated by the co-operation of his colleagues and the warm Celtic welcome they would meet in the Principality.

Mr. F. FOWKE, the secretary, after thirty years' service, had felt bound to resign and was elected an honorary member.

The President then introduced Sir Thomas Barlow, who he said must be known to all by name, but he would refer to one thing—that Sir Thomas was a native of that district (applause). They had to congratulate themselves that one of themselves had raised himself to the highest pinnacle of the medical profession. He then called on Sir T. Barlow to deliver the

Address in Medicine.—Sir THOMAS BARLOW was received with great cheering as he stepped forth to deliver his address. He began with a reference to the address of twenty-five years before delivered by Sir William Roberts, the recollection of which, he said, gave humbling reflections to one who had to take up the parable where Roberts left it. In drawing attention to some recent advances he offered this thesis: "The advances in the treatment of disease have been real and satisfactory in proportion as they have been harmonious with the complete knowledge of the natural history of disease." He would not say that good treatment owed its origin entirely to pathology—far from that; it had often antedated pathology—but in proportion as pathology had become complete it had rationalized good treatment and refined it, separating, so to speak, the ephemeral from the permanent, the accidental from the essential, as well as the harmful from the beneficient. Moreover in these last days in not a few instances the true pathology had laid down new therapeutic lines which had been justified by experience

The speaker took up first diptheria and the great changes that had taken place in the matter of hygienic and medicinal treatment as well as in the views regarding the etiology and diagnosis of this disease. The old theories of exposure to cold and sewer-gas poisoning have given way to that of infection by bacteria, and especially of the spread of the disease by personal contagion, the dangerous cases in this regard being the mild and unrecognized ones. The treatment has been revolutionized by the introduction of antitoxin, and bacteriology has made of the diagnosis of the disease an exact science.

Dr. Barlow then spoke of tetanus and its specific treatment, and observed that the tenacity of the combination between the toxin and the nervous tissues which was shadowed forth in diphteria was in tetanus the dominant factor. It woud appear to be the tissues of the central nervous system for which the toxin had a special affinity, and later investigations pointed to the necessity of subdural injections into the cerebral substance itself, as well as into the cellular tissue, and to the employment of far larger doses of the antitoxin than the first immunization experiments suggested.

After referring to other examples of specific medication in the treatment or prevention of rabies, smallpox, blood-poisoning and other infectious diseases, he discussed at some length the treatment of tuberculosis in the light of modern discoveries. The teaching of pathology, he said, is that the fortifying of the general resistance of the individual is the most important indication of all. Real true advance always tends to simplification, and the great fundamental therapeutic remedies are the employment of fresh air, sunshine, of good food, and of regulated exercises. This, surely, is the inwardness of what has been called the sanatorium treatment. "Let us gracefully recognize," he continued, "what Brehmer and Dettweiler and Trudeau and Walther have taught us; but we should remember that sixty years ago an Englishman—a village general practitioner, George Bodington, of Sutton Coldfield—taught, both by precept and by the results of actual experience, what were the proper methods of treating phthisis. The measures upon which he relied were that the patient should live most of the day in the cool open air; that his rooms should be thoroughy ventilated, and in temperature not varying greatly from that of the outer air, that daily driving or riding, and, as soon as possible, walking should be enjoined; that a generous diet should be given, and that all this should be carried out under the assiduous daily and even hourly supervision of a doctor living under the same roof or close by." A very practical suggestion of the orator was that physicians should speak more guardedly about the cure of consumption and insist rather upon its arrest. In that way they would impress upon the individual, as well as upon the enlightened community, the vital necessity of a prolonged after-care of the tuberculous subject.

Other points touched upon by the speaker were malaria, Malta fever, rheumatism, and organotherapy, the latter as exemplified chiefly in the striking influence of thyroid extract upon the course of myxœdema. In the light of these wonderful advances in the near past and the present, the outlook for the future was bright indeed.

Sir **William Broadbent**, in proposing a vote of thanks for the address, declared that Sir T. Barlow had set forth the importance of scientific investigation and expounded the whole of the considerations bearing on diphtheria and antitoxin, as he, for one, had never heard them set forth and expounded before.

The resolution was seconded by Dr. **Markham Skerritt**, and carried unanimously. Sir Thomas briefly replied, thanking the audience for their patient hearing of his long address.

Thereupon followed a general exodus to the open-air fête and reception in the beautiful Whitworth Park, brightly lit up by festoons of colored lights among the trees, and the band playing in the kiosk. The Art Gallery was also thrown open for those who preferred it, and there, too, was music.

Thursday, July 31—Third Day.

Address in Obstetrics.—There was another great gathering of members to hear this address, which was delivered by Professor **William Japp Sinclair**, who took for his subject, "Carcinoma in Women, Chiefly in Its Clinical Aspects." He began with a brief consideration of the pathology, old and new, of cancer, from which he drew the conclusion that practically nothing had been accomplished in solving the problem of the causation of the disease. As to the results of the surgical treatment of cancer of the uterus, the speaker was not quite so pessimistic. He said that in recent years there had been a wave of mental depression passing over the gynecological world on account of the unfavorable remote results of vaginal hysterectomy for cancer. He quoted some very gloomy views expressed at recent gynecological congresses in America and Germany, but said that, so far from the pessimistic view being the true one, the results obtained by many of the best-known operators continued to improve and to give the greatest encouragement to continued efforts in the future. They were obtaining better immediate results, and the number of "cures" increased—that is, the percentage of immunity for at least five years after operation was becoming greater. The percentage of cases operable when first seen had also increased, because the patients came earlier for treatment, and improvements in technique had extended the indications. The proof of all this lay in the statistics of carefully reported work done under circumstances in which the sources of error were reduced to the minimum.

One of the evil results of the depression arising from the recognition of the unfavorable remote results of vaginal hysterectomy had been a rush, especially in Germany, to the extreme verge of the practical in dissecting out not only the internal sexual organs, but the whole of the lymphatics and cellular tissue of the pelvis. This had been declared to be justified by the belief that better remote results would be obtained than by vaginal hysterectomy. From a careful and laborious attempt to keep up with the record of proceedings, the speaker said he had no hesitation in asserting that a large portion of the extended radical abdominal hysterectomies for cancer were homicidal vivisections, which nothing hitherto advanced in their support appeared to palliate, much less to justify. Dr. Sinclair did not believe that cancer of the uterus was on the increase, but rather that the frequency of its recurrence was diminishing. This, however, should not lead to any relaxation in the efforts being made to discover the cause of cancer and improve the technique of operations for its removal. Cancer, he said, was infectious to the individual already suffering from the disease, but to no other, and the remedy, therefore, lay in early surgical interference. In concluding, he said that, running through all his address, had been an effort to attract attention to the dignity and the effectiveness of exact scientific clinical methods of observation. To attain his object, it seemed necessary to call specific attention to the futility of much of the labors of the past undertaken to establish the etiology and true pathology of cancer. All honest and enlightened human effort should be welcomed, and he depreciated none. But chiefly was his hope fixed on the fact that in such research as he had been suggesting every member of the medical profession engaged in general practice could co-operate in genuinely scientific work with those whose daily occupation was of a special character. The work of both sets of workers would be complementary. The specialists should have more time, as a rule, to devote to such work, and naturally they had the particular disease more in their minds. The medical practitioner knew most about the history and environment of the individual patient, and could obtain relevant information from which the hospital physician was excluded. His earnest hope and desire was that some of the younger men, with more energy, better opportunities, starting on a higher level of knowledge, would professedly take up this great enterprise and see whether by calm, industrious, and enlightened clinical observation, alone or collectively, they could discover the cause and the remedy for this mysterious and dreadful malady.

Afterward, there was another garden party, with a pastoral play. The annual dinner followed, and that was succeeded by the ladies' reception and variety entertainment in the theatre.

Friday, August 1—Fourth Day.

The Sections resumed in the morning, but the rest of the day was given up to picnics, garden parties, games, and other entertainments. In the evening the Lord Mayor held a reception and conversazione in the Town Hall, and this was followed by a ball in Platt Hall Park, given by the President and Local Committee. Many members left this day, and more on Saturday, which was, as usual, set apart for excursions.

SECTION OF MEDICINE.

Wednesday, July 30—First Day.

A Discussion on Dilatation of the Stomach.—This was opened by Professor **Clifford Allbutt**, who proposed that the discussion should be limited to the atonic or non-obstructive dilatations of the stomach, as the obstrucive dilatations were, comparatively speaking, well understood. Atony and atonic dilatation had not received the attention they deserved; atonic dilatation being, indeed, neglected by some physicians, and by a few even denied. The stomach was supported more firmly at the cardiac than at the pyloric end; and in estimating atonic dilatation the area of the cardiac portion was to be carefully observed The stomach, as a whole, might drop into the mid-abdomen or hypogastrium, and this independently of more general enteroptosis. Gastroptosis was not necessarily attended with dilatation. The relation of gastritis to dilatation of the stomach was referred to. Excess of hydrochloric acid was not necessarily a consequence of gastritis; it might rather be the cause of it. Relaxation of the stomach due primarily to muscular failure, might depend upon toxic causes or mere atony. Such gastric distention, advancing to dilatation, not uncommonly retarded convalescence from such diseases as typhoid fever and rheumatic fever. When the condition followed slow digestion with fermentation, anæmia, or mere inanition, the muscular failure was primary. Spasm of the pylorous might cause dilatation of the stomach. That the nervous system might be concerned in paresis of the stomach seemed likely enough; not only continuously depressing causes might act in this way, but sudden and grave mental shock might be quickly followed by considerable atonic dilatation of the organ. Alcohol, in so far as it might be a cause of dilatation, might act directly as a poison to the muscular fiber, or indirectly by extensions of inflammation outward. Atonic dilatation of the stomach was no rare consequence of exhaustion from muscular or mental exertion.

The symptoms of atonic dilatation were often indefinite if not misleading. There might be little or no loss of appetite or dyspepsia. Vertigo, sleeplessness, heaviness, lassitude, fatigue, and mental depression, might divert attention to the nervous system. Flatulence was rarely absent

Among the physical signs referred to was gastroptosis, which was not difficult to detect in thin persons (in well nourished persons it seemed never to occur); peristalsis was rarely visible; the signs of distension were chiefly to the left of the middle line, and under the lower ribs. The area of resonance might rise to the fifth or fourth rib, and extend to the posterior axillary line. Such a stomach often accompanied disease of the heart, and played a large part in the patient's distress. Physical examination must be made at various periods of digestion, and when the stomach ought to be empty. In health the stomach after a meal should contract upon its contents, when an area of dulness rather than of resonance would become apparent Even in acute indigestion there was a considerable grip of these contents, a grip often attended with stomach-ache, but in atony, with or without static dilatation, an area of resonance at the cardiac end would be found almost immediately after a meal; even four or five hours after a meal the vault remained high, and behaving capriciously under gaseous influences, at no time did it contract in regular periods. The pyloric moiety, in its turn, unable to withstand the gravitation of its contents, increased from its comparatively small transverse diameter until the stomach, as a whole, might assume a uniform thick sausage-shape. Strangulation by sharp flexure of the pyloro-duodenal portion might occur. Dilated colon might be mistaken for a dilated stomach, but in the majority of instances by percussion, the two organs may be distinguished. In difficult cases syphonage or insufflation might help. The tuning-fork, ausculto-percussion, and coin-tapping, in the speaker's experience, added little or nothing to what careful percussion could tell us. In atonic dilatation there was rarely the succussion splash of obstructive dilatation. In atonic dilatation sarcinæ and torulæ were not usually found, and lactic acid but rarely, and in small quantity. In atonic dilatation the return of water introduced into the stomach was very feeble, or was, perhaps, obtained only by expression or syphonage The treatment of atonic dilatation must largely depend upon the causation of the individual cases; particular symptoms would often indicate the means of their own palliation. Vertigo and lassitude after meals often depended upon distention of the stomach, and might be relieved by a careful regulation of diet and restriction of fluid at meals to the lowest quantity. In sleepless cases, besides these measures, hydrotherapy was often useful. In heart disease, after much disappointment in the use of specific remedies, the cure or relief of an atonic dilatation of the stomach might be attended with remarkably good effects. Papain had proved a very useful aid in digestion In some emaciated persons the full Weir-Mitchell system might be necessary, and especially in gastroptosis; in all a long rest and change of air were of the first importance.

Dr. **Noel Bardswell** described the conclusions arrived at as a result of routine examination of stomachs in all cases under his care for the treatment of pulmonary tuberculosis. In practically all cases of early disease, whether slight or fairly acute, of say from three to six months' duration, the stomach was found to be normal in size, the only exceptions being in those who gave a history of prolonged antecedent dyspepsia. The importance of examining stomachs in such cases before administering ordinary sanatorium diets was great. Although the stomach of early cases would usually stand the administration of very large diets, there was a tendency for prolonged hyperfeeding to cause dilatation, and this without symptoms of dyspepsia. Clinical experience suggested that, other things being equal, the longer such patients were kept at absolute rest (and such treatment usually implied the existence of fever) the greater the tendency to atony and dilatation. The prolonged administration of high ordinary diets to consumptives after the development of symptoms characteristic of atonic dyspepsia was unnecessary and unjustifiable in view of the serious prognosis which must be given when active pulmonary tuberculosis was associated with dilatation of the stomach. During the past two years there had been under care eight patients (originally of the acute type of pulmonary tuberculosis which we are now considering) who had previously been some six months in sanatoria where excessive feeding was practised. In five of these patients definite enlargement of the stomach was found. In three of these the dyspeptic symptoms cleared up under physiological dieting, and in two the stomachs largely recovered their tone. On the strength of the experience gained when dealing with cases with symptoms of atonic dyspepsia, the diet was amended by reducing its bulk without diminishing its nutritive value. The following was a sample of such a diet: Milk, $2\frac{1}{2}$ pints; eggs, 2; fish and meat, $5\frac{1}{2}$ oz.; butter, 2 oz.; milk pudding, 7 oz.; arrowroot or cornflour, 4 oz.; plasmon, $1\frac{1}{2}$ oz. The weight of this diet was 74 ounces as against 98 ounces of the former, or a reduction of 25 per cent., and its nutritive value was a trifle higher, viz., 147 of proteid compared with 137, the fats and carbohydrates being the same in both. Chronic cases of several years standing had almost invariably pronounced anorexia and dyspepsia, and about 50 per cent. had some degree of stomach dilatation. In spite, however, of their frequently starting treatment thus handicapped, their stomachs appeared to stand sanatorium treatment better than one would expect.

Sir William Broadbent emphasized the frequency of nervous causes of gastric dilatation, as from fatigue, and the wear and tear of city and commercial life. Dilatation of the stomach was often the determining cause of the fatal termination in acute disease, as in rheumatism and pneumonia. In the case of weakly women, the less they ate the worse often they digested. The symptoms of dyspepsia were usually conspicuous by their absence in dilatation. Dilatation of the stomach might increase to an enormous extent, even from the hypochondrium to the pubes, and turned back again to the hypochondrium—and that without any mechanical obstruction. Other symptoms of importance were pain simulating angina, occurring even during repose; extreme palpitation and vertigo, which were probably the direct result of mechanical pressure, as the eructation of gas ended the distress. Tetany was an occasional concomitant of dilatation of the stomach. In one case, after the tetany had disappeared, it returned after severe shock. The mechanical effects were modified when the stomach dropped down. Other symptoms were probably the result of the absorption of the products of fermentation. In one case referred to, the development of Hodgkin's disease seemed to be related to dilatation of the stomach; lavage of the stomach was followed by a rapid diminution of the glands not only in the abdomen, but everywhere; in a second case improvement followed lavage after three weeks' treatment. The diagnosis might be either extremely easy or very difficult. It was common to find the stomach resonance extending transversely to the ensiform cartilage. The echo of the heart sound was often of value, as heard with the stethoscope, in defining the limits of the dilatation. Gravitation of the stomach contents was often of value in determining the lower limit of the stomach. Hemorrhage from a dilated stomach, pure and simple, was sometimes met with. Measures for disinfecting the stomach were alluded to. The use of the tube was especially indicated last thing at night.

Professor Musser divided cases of dilatation into those with ptosis, and those without. In the ptosis cases some patients had hyperchlorhydria, and the affection was mainly neurotic or toxic in origin; and in some cases disorders of the reproductive system were a causal factor. Among toxic causes were tea, tobacco, and the poisons of septic diseases. The physical health in such cases might be excellent. In other cases—called the neuro-cardiovascular type—there was weak heart's action, with polyuria and the presence of tube casts. In the cases with ptosis there might be no subjective symptoms. In some cases there was marked neurasthenia, the cause of which was obscure. Inflation by means of the tube alone was sometimes of much value, care being taken not to dilate the organ too much, and auscultation being practised simultaneously. In regard to profusion, eighteen months or two years were usually required for a distinct improvement. Except in extreme cases of dilatation, lavage was better not employed; and in any case it should be practised by the physician alone.

Dr. T. D. Savill thought one of the commonest causes of dilatation of the stomach was a septic condition of the mouth, as in pyorrhœa alveolaris. The relation of tetany to dilatation of the stomach depended probably on absorption of toxic products. Splashing and the percussion methods with gaseous dilatation were to be depended on—a draught of aerated mineral water might be employed for the purpose. In some cases the galvanic current gave excellent results. Diet alone was efficacious in some cases alone, particularly the so-called Salisbury diet. Change of diet was of importance, and fermentation by the Salisbury method was largely obviated. Drugs having a special action on carbohydrates were indicated.

Dr. Harry Campbell described the essential agency of the symptoms of gastric dilatation, namely, gaseous pressure, but the presence of solids and liquid had an influence apart from their own weight by diminishing the space available for gas. The aim in treatment should be to give a diet as non-flatulent as possible and for this purpose, perhaps, none was better than the Salisbury diet. All liquid should be given before meals. In regard to distension, it should be remembered that the amount of gas to be obtained from an effervescent mixture could be estimated. The lower limit of the stomach could usually be detected by ordinary percussion. The splashing sound occurred in normal persons. Depression of spirits was doubtless in many cases due to the absorption of toxins, but the mechanical pressure of a dilated stomach seemed to have a direct influence.

Dr. Alfred Parsons considered that it was of importance to assure patients that their disease was by no means incurable. The hypochloric acid test was sometimes of great service. The absence of the acid was of importance, but its presence contraindicated malignant disease. Succussion was valuable in some cases if obtained from four to six hours after meals. Allusion was made to a fatal case of gastric tetany in which operation seemed indicated, but could not be performed. In another case death occurred in eight hours after a gastroenterostomy.

Dr. Mantle referred to the vascular and nervous supply of the stomach and the relation of worry or shock to them in producing dilatation. Disturbed innervation led to diminished motility—eventually to dilatation. The condition of dilatation was often associated with cold extremitities and other evidence of vasomotor weakness. In treatment rest was of prime importance. The drinking of large quantities of water, containing a disinfectant, followed by emesis, could for private patients be used instead of lavage.

Dr. William Colwell thought the shape of the stomach, resonance, and its position varied much in different individuals and in the same person from time to time within fairly wide limits. All toxic causes might be classed together; and in exhausting conditions of any kind dilatation might occur. In some cases there was defective peristalsis with kinking of the duodenum, and in such gastroptosis was common. The hydrochloric-acid test was of great importance in distinguishing the dilatation of chronic gastric ulcer and malignant disease. The gas method in the supine position was often of service; as also was the method of introducing a small quantity of fluid by the tube before percussion.

Dr. Page May described experimental researches conducted with Professor Starling of University College Hospital on dilatation of the stomach. The gastric tone depended on local ganglia to a large extent as the contractions continued in the excised stomach. On the other hand, the central nervous system exerted a great influence on the musculature of the stomach. An India-rubber bag containing air and introduced into the stomach was used to give tracings. Stimulation of the peripheral end of the divided vagus first arrested movement and was then followed by an increase. The inhibitory effect was much more marked in the cardiac than in the pyloric end. Stimulation of the splanchnic nerve increasing the blood pressure gave no effect on the musculature of the stomach.

Dr. Haddon alluded to the effect of too frequent meals in producing dilatation of the stomach, and to the influence of maintaining a good action of the skin in relieving symptoms.

Professor Allbutt, in reply, said he thought tetany was rare except in cases of dilatation from mechanical obstruction. He had not found much dilatation of the stomach traceable to tobacco. Gaseous pressure depended to a great extent on the temperature of the gases. There was much difference between a big and strong stomach and a dilated stomach.

The Dietetic Treatment of Chronic Granular Kidney.—Professor Carl von Noorden, of Frankfort-on-the-Main, then read this paper, giving a report on his investigations on the excretory power of the diseased kidneys. It was one of the principal aims of the dietetic treatment as far as possible to keep from patients all those articles of food the metabolic products of which were only with difficulty and imperfectly excreted by the diseased kidneys. When such products of metabolism were brought in contact with the kidneys they constituted a strong stimulus for that organ; the damaging element lay in the disproportion between the stimulus on the one hand and the excretory power on the other. The speaker had studied the elimination of the natural products of the metabolism under different points of view. After having quoted the relative facility of elimination of these substances in acute nephritis, he described the eliminatory functions of the chronic granular kidney.

As far as the material at hand permitted the following questions could be discussed:

(1) How much albuminoid substances was to be allowed in granular kidney? He had pointed out how much nitrogen was excreted on the average by patients who had for some time been enjoying as good health as could be hoped for in the course of chronic nephritis. This was found to be on the average, in men, between 13 and 16 grams, and in women, between 11 and 14 grams, daily, calculated on the basis of 70 kilo weight of the body. This corresponded with 92-112 grains of albuminoid food in men, and of 80-100 grams in women. On the other hand, it was pointed out, when the albuminoid substances were slowly increased the patients usually secreted with the greatest ease quantities of nitrogen less than 14 grams (for 70 kg. weight), but as soon as the ingestion of albumin was increased, so that considerably more than 14-15 grams nitrogen daily had to be excreted by the kidneys, the elimination becomes irregular and uncertain. The empirical numbers and those ascertained experimentally corresponded perfectly.

(2) Was the quality of the albumin of any influence? Uric acid was not always readily eliminated. Therefore the patients were not allowed to eat substances which were rich in nuclein, glandular tissues, as sweetbread, liver, kidney; further exhaustive experiments had been made regarding the secretory power under the ingestion of corresponding quantities of the albumins of meat, fish, eggs, milk and vegetables. The diseased kidneys made no distinction between these various albumins. Other experiments had shown beyond doubt, that it was of absolutely no consequence for the eliminatory functions of the kidneys whether one gave red or white meat to the patient. In regard to these facts, the patient could be allowed much more freedom and variety in food than usually was the case, and their appetite could be kept up.

(3) Should the patient drink much or little? It seemed advisable not to allow more than three pints of fluid daily in cases of granular kidney, as by inundating the vascular system with water they correspondingly increased the work of the heart, and did it permanent damage. Restriction of the fluid spared the heart, whose weakness in many cases of granular kidney was more dangerous than the alterations in the kidney itself. Investigations on metabolism show that the diseased kidneys worked and excreted pretty well as long as the daily quantity of liquid is not reduced below three pints daily, not taking into account the water contained in the solid and semi-solid articles of diet.

(4) How much should the daily total quantity of food be? On it depended in the first instance the amount of fat produced in the body. Stoutness was a bad complication of Bright's disease; either was a source of danger to the heart, but their combination more than doubled the risk to life. The rule which could be derived from this point of view, and the general clinical experience was to feed patients suffering from granular kidneys with plenty of strengthening food, but under no circumstances to overfeed them. Whenever the weight must be reduced this reduction must be effected in the most cautious manner. The usual cures at Carlsbad and Maricubad were entirely unsuitable in cases of granular kidney. Such patients did much better under immediate medical supervision in hospitals and sanatoria.

Sir W. Mitchell Banks then read a paper describing a successful case of gastroplication for dilated stomach in which a fatal result was threatening. Pain and vomiting rapidly followed the operation, and two years later the man had had no relapse and he had gained weight.

Thursday, July 31—Second Day.

Differential Diagnosis of Functional and Organic Paralysis.—Dr. Buzzard opened the discussion on this topic, remarking that the expression "functional" as employed in this country was scarcely ever met with in the writings of continental authorities, where the cases of that class were always called "hysterical." Without attempting to define the word he thought that, for the purposes of the discussion, it would be convenient to consider it as applied to cases of paralysis which simulated more or less closely those arising from structural alterations, of recognized character, of the nervous system, without being dependent upon any that the most advanced means of investigation enable us to distinguish. He also thought that the term should be limited to cases of paralysis of a kind which it would be possible for at least some healthy persons to produce by voluntary simulation. This was not to imply that they are so produced (he entertained no doubt about the reality of the disorder), but in order to exclude from the category such examples as paralysis confined to the district of a single nerve-root or trunk of a mixed nerve. Functional paralysis could sometimes (though by no means always) be removed rapidly or suddenly as a result of persuasion or physical or moral shock. He enumerated many symptoms which were conclusive as to the existence of organic disease, and thought that, on the other hand there were probably none which, unsupported, could be relied upon to establish a diagnosis of functional paralysis. Functional hemiplegia was rarely preceded by anything resembling apoplectic seizure; it was most commonly of somewhat gradual onset, and was principally differentiated by its failure to present that gradual passage from flaccidity to contracture which was characteristic of the organic form. It was prone to be associated with an amount of anæsthesia far exceeding that usually observed in organic hemiplegia, except of that form in which there is lesion of the sensory tract in the internal capsule. The points of difference between organic and functional hemianæsthesia were considered. Reference was made to the characteristic hysterical gait. This had been well described by Todd, to whom we owe also the observation that hysterical hemiplegia rarely if ever attacked the face. Apparent exceptions to this experience were described. Attention was drawn to Babinski's "flexion combinée de la cuisse et du tronc" as an important test. In organic hemiplegia an effort to sit up in bed without the aid of the arms causes the heel of the affected side to be lifted, which does not happen in the functional form.

Although a process of slow and gradual contracture was not prone to occur in the course of functional hemiplegia, a strong contracture (without previous flaccidity) might take place and present a very strong prima facie resemblance to the result of an organic lesion. In such circumstances a point which the speaker had described many years ago was useful for differential diagnosis. In true hemiplegic contracture of long standing he had pointed out, the whole arm cannot be passively extended at one movement, but in the functional form the arm, hand, and fingers can all, by an effort, be brought into one plane. He did not think the inequality of the deep reflexes on the two sides could be absolutely relied upon to prove that the hemiplegia was of organic origin, although it was without doubt a very strong indication in that direction; and the same obtained with regard to ankle clonus, which was sometimes, though very rarely, in the functional form indistinguishable from that characterizing organic lesion. Dr. Buzzard said that many years' continuous experience had entirely confirmed an observation published by him some twenty years ago as to the absence or difficulty in eliciting plantar reflex in functional paralysis, and he thought the symptom was of great service as a negative sign in differentiating functional from organic paralysis. The "toe phenomenon" described by Babinski in 1896, was probably of still more importance, since it gave positive evidence of organic disturbance. Monoplegia of functional origin was then discussed, and it was shown that although in many cases the character of the affection could be conclusively demonstrated, its differentiation might sometimes present insurmountable difficulty.

Paraplegia, he thought, rarely presented any serious difficulty, especially because of the aid to diagnosis afforded by the Babinski toe phenomenon and his own symptoms of absent plantar reflex. Some remarks were made on the electrical condition sometimes observed in muscles in cases of functional paralysis tending to misapprehension, and the various signs indicating functional paraplegia were described.

Some remarks on the comparatviely moderate and often transitory paralysis of a limb or limbs in insular sclerosis concluded the address. Attention was drawn to the extreme frequency with which this was erroneously regarded as of functional character, and how much deplorable injustice was thereby inflicted on the numerous sufferers from this disease. He combated the idea held by some that these attacks of localized paralysis were at first hysterical and eventuated in organic change, and expressed the opinion that it was the attack of structural disease in the central nervous system which incidentally caused also hysterical symptoms. Not only physical shock but the shock of structural disease was prone to induce along with its immediately resulting symptoms others of a functional and often transitory character. In conclusion he urged that the medical student should receive accurate instruction and study of the Babinski toe phenomenon as a most important means of differentiating organic from functional paralysis.

Sir **William Broadbent** referred to the difficulty of distinguishing the early paralysis of insular sclerosis from a purely functional paralysis and the importance of Babinski's phenomenon in this relation. A series of four cases of functional paraplegia, due to suggestion by the same person were referred to. Extraordinary vascular changes were seen in functional paralysis, such as absolute increase in volume of the limb and extraordinary changes in the color of the limbs. After some congratulatory observations by Sir **James Grant** of Canada, Dr. **E. F. Trevelyan** of Leeds recounted some cases of functional paralysis having a bearing on diagnosis; including functional aphonia and hemiplegia.

Dr. **Judson Bury** divided cases of paralysis into malingering, functional, and organic. There seemed to be no reliable test, unless it were Babinski's test, which could be used to separate organic from functional paralysis. Even Babinski's test was probably not quite reliable. Recovery from paralysis could not be taken as a differentiating feature. It was necessary first to decide what part of the nervous system was affected, and then whether the change was vascular or cell-change, or other. Functional as a term was objectionable. All early changes of organic disease were probably identical with the changes of so-called functional disease.

Dr. **E. S. Reynolds** considered that nothing was more unfair to the patient than that some organic disease should be ascribed to functional disease. Probably the most difficult cases were those of compensation for railway injuries. Reference was made to cases of disseminated sclerosis, brain tumor, and general paralysis, in which handwriting was a distinctive feature and guide. Ankle clonus was probably a valuable evidence of organic disease, confirmed by Babinski's sign when present. Incontinence of urine, formerly supposed to be confined to organic disease, occurred in functional paralysis. The gait should always be observed with the patient's feet uncovered. In one case a scraping gait was conjoined to flexion of the toes. If the patient flexed his head against resistance the platysma contracted on both sides in functional paralysis, but only on the unparalyzed side in organic hemiplegia.

Dr. **T. D. Savill** referred to tne fact that anæsthesia was present in almost all cases of functional paralysis, being mostly hemianæsthesia and more frequently on the left side and often conjoined with implication of the special senses and contraction of the visual fields. The scattered nature of the signs of functional disease was characteristic. The variability of the symptoms in functional disease was remarkable; also the tendency to sudden and absolute disappearance of the clinical phenomena; and the ocurrence of vasomotor phenomena or flushings, and localized erythemata. These features suggested that the pathological changes underlying them were vascular or, at any rate, associated with the sympathetic system

Dr. **Harry Campbell** considered a functional paralysis depended on an undiscoverable lesion by ordinary powers of the microscope, but such lesion in the future might be discoverable. Such conditions as myasthenia, Grave's, Landry's paralysis, paralyses in Grave's disease, also toxæmic paralyses in their early stages, showed the difficulty of saying where functional disease ended and organic disease began. In case of diphtheria or diabetes there was often loss of knee-jerk without paralysis, and this was often considered as a certain indication of organic disease. Ankle clonus and Babinski's sign, when unmistakable, were evidence of organic disease. Cerebral vomiting and diplopia were no evidence of organic disease. Fixed pupil had been recorded in functional disease.

Dr. **F. W. Mott** referred to a test he had recently introduced—the cholin test—for which he invited attention and a trial. An excess of cholin in the blood indicated a considerable degeneration of the nervous system. The physiological test was the most reliable, but was not convenient. The clinical test was easy to perform. There was a proportional relation between the amount of cholin in the blood and the degree of nerve degeneration found after death. Small quantities of cholin were probably present normally in the blood as a result of healthy nerve metabolism, and hence the test was a comparative test. About 5 or 10 c.c. of blood were abstracted for the test, preferably from the vein. The difficulty in the test being to get rid of the potash salt, the blood was received into successive quantities of absolute alcohol, which removed them, and after the addition of bichloride of platinum crystals separated out, which were purified with alcohol and examined under the microscope. The injection of cholin into the vessels of an animal causes a fall in blood pressure.

Dr. **David Drummond** emphasized the importance of certain signs which were almost unequivocal in differentiating functional from organic disease, particularly the Babinski's sign. There were few, if any, signs which always gave a positive result, but their practical value was great notwithstanding. Of such were paralysis of the face and relaxation of the sphincters.

Dr. **J. M. MacCormac** considered that paralysis of external ocular muscles, when not due to disease in the orbit, indicated organic disease, so also did the Argyll Robertson pupil. Paralysis of the palate and well-marked and persistent hemianopsia, paralysis of the muscles, reaction of degeneration in wasted muscles, and other evidence of organic disease, were referred to. Functional disease could not be excluded until a sufficient interval had elapsed, to make sure that it would not develop into the organic.

Dr. **Purves Stewart** gave a lantern demonstration illustrating characteristic differences in the attitude and gait in functional and organic palsies, respectively.

Dr. **Dreschfeld** (the President) alluded to the presence of tremor in functional disease, and to the presence of Babinski's phenomenon in non-nervous diseases. The combination of extension of the big toe and flexion of the other toes was a certain sign of organic disease.

Dr. **Buzzard**, in reply, acknowledged that Babinski's sign did not always succeed, but observation of three years had established its great value.

Infantalism and Senilism. Dr. **Gilford Hastings** then read a paper with this title and showed cases and photographs. Infantilism might be proportional, in which case it might be considered normal, but usually it was not so and was associated with other disease and, therefore, abnormal. It was commonly connected with imperfect ction of important organs as the thyroid Ateliosis was a condition of dwarfism with abrupt onset and absence of perceptible cause, infantilism, defective development of reproductive system, unimpaired intelligence, but in one case with microcephalus. Ateliosis might be described as a sort of stereotyped childhood. Ateliosis might commence at any time, if after childhood the characteristic features were not manifested. Senilism represented a premature maturity or old age, which might be normal or morbid, indicated by premature development. Several varieties of the condition were described with illustrative case

The paper was discussed by the President, Dr. McWalter; and Dr. Harry Campbell and Dr. Hastings replied.

Friday, August 1—Third Day.

Demonstrations of Apparatus for Clinical Research.—The greater part of the work of the Section on the third day of its meeting consisted in demonstrations of clinical apparatus and methods of research.

Dr. James MacKenzie demonstrated his new and simple form of clinical polygraph and phlebograph, by which simultaneous tracings from the heart arteries, veins, enlarged liver, and other pulsating surfaces could be taken and synchronised. A system of tambour, lever, and india rubber tubes connected with a metal cap fitting on the pulsating surface was attached to a Dudgeon's sphygmograph as a recording apparatus. The President, Dr. Dreschfeld, said he had had the apparatus in use in his ward at the Royal Manchester Infirmary and had found it of much practical utility.

Dr. George Herschell demonstrated the hæmoglobin scale of Dr. Tallquist of Stockholm, and also showed an apparatus for safely inflating the stomach in order to facilitate the determination of its boundaries. This consisted of a force pump in the erect position, the piston of which would fall by its own weight so as to drive from a connected flash a paroleine spray through one limb of a double stomach tube introduced into the stomach. Through the other tube the spray escaped when the stomach was fully dilated.

Dr. Walker Hall showed his Purinometer for the clinical estimation of purin bodies in the urine, and made a communication on the general subject which was discussed by Dr A Luff and Professor Dixon Mann.

Bacteriology of Arthritis.—Drs. F. J. Poynton and Alexander Paine then gave a communication and lantern demonstration, describing their observations on the bacterial origin of certain forms of arthritis. Their observations were chiefly confined to the rheumatic, rheumatoid, and septic types of arthritis, and commenced with an allusion to the isolation of a diplococcus from the throat of a man suffering from rheumatic angina, and the reproduction of rheumatic manifestations, including polyarthritis by intravenous inoculation of this diplococcus into rabbits. The researches of Fritz-Meyer and Loffler were commented upon. As a result of a clinical, pathological, and experimental study of rheumatic arthritis, the authors concluded: (1) That the primary seat of deposit of the microorganisms was in the synovial tissues; (2) That the endothelium served as a barrier to their escape into the joint cavity; (3) That there was active phagocytosis both in the synovial tissues, and also in the articular exudations, when the microorganisms escaped the endothelial barrier and reached the cavity of the joint. It was highly important to recognize that the escape of the microorganisms into the joint cavities was a vital and not a passive process, and since rheumatic arthritis was such a transitory manifestation, it was to be expected that the cultures would be often negative. In severe cases the diplococci were present in the exudation, clinging to the fibrinous strands, and the endothelium was in such cases more or less destroyed.

In chronic rheumatic arthritis of long duration there occurred a perivascular fibrosis around the small blood vessels. The contraction of this fibrous tissue diminished the lumen of these blood vessels, and thus impaired the nutrition of the synovial tissues. The speakers believed this perivascular fibrosis explained to some extent the intractable nature of these forms of arthritis, and their slow reaction to treatment.

A very interesting type of arthritis had been especially described by Dr. G. F. Still as occurring in childhood It was characterized by much periarticular thickening. The lymphatic gland and spleen were enlarged, and the pericardium might be adherent. There was doubt as to how such cases should be classified, whether as rheumatic, rheumatoid, or as a special disease One such case under the care of Dr. Parkes Weber they had investigated during life with negative results, but there was, in spite of that, little doubt of their bacterial origin.

The observations upon rheumatoid arthritis were limited to four particular points: (1) Whether or not there was a specific disease which could be called rheumatoid arthritis; (2) The production of rheumatoid arthritis by intravenous inoculation of a diplococcus; (3) The relation of the nervous to the arthritic phenomena; (4) The relation of rheumatic fever to rheumatoid arthritis.

Amongst all the uncertainty that surrounded the study of rheumatoid arthritis, it seemed clear that many different infections might produce this condition. Whether there was in addition to these a special disease still required elucidation. It was also undoubted that microorganisms injected into the blood stream might produce a rheumatoid arthritis, as the authors had demonstrated in January of this year. Whether the nervous phenomena and arthritis were the result of some peculiar poisons acting upon both these tissues, or whether the arthritis was in reality neurotrophic, were questions which had to be approached at present with an unbiassed mind, and they thought the former view would prove to be the correct one. Rheumatoid arthritis following repeated attacks of rheumatic arthritis, they thought, might be the result of an intensified local virulence of the rheumatic infection, and not due to a secondary infection. This seemed probable to them because they had found that both simple and malignant endocarditis might result from inoculation with the diplococcus of rheumatic fever, and rheumatoid arthritis in rheumatic subjects appeared to them as the parallel in the joints to malignant endocarditis in the heart.

Upon two occasions they had isolated the pneumococcus from suppurative arthritis complicating pneumonia, which gave additional support to the writings of Leroux, and of Drs. Cave, Nathan Raw, and G. R. Murray, in England.

In the study of suppurative arthritis it had seemed best to abandon the use of the terms "pus" and "septic," for these words were often used so loosely as to convey but little real information. Examples were given to illustrate that a detailed description of the exudations in arthritis was preferable to the use of these terms "pus" and "septic." Finally, the influence that was exerted upon treatment, by the recognition of a bacterial agent in many forms of arthritis, was commented upon and exemplified by allusions to Menzer's specific rheumatic serum, the importance of investigations upon prophylaxis for the community and the individual, the necessity for a varied treatment, and the possibilities of surgical interference.

Dr. David Drummond then read a paper entitled "Some Practical Remarks on the Diagnosis of Heart Disease," dealing particularly with the diagnosis of functional murmurs, alcoholic affections of the heart, syphilis of the heart, and heart affections in renal disease.

Dr. F. M. Sandwith of Cairo communicated a paper on the earliest known physician—Sokit ne-Onkh, an Egyptian of 5,500 years ago, whose tomb had been found at Memphis.

Dr. Harry Campbell next read a paper on "Overlooked Cases of Graves' Disease," chiefly such as showed only nervousness, hand tremor, and tachycardia. It was suggested that other conditions of nervousness not clearly connected with Graves' disease might also have a pathological connection with thyroid changes, possibly with an exaggerated physiological activity of the thyroid.

Dr. CHOWRY-MUTHER described the results of the treatment of a hundred cases of phthisis by the open-air method, and Dr. A. MANTLE made a communication on vasomotor disturbances of the stomach and bowel.

With this the work of the Section was terminated.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 9, 1902:

	Cases.	Deaths.
Measles	119	8
Diphtheria and croup	167	28
Scarlet fever	92	9
Smallpox	5	2
Varicella	5	..
Tuberculosis	246	124
Typhoid fever	80	19
Cerebrospinal meningitis	..	3

A Contribution to the Study of Tropical Abscess of the Liver.—Rickman J. Godlee says that perihepatitis, usually perihepatic peritonitis, is an almost invariable accompaniment of tropical abscess. Klein's observations have shown that the direction of the flow in the lymphatics of the diaphragm is upward, and, therefore, as might have been expected, pleurisy is a very common accompaniment of tropical abscess. Rupture into the pleura is one of the most dangerous outcomes of this disease. Pleurisy may lead to serious effusion or to empyema without any rupture of the liver abscess through the diaphragm, and such an effusion may keep up the temperature after the successful evacuation of the hepatic abscess. When there is marked pleural friction, exploration of the liver should be made without delay. A patient with an imperfectly drained abscess of the lung is also exposed to abscess of the brain. Pulmonary abscess consequent on liver abscess should be opened without delay. In operating for liver abscess the best place to make the incision is in the lower axilla, as by far the greater number of abscesses occur in the right lobe, and if they be of large size they can usually be opened in this situation even if they form a projection in the epigastrium or most nearly approach the surface behind. In certain abscesses of the right lobe and in those of the left lobe the epigastric incision is the only one possible.—*Medical Press and Circular.*

Effects of Weather on Health.—A preternaturally dry air with a high temperature predisposes to the development of fevers and intestinal disorders.

A very moist atmosphere accompanied by a low temperature is likely to induce bronchial affections and rheumatism. In summer and autumn the tendency to sickness and death is chiefly connected with digestive organs.

In summer and autumn a rise of mean temperature above the average increases the number of cases of, and the mortality from, diseases of the digestive organs.

A cold and rainy summer controls the prevalence and fatality of diarrhœal diseases.

Diarrhœal diseases become epidemic when the subsoil temperature at a depth of four feet reaches 560° for the season.

The physiological effects of climate embrace the degrees of humidity, fogs, cloudiness, sunshine, force and direction of winds, purity of atmosphere, and the quality and energy of all meteorological influences.—*Ohio Sanitary Bulletin.*

Forcible Feeding.—James E. H. Sawyer gives directions for the proper use of the oro-œsophageal and the naso-œsophageal tubes. He much prefers the latter, as there seems to be less shock after its use and less likelihood of vomiting. Patients prefer it, since after the first unpleasantness of passing it through the nose there is practically no discomfort, whereas, when the oro-œsophageal tube is being passed, and as long as the mouth is kept open by a gag the attempts to swallow are very uncomfortable and even painful, and often end in retching. Great care must be taken that the tube does not pass into the larynx. It should be pulled out during expiration, so that none of the liquid still remaining in the tube shall drop into the larynx, and also because vomiting is less likely to occur during expiration than inspiration, since during the latter period the diaphragm is contracted and tends to force out the contents of the stomach.—*The Birmingham Medical Review.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 9, 1902:

SMALLPOX—UNITED STATES.		CASES.	DEATHS.
Alabama, Mobile	Aug. 2	1	
California, Los Angeles	July 19–26	1	
San Francisco	July 20–27	7	
Colorado, Denver	July 19–26	2	
District of Columbia, Washington	July 27–Aug. 2	3	
Illinois, Belleville	July 27–Aug. 2	0	
Chicago	July 27–Aug. 2	1	
Indiana, Indianapolis	July 27–Aug. 2	5	
Kentucky, Covington	July 27–Aug. 2	7	
Maryland, Baltimore	July 27–Aug. 2	1	
Massachusetts, Boston	July 27–Aug. 2	3	2
Cambridge	July 27–Aug. 2	6	
Chelsea	July 27–Aug. 2	1	
Everett	July 27–Aug. 2	2	
Fall River	July 27–Aug. 2	1	
Lowell	July 27–Aug. 2	1	
Malden	July 27–Aug. 2	1	
Medford	July 27–Aug. 2	2	1
New Bedford	July 27–Aug. 2	1	
Newton	July 27–Aug. 2	1	
Somerville	July 27–Aug. 2	2	
Missouri, St. Louis	July 28–Aug. 3	14	
Nebraska, Omaha	July 27–Aug. 2	3	
New Hampshire, Nashua	July 27–Aug. 2	1	
New Jersey, Hudson County, Jersey City included	July 28–Aug. 3	0	3
Newark	July 27–Aug. 2	4	2
New York, Elmira	July 27–Aug. 2	1	
New York	July 27–Aug. 2	4	5
North Carolina, Hancock	Aug. 2	1	
Newbern	Aug. 2	1	
Ohio, Cincinnati	July 26–Aug. 1	7	
Cleveland	July 26–Aug. 1	41	2
Pennsylvania, Butler	July 10–17	2	
Erie	July 27–Aug. 2	2	
Johnstown	July 27–Aug. 2	6	1
McKeesport	July 27–Aug. 2	2	
Vermont, Burlington	July 27–Aug. 2	1	
Washington, Tacoma	July 27–Aug. 2	3	
Wisconsin, Milwaukee	July 27–Aug. 2	2	
SMALLPOX—FOREIGN.			
Austria, Prague	July 5–19	3	
Belgium, Antwerp	July 12–19	3	
Colombia, Cartagena	July 7–13		1
Great Britain, Birmingham	July 12–26	3	1
Liverpool	July 12–26	16	
London	July 12–19	48	15
India, Bombay	June 17–July 8		17
Calcutta	June 21–July 5		3
Karachi	June 22–July 6	3	1
Madras	June 21–July 4		4
Italy, Naples	July 5–12	2	
Palermo	July 5–12	13	
Mexico, City of Mexico	July 13–27	4	3
Russia, Odessa	July 5–19	5	
St. Petersburg	July 5–12	12	2
Warsaw	July 5–12		5
Straits Settlements, Singapore	June 7–14		1
Switzerland, Geneva	June 28–July 12	1	
YELLOW PEVER.			
Costa Rica, Port Limon	July 17–24	2	
Mexico, Coatzacoalcos	July 12–26	8	4
Vera Cruz	July 19–26	19	9
CHOLERA.			
China, Amoy	May 31–June 14	120 (estimated)	
New Chwang	To June 28	330	
" "	June 21–28	121	126
Tientsin	June 7–21	581	401
India, Bombay	June 17–July 8		2
Calcutta	June 21–July 5		47
Japan, Ehime Ken		1	
Fukuoka Ken	July 3–5	49	7
Nagasaki Ken	July 5	2	2
Saga Ken	June 1–July 3	62	33
Shizuoka Ken		1	
Tokyo Fu	June 23–July 3	15	12
Tokushima Ken	July 4	1	
Java, Batavia	June 1–19	39	30
Straits Settlements, Singapore	June 7–14		51
PLAGUE—UNITED STATES.			
California, San Francisco	July 18	1	1
" "	July 21	1	1
PLAGUE—INSULAR.			
Hawaiian Islands, Honolulu	July 23		1
PLAGUE—FOREIGN.			
India, Bombay	June 17–July 8		110
Calcutta	June 21–July 5		64

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Original Articles.

WHEN AND WHY DOES LABOR BEGIN?

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FAMILIAR facts, or facts which should be familiar, are often forgotten. Every-day topics are frequently carelessly treated. In the search for new fields of discovery, and in the craze for bold and brilliant operations, we are prone to forget that statements which are common are not necessarily correct, and that we often know least about that which we are accustomed to regard as definitely settled.

Nowhere, perhaps, does this find better illustration than in the department of obstetrics—a subject seldom seriously studied and too often taken up only as a stepping-stone or adjunct to gynecology with its tempting field of multitudinous operative activity. Textbooks are largely repetitions one of another, old errors are perpetuated and ancient customs regarded with reverent eyes, while undue conservatism, lack of systematic study and research, and timidity in expression bar the march of progress.

Without doubt the best example of this is to be found in the history of the management of normal labor. It seems almost incredible that although the chief danger of this process is wound infection of the ordinary type, transmitted in the ordinary way, writers and teachers should have continued so long, and some of them should still continue to impress upon the mind of the innocent and receptive student, that the chief duty of the accoucheur is to make frequent vaginal examinations.

But it is not only in the management of labor that we find evidences of last-century teaching. The physiology and clinical phenomena of normal pregnancy and labor are still largely misunderstood, owing to the tendency of obstetric writers to accept the statements of others rather than to think for themselves.

For many years the "Cervixfrage," has divided obstetricians into two opposing parties. According to one school, the cervix shares but little in the growth of the pregnant uterus. According to the other, it not only shares in uterine growth, but its canal becomes unfolded for the reception of the ovum, the upper part of the canal ultimately forming what is usually known as the lower uterine segment. Those who hold this view believe that what is usually called the internal os at the end of pregnancy and what has been aptly termed the clinical internal os, the so-called ring of Müller, simply marks the limit of cervical unfolding.

For one reason or another the first view has found favor with most American writers. In most of our textbooks will be found the statement that while there occurs during pregnancy an apparent shortening of the cervix uteri this shortening is only apparent and the result of conditions calculated to deceive the inexperienced observer. It is difficult to understand why this opinion has so long held sway. Perhaps its survival is due to the unconscious effort to make the result of occasional examinations harmonize with preconceived ideas or with the dicta of authority, or to the failure to examine cases at all. It can hardly be the result of the systematic and unprejudiced examination of pregnant women.

It is safe to say that at present the weight of authority is decidedly in favor of the assumption that the lower uterine segment is formed, either in whole, or in part, in one class of cases or another, from the upper portion of the cervical canal. Some writers, indeed, while admitting that in primiparæ the cervix expands during pregnancy to form the lower uterine segment, believe that this expansion does not occur in multiparæ until the so-called premonitory stage of labor. Since, however, no definite line can be drawn between the end of pregnancy and the beginning of this premonitory stage, the distinction is of theoretical rather than practical value.

Nevertheless, a brief review of recent obstetric literature will suffice to show not only that many writers in treating of the development of the cervix during pregnancy ignore the views of a large proportion of the most earnest and scholarly workers in this field, but also that the important subject of the condition of the cervix and its canal during the latter week of pregnancy is either practically ignored or superficially or incorrectly treated.

Too often the whole subject is regarded as of academic interest only. It has, however, many practical bearings of importance, and recent experience has led the writer to believe that not the least of these is its bearing upon the diagnosis of beginning labor. That the latter is not so simple a matter as is commonly supposed, is sufficiently evidenced by the mistakes of students and beginners, and by the varying and somewhat conflicting statements of textbooks. Practiced observation and experience, it is true, often suffice even when we are not able definitely to analyze or clearly to state the reasons for our conclusions, but such observation and experience are not the property of beginners, nor can they always be relied upon. The old maxim "Whatever is worth doing at all is worth doing well," is certainly pre-eminently applicable to a scientific subject, and the question, What are the objective signs of beginning labor? is certainly worthy of a definite, and, as far as possible, a detailed and critical answer.

Subjective symptoms, as is well-known, are not infrequently unreliable. The recognition of uterine contractions is, of course, significant, but as these can be recognized at any time during the last few weeks of pregnancy they are of value, at a very early stage of labor only as corroborative evidence. What other evidence is available? It is true that in most cases there is little necessity that an early diagnosis be made and little justification for manipulations within the cervix, but now and then we meet with cases in which it is of the highest importance to determine whether the patient is in true labor; for example, cases in which, for one reason or another, it is proposed to undertake some operative procedure and cases in which it is necessary to know for purposes of diagnosis and treatment whether we have to deal with a delayed first stage.

It is self-evident that in order to make a diagnosis of beginning labor we must be prepared to answer the question—What is the condition of the cervix and its canal during the latter weeks of pregnancy? To tell whether a patient near term and suffering from the "dolores presagientes," so common in multiparæ, is in labor is sometimes a matter of no small difficulty. Indeed, by the methods usually advised, it is impossible. The ability to make the differential diagnosis is dependent upon an accurate knowledge of the conditions which obtain within the cervical canal during the last few weeks of pregnancy. And yet how much does the student find upon this subject in the average textbook?

Let us briefly recall these conditions. In most cases the cervical canal will be recognizable *as a canal*, that is, without beginning obliteration of the internal os, for a varying distance, exact measurements, of course, being hardly practicable. This persistance of the canal was doubtless the original foundation for the statement that it is not shortened, but careful examination of a series of cases will convince one that shortening does occur, that it is more marked in primiparæ than in multiparæ, and that in cases of extreme distension from any cause the degree of cervical unfolding is still greater, and sometimes, as remarked by Ohlshausen and Veit,[1] almost complete.

In a certain proportion of cases in which the head has entered the pelvic canal the familiar obliteration of the anterior lip from pressure is found, and the canal may be temporarily restored by pressing the head upward, but the statement of some writers that the restored canal is as long as it was at an earlier period of gestation cannot be admitted. The attempts to account for the plain evidence of digital examination by such theories as softening of the cervical tissues, obliquity of the canal, and so on, afford an interesting study in psychology, and are fine examples of the unconscious casuistry into which the ablest of minds may fall in the attempt to make conclusions harmonize with premises.

What such statements really mean is that the cervix is as long during pregnancy as in the unimpregnated uterus, but even this is not always true, and if it were, the obvious answer would be that the shortening is relative and not absolute. Moreover, leaving aside for the moment all the anatomical and physiological data of Bandl and his followers, it seems antecedently highly improbable that the cervix should retain its natural size during pregnancy while there is such an enormous growth in the body of the uterus. The question has been aptly asked by Ohlshausen and Veit[2], why should so homogeneous a structure as the corpus uteri become divided during labor into two parts so radically different in function as the upper and lower segments of the uterus? The assumption that the lower uterine segment is the expanded upper part of the cervical canal, although still unaccepted in many quarters, affords the best, indeed the only explanation yet advanced.

Exact data are, of course, difficult to obtain, and, as was to be expected, frozen sections have not afforded conclusive results. A recent case, however, reported by Hahl[3] of Helsingfors, is highly significant, and deserves more attention than it seems to have received. In this case labor was long delayed by a contraction of what during labor was, from its high level, supposed to be the so-called ring of Bandl. Examination at the end of the puerperium, however, showed that the difficulty was a stricture, probably congenital *of the internal os*. This conclusion was confirmed and rendered seemingly impregnable by the fact that microscopic examination of a section taken from the location of the stricture gave the characteristic anatomical peculiarities of the cervical mucous membrane.

A few cases of this kind would suffice to demonstrate that what we have been accustomed to call the ring of Bandl is really the internal os, and to show that post-mortem appearances cannot always be relied upon to explain vital phenomena.

But to return to the condition of the cervical canal during the latter weeks of pregnancy. The majority of our patients are multiparæ, and it is in connection with this class of cases that difficulty in the diagnosis of beginning labor is most likely to exist. In the great majority of cases, contrary to the opinion sometimes advanced, there is dilatation of the entire canal, including the internal os. In nearly every case one or two fingers may be passed through the internal os to the presenting part without the slightest difficulty. The internal os is smaller and more tense than the external os, the relaxed and yielding margins of the latter presenting a marked contrast to the tense and resisting ring of the former. The canal, taken as a whole, resembles an inverted funnel, the internal os being smaller than the external. This is best appreciated when the parts below the internal os are put upon the stretch by the separation of the examining fingers within the canal. The above picture represents the condition of the cervix in the average multipara during the last few weeks of pregnancy. If the antepartum examination of pregnant women proves anything at all it proves that in multiparæ dilatation of the cervix, including the internal os, is no evidence of labor.

The writer has been called to see a supposed case of delayed first stage, the diagnosis being based upon cervical dilatation, combined with the ill-defined pains so common in multiparæ during the latter weeks of pregnancy, only to find that the internal os still bore that relation to the remainder of the cervical canal normal in multiparæ, while, on the other hand, it has happened more than once that he has accidentally discovered the existence of a previously unsuspected labor by finding beginning disappearance of the internal os.

Dilatation of the cervical canal, including the internal os, even to the point of admitting two or more fingers, may mean nothing. Dilatation of the internal os in such a way that what is left of the canal of the cervix begins to form part of the uterine cavity means beginning labor. Only those contractions which are accompanied by this kind of dilatation deserve the title of "labor-pains." At first the change can only be noted during the pains. As labor advances it becomes appreciable during the intervals.

An excellent illustration was afforded in a case in which labor was accidentally discovered during an antepartum examination. The canal was almost cylindrical even at the level of the internal os, but the latter had lost its tense and resisting character, and was as large or a little larger than the external os. This led me to question the patient, who admitted that she had been having pains for some time. These pains had not been sufficiently severe to attract the attention of those about her. It is evident that in her case and in many others the history taken in the usual way would lead one to believe that the first stage of labor is much shorter than is really the case.

It is true that the internal os may re-contract, but this exception is so rare as only to prove the rule. Indeed it is probable that this re-contraction occurs only when some abnormality is present, *e. g.*, after manual dilatation or when the descent of the ovum is prevented by adherent membranes.

In primiparæ the external os is firm and the canal cylindrical or spindle-shaped rather than funnel-shaped. The degree of dilatation is much less, the external os, as a rule, barely admitting the tip of the finger. In some cases, however, the examiner will be surprised to find that one or even two fingers may be passed without difficulty through both orifices.

These facts, of course, are not new. They are found scattered here and there through the literature of obstetrics. They are familiar to those who have interested themselves in antepartum examination as it is conducted in modern maternity hospitals. Many textbooks, however, mention them only in part or not at all, thus leaving the student to make a diagnosis of beginning labor while in entire ignorance of the condition of the cervix and its canal at the time when labor begins.

It is a striking fact and one highly complimentary to the careful methods of the old masters of the obstetric art, among whom may be mentioned Leishman, Meadows, Barnes, and others, men who concentrated their attention not upon gynecological or pseudogynecological technique, but upon that most wonderful of all the wonders of nature, the history and phenomena of pregnancy and labor, that in the older works is to be found a far more accurate presentation of the subject than in most modern ones. Here, as elsewhere, is illustrated the fact that it is not well to lay aside the old books altogether.

It is no wonder that the modern medical student is sometimes bewildered. He will find in standard textbooks the astonishing statement that the cervical canal remains closed until the very beginning of labor, and he is also told that dilatation of the cervix and obliteration of its canal are the chief objective signs of labor; but if he is an observant man and has opportunities for examination, he will find, to his surprise, that occasionally in primiparæ, and, as a rule, in multiparæ, the cervical canal is dilated for its entire length to the point of admitting one or two fingers long before labor begins, and that, especially in multiparæ, obliteration of the canal usually means not only that labor has begun, but also that a large and, clinically, an important part of the first stage has been completed. Unless, however, he is taught these things at the outset of his practical work, he will learn them only as the result of many mistakes, much personal inconvenience and chagrin, and perhaps at the expense of the welfare of his patient.

In the interest then of accurate teaching, a restatement and an emphasizing of these facts seem not only justified but imperatively indicated.

It is a curious and interesting fact that in multiparæ the cervical canal during the latter part of the first stage assumes a shape much the opposite of that which obtains before labor begins. The funnel is no longer inverted—it is the external os which is put upon the stretch during the uterine contractions, and which is now tense and resistant, while the internal os, though still plainly appreciable, becomes softer and more yielding. An appreciation of this fact is especially important from a clinical standpoint, since in multiparæ the internal os forms the chief barrier to delivery. With the disappearance of the internal os the chief obstacle has been removed and labor often progresses with surprising rapidity.

There is usually little difficulty in determining the commencement of labor in primiparæ. As a rule, the cervix remains closed until labor begins, and by the time that dilatation is noticeable the other signs of labor are unmistakable. In those cases in which the canal is dilated before labor the diagnosis may be made in the manner already described. The student should have impressed upon his mind the fact so often ignored or unnoticed that the evidences of beginning labor are not the same in primiparæ as in multiparæ. With reference to prognosis he should remember that dilatation of the internal os is the diagnostic index of the progress of the first stage of labor in multiparæ as is dilatation of the external os in primiparæ.

In cases of over-distention from any cause, *e. g.* hydramnion or twin pregnancy, the canal may be practically obliterated before the advent of true labor. In these cases cervical dilatation may proceed very slowly or cease altogether. This is usually attributed to paralysis of the uterine muscle from distention. As a rule, however, rapid expulsion of the uterine contents follows rupture of the membranes, and hence the delay in the first stage is best explained by the fact that the part of the amniotic sac in relation with the cervix is a small segment of a large spherical surface instead of a conical protrusion, and hence proves entirely inefficient as a cervical dilator. In these cases it is difficult to say at what time the first stage of labor begins. Premature labor is the rule. Before the normal limit of gestation has been reached the extreme distention provokes uterine contractions, which, for reasons just stated, may be ineffectual, and the patient's suffering may be indefinitely prolonged.

These cases are among the most puzzling and trying for the young accoucheur. In hydramnion external palpation is unsatisfactory, and if the distension is not extreme it may be difficult to account for the delay in dilatation. The ease with which ballottement of the relatively small and very movable fœtus can be practised is, however, highly significant. The artificial rupture of the membranes at once establishes the diagnosis and removes the difficulty. It is followed by rapid dilatation of the external os and rapid completion of delivery.

A discussion of the symptomatology and management of hydramnion and other conditions involving excessive uterine distention has no place *per se* in the treatment of the subject at hand. The clinical phenomena of hydramnion, however, afford an excellent illustration of the fact that in many cases it is difficult to draw a sharp line of distinction between the termination of pregnancy and the beginning of labor, and of another fact to which I shall again have occasion to refer, *viz.*, that in many cases of labor not ordinarily classified as premature or abnormal the immediate cause of labor is by no means identical with that which obtains in cases strictly physiological.

What is the cause of the very short duration of labor after rupture of the membranes, in the case of a multipara suffering from hydramnion? The cervical canal has already been practically obliterated and most of the resistance has been overcome. The condition is analogous to that present in a normal multiparous case in which the first stage is half completed. The ring of Müller or clinical internal os, which is the principle obstacle to delivery in multiparæ, is not present, and the resistance offered by the external os and vagina has been largely overcome in previous deliveries. The only obstacle to the rapid expulsion of the fœtus is the mechanical impossibility of effectual uterine contractions. With the diminution in the bulk of the uterine contents which follows rupture of the membranes this obstacle is removed. An additional reason, but one which, of course, has no bearing upon the comparison, is that the fœtus is usually small.

A knowledge of the condition of the cervix during the latter weeks of pregnancy and the early part of labor not only throws light upon the diagnosis of beginning labor, but affords the best answer to the question, What is the immediate cause of labor? According to Bayer[4], the unfolding of the cervix is normally arrested at a fixed, not an accidental, point, in the canal, corresponding to the insertion of the retractor muscles. This point varies somewhat in the individual case, but is nevertheless relatively a fixed one.

Time and space forbid a discussion of the complex subject of the uterine musculature. The main point, however, is that the resistance offered here is greater. This increased resistance is due, in part, to muscular reinforcement, but chiefly to the presence in the lower part of the cervix of a much greater amount of connective tissue than is to be found in its upper part. It is with the dilatation of this part of the cervix that true labor begins. May we not then assume that when cervical eversion has gone on until it is met by this resisting ring—or, in other words, until there is beginning dilatation of the clinical internal os or ring of Müller, the irritation of the great cervical ganglion, with its relatively enormous nerve supply, derived from both the central and sympathetic nervous systems, is sufficient to cause those characteristic contractions which signalize the closing scene of this great physiological drama, and herald the onset of true labor. Uterine distension, with gradual cervical eversion, the primary cause, cervical irritation, produced by the continuance of eversion beyond a fixed point, the immediate occasion, of labor. Viewed in this light, the efforts of nature harmoniously directed toward one point afford an explanation of the cause of labor at once complete and satisfactory, and doing away with the medley of explanations, some plausible, others fanciful, whose very number shows how unsatisfactory each one must be.

The effect of cervical stretching in causing uterine contractions is universally admitted. The tendency to premature labor in conditions of extreme distension is also significant, and many other confirmations of this theory which time and space forbid us to consider, but which will readily occur.

A highly interesting illustration was recently afforded in a case in which labor was induced because the patient, who had already been delivered of one dead child at term, was two and one-half weeks over time. The cervix was manually dilated. Characteristic labor pains at once appeared, but soon ceased and were followed by eighteen hours of quiescence. Examination showed that in consequence of a decidual endometritis the membranes were attached on one side to the uterus, thus preventing the descent of the ovum into the cervix. The membranes were ruptured, the head at once descended into the cervix, the contractions recommenced, and in about six hours the patient was delivered of a living child.

Cases like this tell with a plainness which cannot be misunderstood the part played by pressure upon the cervix in the initiation and continuance of labor.

It has seemed to the writer that a consideration of the results of the various methods of inducing labor should aid in the solution of this question. The Krause method, the introduction of a foreign body in the shape of one or more bougies, while, perhaps, the most popular, is notoriously slow and unreliable. A method which much more closely imitates the natural mechanism is the introduction of a conical rubber bag, the smaller end of which enters the internal os in the same manner as does the distended amniotic sac in the first stage of labor, traction being made as necessary. This method has recently been subjected to a thorough test by Rubeska of Prague,[5] and Vorhees[6] of New York, who have found it, as might have been expected, the most certain method yet employed for the induction of labor. If then we find that eccentric pressure from within outward applied to the ring of Müller is more effectual not only in the acceleration but in the induction of true labor than the insertion within the uterus of a foreign body, we may reasonably conclude not only that the mechanism of labor is more closely followed, but also that the causative force of labor is more closely imitated. The fact that dilatation of a certain part of the cervical canal is coincident with the beginning of labor proves nothing, but the additional fact that artificial dilatation of this part of the canal is the most certain method of inducing labor is highly significant.

Bayer[7] objects that pressure upon the ring of Müller cannot be the cause of labor, since labor may begin before this point is reached. With all deference to the opinion of this industrious and gifted teacher, whose epoch-making work in uterine morphology has never been equalled, this objection can hardly be admitted.

In fact, the effort to make some one factor the cause of labor in every case is largely responsible for much of the confusion which now exists. It is perfectly plain that many agents other than cervical stretching may initiate labor by causing uterine contractions. We are seeking, however, not for every unnatural influence which may interrupt pregnancy, but rather for the immediate cause of labor, strictly normal.

If it be asked why does labor fall upon the two hundred and eightieth day of gestation, the answer is that we have no means of knowing that it does. Every practitioner knows how unreliable are the ordinary methods of estimating the duration of pregnancy. Ahlfeld's[8] tables showed a variation of ninety-nine days, and even if we exclude a large proportion of the cases, 14 per cent. in which premature labor might be surmised, and 6 per cent. in which pregnancy was thought to be prolonged beyond the forty-first week, we have in the balance of cases a variation of three weeks, and even if it be granted that the period required to bring the human ovum to maturity is in all cases substantially the same and that this period corresponds within narrow limits to a certain degree of uterine distention, these facts could be easily paralleled in other natural processes, and would be intrinsically less remarkable than many other mysteries of the scheme of reproduction.

Other causes, such as decidual separation, monthly congestion, and so on, if admitted would seem to act in most cases as accessories; that is, as agents increasing the normal strain upon the upper part of the still unfolded cervical sphincter rather than as direct causes of labor.

The painless contractions of pregnancy, whose rôle has so long been a matter of dispute, are best explained as the reflex response of a uterus subjected to the physiological irritation of distension. Their relation to the gradual obliteration of the upper part of the cervix and the consequent formation of a lower uterine segment is a reciprocal one. The contractions aid in the process of distension and are in turn, stimulated by the very distension which they help to cause, and thus the process continues until it reaches the resisting ring of Müller, the clinical internal os. In contemplating this marvellous mechanism one cannot wonder at the enthusiasm of an ancient writer,[9] or doubt his statement, "Ein Wunder der Natur ist der menschliche Uterus."

The common idea that labor occurs as an interruption of pregnancy caused by some mysterious agent which suddenly evokes uterine contractions, is still prevalent even among physiologists and students of obstetrics. Every one who has carefully watched a case during the last few days of a normal pregnancy knows that the reverse is true. There is no distinct line of demarcation between pregnancy and labor. As Bayer has apty remarked, there is no essential difference between the uterine contractions of pregnancy and those of labor except that the latter are attended with pain. What is the cause of this pain? Its best explanation is to be found in the greater resistance offered by a certain part of the cervical canal.

At the last analysis then, labor is not an interruption but a culmination of pregnancy, a part of a continuous process which extends from conception until uterine involution is complete.

Cervical irritation, it is true, has long been regarded as a cause of beginning labor. Du Bois and his followers held that "complete obliteration of the cervix involves the highest grade of physiological development to which its fibers can attain,"[10] and that the sphincter fibers do not become susceptible to reflex cerebrospinal irritation until such obliteration occurs. The defect in this theory seems to be that, as I have previously stated, ordinary labor progresses for some time before cervical obliteration is complete.

Knüpfer[11] and Keilmann[12] hold that the immediate cause of labor is the mechanical irritation of the cervical ganglion caused by the gradual unfolding of the cervix. This is certainly a near approach to the theory which I have ventured to advance, but overlooks the fact so well demonstrated by Bayer, and which is confirmed by analogy and clinical experience, viz., that beginning labor corresponds in normal cases to the dilatation of a certain fixed point in the canal—the ring of Müller—the clinical internal os—the ordinary physiological limit of cervical eversion.

Various writers have compared the emptying of the pregnant uterus to the emptying of other hollow viscera, *e. g.* the bladder and rectum, but the analogy, while close, is by no means complete. The bladder and rectum must be frequently emptied and pressure upon the sphincter affords the impulse to contraction. The emptying of the pregnant uterus, however, must be delayed, and hence it would seem to be a wise provision of nature that the true cervical sphincter is not at the internal os but below it.

To sum up: The statement made in many textbooks that the cervix maintains its entire length during pregnancy is incorrect.

The statement sometimes made that the canal of the cervix remains closed until the beginning of labor is also incorrect. Usually in multiparæ, and occasionally in primiparæ, the canal including the internal os is dilated to the extent of admitting one or two fingers two or three weeks before labor begins.

Dilatation of the external or internal os or of the cervical canal is not *per se* an indication of beginning labor.

Dilatation of the clinical internal os or ring of Müller in such a manner that it begins to form part of the uterine cavity is at once the anatomical commencement and the diagnostic sign of true labor.

Dilatation at this point is the final result of uterine distention and consequent cervical eversion.

Dilatation at this point, owing to the greater resistance offered, by its effect upon the cervical ganglion, and the consequent reflex awakening of effectual uterine contractions, is the physiological cause of labor.

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SOME VARIETIES OF SURGICAL TUBERCULOSIS, WITH SPECIAL REFERENCE TO A NEW METHOD OF TREATMENT.

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OF all microbic diseases seen by the surgeon, surgical tuberculosis ranks second in importance only to those produced by the pyogneic microbes. It is a mistake to suppose that it only interests the surgeon; on the contrary, many of its phases come within the scope of the general practitioner. For instance, tubercular adenitis. There is no disease that I know of so common and so carelessly treated by many. The fact seems to be that practitioners do not realize that almost all the cases of chronically enlarged glands are tubercular and that eventually they frequently cause the death of the patient for want of timely and proper treatment. However, to understand the subject thoroughly, it will be better to commence at the beginning and follow the deadly bacillus from the beginning of its career through the various phases of its existence to the end.

It is a law of nature that all animal and vegetable creation must fight for existence, and that only the fittest survive. The life of the tubercle bacillus is no exception to the rule, as you will readily see. Born, frequently in the chest of some consumptive, it is expectorated from its congenial retreat. The sputum dries and the bacillus lies dormant, sometimes for long periods, blown about in the dust. Finally, it settles on an eczematous patch, or a mucous membrane that is fissured, or the seat of catarrh, and the moist warmth revives its activity, and the fight for existence goes on. It breeds others of its species, and in numbers they go to attack the deeper lying structure, choosing, as a rule, the lymph spaces as an avenue of ingress. Here the first opposition meets them in the shape of leucocytes, who take many of the intruders into their protoplasm and their digest them.

But if the bacilli are too great in number to be so disposed of, or if the leucocytes are not strong enough, through a lowering of the body vitality, they are consumed by the bacilli.

The bacilli now float along in the lymph channels until they meet an obstruction in the shape of a lymph gland, a terminal branch of a nutrient artery of a bone or place where a slight injury to the tissues has taken place, and there they settle.

A number of cells are formed around the bacilli, and we now have a tubercular nodule so small that it can only be seen with the microscope. Many of these coalesce, and we get a nodule which can be felt and seen; it is composed of epithelial cells, leucocytes, and giant cells.

Giant cells are simply cells that have taken up a greater amount of nourishment than their fellows in the shape of leucocytes that have undergone fragmentation.

As the tubercle grows its center undergoes cheesy degeneration. This cheesy material contains few or no bacilli, but many spores, as animals inoculated with it quickly develop tuberculosis. Lastly, this cheesy center liquifies, and then we have a so-called tubercular abscess. This name is misleading, as the material is not pus, but broken-down tissue débris; this is the material contained in the psoas abscesses and in cold abscesses generally.

Bacilli will not grow in this fluid, as it does not contain the proper nutriment, but they are numerous in the wall of granulation tissue that confines it. But do not gather that in all cases the tissues go through the above-described changes.

The organism has several weapons with which to fight the invader. Connective tissue may form and contract, taking the place of the diseased cells, and thus destroy the bacilli; this is called healing by cicatrization. The disease may then lie dormant for years or never occur, but there is always danger, as the cicatrices contain spores, and these may become active again with lowered vitality of the body.

Calcification may take place, leaving a hard, whitish substance where the disease was located.

Sometimes the area is surrounded by a connective tissue wall; this is called encapsulation, and is much less of a safeguard than the preceding, and, lastly, suppuration may supervene, and if the area attacked by tubercle is a small one, may destroy it entirely, thus effecting a cure, but if the area affected is considerable it will only hasten the end by disseminating the tubercle bacilli through destroying the granulating wall that confines them, besides adding septic absorption to the dangers incurred.

This danger of infection must always be borne in mind when opening a tuberculous abscess, as it is almost impossible, in many locations, especially in children, to prevent subsequent infection. This has led to the adoption by some of introducing a trocar into the abscess, washing it out, and injecting iodoform, glycerin through the cannula. This procedure must be repeated whenever the fluid begins to reaccumulate, until healing takes place. This procedure is particularly advisable in the large abscesses following caries of the spine, and, in fact, in all cases where the original seat of the disease cannot be reached.

Operations for tuberculous processes, even the smaller ones, are by no means free from danger. Most surgeons can, no doubt, recall cases in which their patients died quickly afterward of general miliary tuberculosis. The reason is this, in the process of curetting blood and lymph spaces are freely opened, and infected cells forced into them. That this may follow curetting has been proven by the microscopic examination of the blood. Therefore I cannot concur in the general practice of curetting tuberculous ulcers and abscess cavities.

Nicholas Senn and others advise curetting a tuberculous-abscess cavity thoroughly and suturing it in an attempt to get primary union. He admits that even if he gets the union spores are likely to remain in the cicatrices which may later become active. Now I do not wish to claim that the sharp spoon can be dispensed with in all cases, or even the majority, but when it is possible it should be done.

The procedure that I use on a tuberculous ulcer, for instance, is to apply the butter of antimony to the surface of the ulcer and reapply it when the slough separates, which takes about four days. I continue the application until the granulations show a healthy cherry color. I lay considerable stress on the presence of whitish opalescent granulations that bleed easily, as an index of a tuberculous condition, as long as there are any of these present the treatment with the butter of antimony must be continued, the moment all granulations are cherry red, all tuberculous tissue, spores and all, have been removed, and the wound heals rapidly.

One should never try to make a tuberculous lesion heal with unhealthy granulations, as the bacilli are still present and simply burrow deeper, invade new tissues, and finally may destroy the patient. A frequent way in which the latter occurs is by the emptying of tuberculous products into a vein, which will be followed with great certainty by general miliary tuberculosis.

It is advised by Nicholas Senn to treat lupus, if anatomically possible, by excising the area involved and performing a primary Thiersch skin graft. This treatment, to my mind, is objectionable, because all the infected tissue may not be removed, and because serious tissue defects remain.

The treatment with the butter of antimony is, in my opinion, better and safer.

The use of caustics has been condemned because their action is not deep enough, but this objection does not hold good for the treatment with butter of antimony, as its action extends in these cases about one-half inch in depth after a single application.

The butter of antimony is an almost unknown substance among physicians, although it is official in the British Pharmacopea. It is used mostly in veterinary surgery to clean out gangrenous surfaces. If applied on the healthy skin, no caustic effect is produced; if on a healthy granulating wound, only a very thin slough follows its use; but if the tissues are degenerated, a most energetic action results.

The slough varies in thickness from that of a piece of paper to more than one-half inch, according to the amount applied and the degree of tissue degeneration present.

Sloughs should not be pulled off, but should be left to separate, so that, if possible, not a drop of blood is lost in the process, because every torn vessel may be the avenue of the dissemination of the disease.

That the great majority of chronic inflammations of the lymph glands are tuberculous, has been repeatedly proven by clinical experience, microscopic examination, inoculation, and cultivation experiments I will not here go over the pathology, as the tubercle, in its various locations, follows the same course, only modified by the character of the tisues it invades, therefore I will only call attention to the difference in the results of the inflammation in the different tissues.

After a gland has become infected, it gradually enlarges, very rarely, however, exceeding the size of a walnut. The larger masses frequently felt are composed of two or more glands that have coalesced after the tuberculous process has made its way through the capsule of the gland, thus giving rise to a periadenitis. The process extends from gland to gland, following the line of the lymph channels, the first one being the largest, and gradually diminishing in size, until the last one may not be larger than a split pea.

If the process is permitted to continue, it extends from gland filter to gland filter, until the last one is passed, and then general miliary tuberculosis rapidly supervenes as the tubercle bacilli have entered the general circulation.

At first the glands are small, hard, freely movable bodies, not tender on pressure, but when the process bursts the capsule of the gland, a tuberculous periadenitis develops, and then they become adherent to the surrounding tissues.

Not rarely there is a secondary infection with pyogenic microbes, and then fever, pain, and tenderness are present. Now the question arises, What shall we do for these cases? How can we defeat the enemy? The answer must vary with the stage of the disease.

Dr. Nicholas Senn advises to operate as early as possible and remove the glands, and if the disease recurs, to repeat the process. As for medication, cod-liver oil, iron, and arsenic are chiefly recommended.

It has become my practice never to operate on tuberculous glands in their early stages until I have had the patient under treatment for one to two months; if they do not then markedly shrink, I remove the glands.

Four indications should be met in the treatment. First, the stomach must be put in perfect order and kept so—this I regard as very important; second, the appetite must be stimulated; third, the blood must be enriched, and, fourthly, an alterative must be given that has special selective action on the glands.

I have never seen any benefit from cod-liver oil, and, as it upsets the stomach and interferes with the appetite, it is positively harmful. Iron is of benefit only if the stomach is in excellent condition.

After putting the digestion in order, I give my patient a mixture of iron and nux vomica before meals to enrich the blood and stimulate the appetite, and to adults a teaspoonful of the syrup of hydriodic acid in a half glass of water after meals; children receive a proportionate amount.

The patient is kept out of doors as much as possible, and is directed to drink much milk—where the patient is thin, as much as a pint every two hours.

Under this treatment, continued from one to two months, the glands usually shrink markedly, and in many cases can scarcely be felt. The patient gains weight and the anæmia disappears.

If at the end of this time the glands have not become markedly smaller, they should be removed, but this is the exception if treated in their early stages.

I have treated a number of patients successfully by this method, who were getting steadily worse under administration of cod-liver oil, creosote, etc.

If the caseous material has liquified, we are not likely to get the process arrested without removal of the glands. But even after the glands have been removed, the patient should be kept on the syrup of hydriodic acid for a long period, to prevent a recurrence of the disease.

Iodine seems to be the one drug that seriously interferes with the growth of the tubercle bacillus, whether administered in the shape of Lugol's solution, used in solution to irrigate cavities, or in the shape of iodoform.

If a periadenitic has set in, the operation must include the tissue surrounding the glands, so that, if possible, not one speck of infected tissue is left behind. Not infrequently there is a secondary infection with pus germs, either through the tubercular abscess having made its way to the surface, or through pyogenic microbes that have entered the circulation by way of the intestines, abraded skin, etc. If this occurs the glands should be enucleated if possible, but, as you will readily see, the operation is now much more dangerous, both as to immediate risk on account of danger of pyogenic infection, and as for ultimate results on account of the pus germs having destroyed the granulating walls.

When the suppuration has continued for some time the glands become densely adherent to their surroundings, and the operation of their removal, particularly in the neck, has become one of the most difficult in surgery, in many cases it is then impossible to remove all infected tissues. In these cases the common, but quite inadequate practice, is to curette the sinuses and inject iodoform glycerin. In this class of cases I have found the butter of antimony particularly valuable.

If a tortuous sinus leads down to the glands, the first thing to do is to slit it up, so that the infected tissue is well under the eye. One should never apply the butter of antimony in a long sinus, as the resulting slough must be able to separate and be freely eliminated. When I first began to use this treatment I applied it in a sinus leading down to carious bone in a case where the disease had recurred after a resection of the knee-joint. The following day the patient had a temperature of 103°F, with a chill and excruciating pain, which continued until the slough had suppurated and been thrown off.

The manner in which I treat these cases can perhaps best be illustrated by recording a peculiar case that I treated with the butter of antimony. The patient was a child eight years old that came to me with an ulcer of the neck just below and behind the angle of the jaw, the floor of which was composed of two large glands the size of walnuts, covered over with the characteristic tubercular granulations and suppurating freely. Below, other glands could be felt in considerable numbers.

The child had been treated for eight months by a prominent surgeon, who had at first tried to enucleate the glands, but had to desist on account of the severe hemorrhage that followed every every attempt at enucleation. The child had then been treated by dressing the wound with iodoform, but was steadily getting worse when she came under my care. I washed the surface with a 2 per cent. solution of carbolic acid and applied the butter of antimony freely to the surface of the glands and the infected ulcer generally, and dressed the wound with iodoform gauze.

In four days the case was dressed again and the slough, which I here present for your inspection, removed and the process repeated.

After the second application, suppuration had ceased, and the edges of the ulcer began to show the healthy cherry-red granulations, only those covering the glands being still of the whitish, gelatinous character.

From now on only the glands and their immediate surroundings were touched with the butter of antimony. As gland after gland was removed, new ones presented in the ulcer, showing that I was merely assisting nature to get rid of the diseased glands by the road of least resistance.

As we progressed, the glands became smaller and smaller until the last ones could just be distinguished as whitish nodules. In the meantime the ulcer was steadily getting smaller from above, where the first glands had been situated.

The last glands had been removed, and the ulcer was healing, when the child was seized with a violent attack of vomiting, which ruptured a blood vessel in the neck. An ambulance was sent for, but the child died from hemorrhage. The ulcer was at that time about the size of a quarter, shallow, and covered with healthy, cherry-red granulations.

I presume that the removal of the enormous masses of glands that had been piercing on the great vessels of the neck had interfered with the support of the vessels, and the congestion caused by the violent attack of vomiting ruptured one. The child had gained considerably in weight and strength while under treatment.

This is the only death I have had so far following this mode of treatment, and a number of patients have been apparently cured by its use.

When applying the butter of antimony in the neck, care must be taken to locate the great vessels and nerves; the small vessels do not bleed after the application, but I should not like to try the experiment of applying it on the carotid artery.

This method is the only one that I know of that affords a reasonable probability of restoring our patients to health and strength in a class of cases resembling the one described.

During the treatment medication as above described should be kept up.

The incision for the removal of tuberculous glands must necessarily vary somewhat with the position of the glands, but the one most usually suitable extends from just below the tip of the mastoid process to just behind the angle of the jaw, from there downward, following the anterior border of the sternocleidomastoid muscle down to the clavicle, if necessary. If the posterior chain of glands is enlarged, the lower end of the incision can be curved backward. If the deep layer is involved, the sternocleidomastoid must, sometimes, be cut in half, the glands removed, and the muscle sutured with chromicized catgut.

In making the incision one general rule should always be followed: Make it so large that all glands can be removed under guidance of the eye. The most useful instruments for enucleation are the finger and a blunt pair of scissors curved on the flat. If possible the whole chain of glands should be removed together in one string, so as to avoid infecting the tissues.

Occasionally, the gland masses are so intimately adherent to the internal jugular vein that this must be ligated and severed; this is much better than to run serious risks of wounding it accidentally.

When all glands are removed I suture the adipose and muscular tissues with catgut and unite the skin with a silk-worm gut subcutaneous Marcy suture. In this way the ugly deforming scars, so often seen after this operation, are avoided, the resulting scar being almost invisible.

As for the advisability of drainage in these cases surgeons differ, some always drain, some never.

I think the best course is the middle one, in an easy case in a well-nourished patient, not too fat, drainage is not indicated, but, when the reverse conditions obtain, it is much safer. The drain should enter at the lower end of the incision and should be of iodoform gauze.

The dressing of these cases is an important element in securing primary union. Plenty of gauze and cotton should be used, and the bandage applied as tight as possible without interfering with breathing, so keeping the surfaces in contact and preventing serious accummulations.

It is well to apply a starch bandage over the muslin bandages to prevent the patient from moving the parts and thus preventing healing.

Tuberculous peritonitis is one of the most interesting phases of the disease, on account of the remarkable effect of operation, although the latest statistics of cures are not as favorable as the earlier ones.

It may be primary or secondary to other lesions. It is much more frequent in women than in men, probably on account of the fallopian tube entering the peritoneal cavity. It may be diffuse or walled off from the free peritoneal cavity.

Its varieties resemble pathologically those that occur in the joints, which is not remarkable, as in both the lesion is in a serous membrane.

The varieties are tuberculous ascites, fibrinoplastic tuberculous peritonitis and adhesive tuberculous peritonitis. As the two latter are not operable we will dismiss them with a few words.

In the fibrinoplastic variety the whole serous surface is covered with masses of granulation, and there is little or no fluid in the peritoneal cavity.

In the adhesive variety the intestines and other abdominal organs are densely adherent to one another and there is little or no exudation.

Tuberculous ascites, the important variety from a surgical point of view, is also the most common. It may be localized or diffuse. The peritoneum is studded with a number of small tubercles and its cavity filled with ascites that may be clear or slightly opalescent.

In women the bacilli not rarely enter through the fallopian tube and are here walled off by granulation tissue.

At this stage it is a serous accumulation, walled off from the free peritoneal cavity, later as caseation and liquifaction take place the fluid contains cheesy masses and has the microscopical appearance of pus.

In tuberculous ascites there is little or no pain except the discomfort caused by the ever-increasing ascites. In some of these cases the distension is something enormous. The diffuse form gives rise to physical signs identical with other forms of ascites.

The diagnosis must often be made by exclusion, and in some cases by examination of the fluid withdrawn for tubercle bacilli.

Having excluded heart, liver and kidney disease, we have still to think of a cancerous condition impinging on the peritoneum, and chronic nontuberculous peritonitis.

The localized form has often been mistaken for an adherent ovarian cyst, but the diagnosis can usually be made by the irregularity of the contour in the tubercular peritonitis, and by the fact that the uterus and surroundings are densely adherent, so much so as to be immovable.

The treatment advocated for these cases is laparotomy and drainage with iodoform gauze. I recently operated on a case of the circumscribed variety, in a young woman who had an irregular, slightly tender mass the size of a large fist, on both sides of the uterus.

Indistinct fluctuation could be felt in the masses The only question of diagnosis considered was between pelvic abscesses and tuberculous peritonitis; as the treatment for both is practically the same, a diagnosis between them is not important. However, a tuberculous family history, absence of chill, very slight or absent fever, and slight pain and tenderness would point toward a tuberculous process.

An incision one inch in length was made in the vagina to the side and posterior to the os uteri. Through this incision a forefinger was introduced and gradually worked toward the center of the mass, taking care not to open the free peritoneal cavity.

The finger, after penetrating the granulation wall, entered a cavity; a gush of pus-like material, containing cheesy masses, followed. The cavity was thoroughly curetted, and a large T-tube inserted, after which iodoform glycerin was injected. The procedure was repeated on the opposite side, which was found to contain a clear fluid, thus showing two stages of the process in one case. The cavity was washed out daily with antiseptic solutions, and occasionally with a solution of iodin. Recovery was rapid and uneventful.

The favorite seat of tuberculosis in bones is near the epiphyseal cartilage of the long bones, the bacilli locating in the terminal branch of the nutrient artery.

The pathology is the same as that of tubercle elsewhere, with the addition of characteristic wedge-shaped pieces of necrosed bone, with the base of the wedge toward the joint, that form on account of the thrombosis that takes place in the nutrient artery.

A process of decalcification surrounds the lesion. As long as this continues the process spreads, but when osteosclerosis takes place the disease becomes circumscribed.

The general symptoms of joint tuberculosis may be very misleading, as patients with quite extensive bone disease may be in possession of good health. Konig has called attention to the diagnostic importance of a constant slight elevation of temperature, observations being carefully made for weeks, sometimes only ½°F. above normal, as a means of diagnosis. The temperature is usually elevated at night. The amount of pain depends on the tension, and may be slight or acute. It is more severe at night. The pain is often referred to a distance, for instance, in hip disease, where the bone is involved, to the knee, and in caries of the spine to the stomach.

Tenderness localized near an epiphisis is one of the most characteristic and constant symptoms. Swelling only comes on late when the disease has invaded the soft parts.

Atrophy of muscles is usually present in greater or less degree, but not so markedly as when the joint is involved.

Puncture with a steel needle into the tender point is, in doubtful cases, a valuable diagnostic measure as the needle will readily penetrate the decalcified areas.

Various methods of treatment are advocated, but to discuss them all would take us outside of the scope of this paper.

Nicholas Senn recommends incision, a thorough opening with a curved chisel, and the removal of all infected tissue with a sharp spoon, afterward he implants iodoformized, decalcified bone chips, and sutures the soft parts in an attempt to get primary union.

Others, after cleansing the cavity, pack it with iodoform gauze and allow the wound to heal by granulation.

A valuable addition to the latter mode of treatment is to cauterize the bone thoroughly with a Paquelin cautery, as it not only kills remaining bacilli, but causes an osteosclerosis to surround the cavity.

I have seen so many local recurrences of the disease after these methods of treatment that I have given them up in favor of the treatment with the butter of antimony.

It is practically impossible, in my opinion, to curette a cavity so thoroughly that one can be sure no bacteria or spores remain.

Therefore after curetting as thoroughly as possible I prefer to apply the butter of antimony over the whole infected surface, and repeat the proceeding every four days until the appearance of cherry-red granulations assures me that I have to deal with a healthy granulating wound.

PRIMARY CARCINOMA OF THE VERMIFORM APPENDIX.

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THE specimen was removed at the Woman's Hospital in April, 1902, by Dr. Clement Cleveland. The patient was a woman, thirty-six years old, who had had two children and five abortions. Since the last abortion she had suffered with pain in the left inguinal region, and the operation was undertaken for disease of the uterine adnexæ. Abdominal incision showed a cyst of one ovary, which was opened. The appendix was bound down with adhesions, and was therefore removed. The patient made an uneventful recovery.

The gross examination shows an appendix six cm. long. At the junction of the middle and outer thirds it is bent at a right angle. There is a constriction at the bend, and beyond this a dilatation giving a diameter of 1 cm. The proximal two-thirds are 5 mm. in diameter. The peritoneal coat appears smooth, although adhesions were present at the time of the operation. Section shows thickening of the wall in the proximal two-thirds, leaving a narrow lumen here. At the bend the lumen is obliterated. In the dilated portion the muscular coat appears as a thin shell, and the space within is occupied by a tumor mass of firm, yellow tissue.

Microscopical Examination.—Section of the tumor shows an adenocarcinoma. The new growth has replaced the structures of the mucosa and submucosa, and its cells are infiltrating the muscular coat. The cells are grouped in alveoli of various sizes and shapes, and between the alveoli is a small amount of muscular and connective tissue. In the alveoli which show a lumen the cells are cylindrical in shape; in other places they are polygonal. The middle and proximal portions of the appendix are not invaded by the new growth, but there is a marked activity of the germ centers of the lymph nodules. Apart from the rarity of this condition, the case is of interest on account of the absence of any symptoms pointing to disease of the appendix, so that its discovery was an accidental one.

A number of cases in which carcinoma of both appendix and cæcum have been found have been reported, and Kelly[1] has collected seventy-nine such cases. These, however, cannot be considered in determining the frequency of primary carcinoma of the appendix, for there was no evidence to show that the growth originated in the appendix. Other cases of carcinoma confined to the appendix alone I have not included in the following list, because the diagnosis appears to have been made on gross examination alone. The thirteen cases collected are:

1. Reported by Beger[2]. The carcinoma of the appendix was in a man forty-seven years old, and was found in an operation on a sinus following drainage of an abscess in the right iliac fossa. At autopsy the abdominal lymph nodes were found to be invaded.

2. Reported by Stimson[3]. The appendix, cre

moved at operation from a woman forty-four years old, was four inches long and in a state of "cancerous degeneration." She had had two attacks of appendicitis, the first ten years before.

3. Mossé and Daunic[4] report the case of a woman, fifty years old, who died of heart disease. The appendix, removed at autopsy, was 4 cm. long and 4$\frac{5}{10}$ cm. in circumference. The new growth occupied the whole length of the organ. There was no history of appendicitis.

4. Wright's[5] case was a patient dying of general purulent peritonitis. A perforation was found at the junction of the cæcum and appendix, and a carcinoma at the tip of the appendix.

5. Of two cases reported by Kelly[1] the first is without clinical history. The appendix, removed at operation, was 11 cm. long, and the tumor was located in the distal portion.

6. The second case was a man nineteen years old. An operation was performed nine days after the first symptoms of appendicitis appeared. The appendix was found surrounded by a small collection of pus. It measured 5 cm. in length, and the tumor was situated at the base.

7. The case described by Elizabeth Hurdon[6] was that of a woman twenty-four years old. There was a history of pain in the right iliac fossa. At operation adhesions were found enveloping the appendix. It was 10 cm. long, and the tumor occupied the middle portion.

8. Rolleston[7] reports an appendix removed by operation from a woman twenty-six years old, who was suffering from her fourth attack of appendicitis. The tip of the appendix was adherent to the uterus, and the tumor was located here.

9. Whipham's[8] case was removed at autopsy, from a woman forty-five years old. There was no history of appendicitis, and death was due to emaciation and exhaustion, caused by the abdominal condition. There was a carcinoma of the base of the appendix, and secondary deposits in the liver, ovary, lymph nodes, and peritoneum.

10. Of two cases reported by McBurney[9], the first was a woman twenty-three years old, operated on after a second attack of appendicitis. The appendix was four inches long, and the tumor, the size of a pea, was located at the apex.

11. The second case was a man of about thirty years, who gave no history of appendicitis. At autopsy Lartigau found a carcinoma of the tip of the appendix.

12. The case operated on by Goffe[10] was a girl of fifteen years, who had had symptoms of trouble with the appendix for one year. The tumor was located at the tip.

13. Harte and Wilson[11] report a carcinoma of the middle third of the appendix. It was removed by operation from a woman twenty-four years old, who gave a history of appendicitis.

The type of carcinoma in the cases where it is described is adenoçarcinoma. Nine of the cases are in women and three in men, and the fact that in most of the cases the condition is unsuspected will tend to maintain its greater frequency in women, because they are more often subjected to abdominal section.

It is noteworthy that two of the cases are under twenty years of age, and four under thirty years. There was a history of appendicitis in seven of the cases, and no history of it in five. The location of the tumor is most often at the apex, being here in eight instances.

In four cases the new growth was found at autopsy, and in the remaining cases at operation; but in no case had carcinoma of the appendix been previous diagnosed.

Routine microscopical examination of all the appendices removed will doubtless in the future show that carcinoma occurs in the appendix more often than has hitherto been thought.

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THE VENOUS SYSTEM OF THE TEMPORAL BONE AND ITS RELATION TO THE COMPLICATIONS OF MASTOID DISEASE.*

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THE relation of infectious processes, either immediate or remote, localized or general, derived from a primary microbic infection of the cavity of the middle ear, including the antrum as a portion of this chamber and the pneumatic cells of the mastoid process, depends in many cases upon the transmission of the infective material by the extensive and complicated venous channels of this region. When it is borne in mind that the aggregate area of the veins is much greater than that of the arteries of the temporal bone and that the veins anastomose one with another so as to produce a complete network throughout the external and internal surfaces and cells of this region, the intimate connection with the sinuses, meninges, and cranial fossæ, readily explains the liability to infection following mastoid necrosis.

In the majority of cases of sinus thrombosis and brain abcess complicating aural suppuration, direct paths of infection, by way of necrosed bone, are plainly visible on examination after the mastoid cortex has been removed, but in a considerable number which is constantly increasing as the importance of the venous system as a carrier of infection is becoming better recognized, the infective material is carried directly to the parts by means of the large or even minute venous channels. As carriers of purulent material or as means by which the septic inflammation may extend from the temporal region to the neighboring parts by continuity, the venous channels present three distinct systems (excluding the sinuses) in relation to the mastoid area. Internally the veins of the brain membranes and especially of the dura are numerous, anastomose freely in all directions, communicate with the pia mater, which in turn sends venous channels into the cerebrum and cerrebellum, and externally they freely communicate with the diploic channels, with the exception of but two, which leave the skull through the spinous foramen to join the internal maxillary vein. The second system, which I am assured is an essential factor in some of the serious cases of mastoid complications, is that of the diploic veins, which channel the middle plate of the skull in a most tortuous fashion, and, while protected to some extent by the other two layers of compact osseous tissue, is yet susceptible to infection, or acts as a carrier of infection, both by intercommunicating with the veins already mentioned and with those externally. The walls of these veins are extremely tenuous and formed only of epithelial cells, and at frequent and irregular intervals dilatations are seen in their caliber, allowing the blood to flow but slowly, and acting as most excellent sites for the development of focal infections.

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The third group of veins, which is by far the most important in this connection, are those ramifying through the temporal bone and in indirect communication with the diploe of the occipital region, being responsible in isolated cases for the development of osteomyelitis of the occipital bone, complicating extensive mastoid destruction. While a still larger number are in direct communication with the large venous sinuses and cranial cavity, the mastoid emissary vein being representative of the larger vessels, while the smaller blood channels, often microscopic in caliber, ramify freely through the mastoid and petrous portions of the temporal bone and bring the tympanic cavity and pneumatic cells in direct vascular connection with the cranial contents. In pachymeningitis, epidural and extradural abcess, therefore, the infection may be traced from the temporal bone, by way of the vascular and membranous channels, a portion of healthy bone intervening between the two infected areas; these cases being infrequently observed, but nevertheless demonstrate this relation by direct communication between the external system of veins and the collateral intracranial venous circulation.

Another factor in the production of sinus complications, is the natural feebleness of the rate of the blood flow in the veins and the tendency to localize lacunæs of blood stagnation, resulting from the differences of the caliber of the vein as it pursues its tortuous course in this location. As a correlary to the infrequent nasal œdema seen as a minor symptom of venous stagnation, the result of extensive thrombosis, may be mentioned the venous plexus near the pharyngeal orifice of the Eustachian tube, communicating both with the nasal turbinal tissue and the aural region.

By direct communication between the dural vessels and those of the pericranium and lining of the aural cavities, the membrane of which is freely supplied with venules, the meninges may be involved through these vessels which perforate the inner table of the skull. I have seen two cases, both in young adult males, in which, in addition to the other lesions present, there were localized areas of maningitis apparently in communication with aural necrosis, but which proved, on close examination, to be due to direct infection by way of a vein passing from the mastoid cells in close proximity to the antrum and anastomosing with one of the dural vessels; a minute septic thrombus, extending from the suppurating mastoid to the inflamed meningeal tunic. Another fact of considerable importance in this relation, is that the propagation of the infection by the reflux blood current is accelerated and more readily brought about on account of the absence of any definite system of valves in the intracranial veins and sinuses, and, although valves are found more or less frequently in the veins of the mastoid and tympanum, yet it is not rare to see the veins of this region entirely free.

Many of the minute communicating veins empty directly from the bone into the adjoining sinuses, not always by direct channels of any magnitude, but by microscopic channels which form a rich interosseous network. The presence of these vascular canals undoubtedly favors necrotic changes in the mastoid, and they also constitute a channel of infection to the lateral and other sinuses in relation with the organ of hearing. These vascular relations are especially prominent in the child, and, as the pneumatic spaces of the mastoid are further developed, the anastomotic relations between the vascular lining of the cell walls and the sinuses are remarkably free. Although the veins are widely and profusely distributed, they have more or less regularity, and by following certain structural lines, the occult paths of infection may be determined.

Most frequently, when the infection is through the venous channels, the cranial cavity is invaded through the superior and median walls of the mastoid, into the posterior cranial fossa. Possibly the next most frequent channel is by the small vein passing through the tegmen tympani and exposing the middle fossa to infection. Rarely the purulent material may enter through the labyrinth and internal auditory canal. I have observed a case in a child in which this route was followed, as shown at the necropsy, with the production of purulent leptomeningitis; the case being one of chronic infection of the middle ear and mastoid, with an acute exacerbation from an attack of scarlet fever.

Another route, by which this accident may occur, is through the posterior wall of the petrous bone into the posterior cranial fossa; a temporal bone in my possession showing this way of infection most beautifully, inasmuch as there are from six to eight venous channels in the bone directly communicating with the sigmoid sinus. Extremely rare, but not the less important, in the study of the minute venous paths of this region, are the venules which pass through the antrum and lower walls along the fossa for the bulb of the jugular vein and the carotid canal. While both the middle ear and mastoid are involved in the suppurative process, the sinus or cerebral complication, and especially the latter, may be derived from the tympanic cavity and not from the infection in the pneumatic structure of the mastoid. This occurs through the venous plexus of the promontory and the vessels in the inner ear emptying through the internal auditory vein, either by direct branches into the cranial fossa, or indirectly through the meningeal veins into the petrosal, transverse, or petrosquamus sinuses. Another group of communicating veins which require mention in this connection, but which are only indirectly concerned in the production of intracranial complications, are those filling the minute perforations in the posterior wall of the osseous external canal and passing directly backward into the mastoid cells. It being not at all uncommon to have the infection augmented or primarily transmitted to the latter cells, through this group of venous radicles.

Phlebitis of the veins of greater magnitude than those just mentioned, occurs occasionally and the cranial contents are affected by continuity, while in other instances these veins merely act as carriers of septic material, as do the smaller venules. Usually the veins of this class follow the course of the arteries, those on the posterior aspect of the canal and auricle emptying into the external jugular, while those anteriorly join the temporal and facial veins, and although these vascular channels are rarely primarily affected, yet they are of diagnostic importance in the latter stages of sinus thrombosis. "Griesinger's symptom"—that is, œdema of the occipital and nuchal regions—being one of the signs of venous embarrassment dependent upon thrombosis as a complication of mastoid suppuration, and results from phlebitis and obstruction of the mastoid and occipital veins.

While the anterior and posterior condylar veins are often involved by inflammatory extension from sinus changes, œdema and tenderness along the course of their distribution occur as a symptom of considerable importance in obscure cases. Of the same importance as these and as an evidence of circulatory embarrassment due to engorgement of the veins tributary to the sinuses, is the tenderness in the upper portion of the posterior cervical triangle, dependent upon inflammation of the deep vascular channels of the neck. The veins of the labyrinth acting as direct infectious ducts unite to form three main branches, that of the cochlear aqueduct; of the aqueduct of the vestibule and of the internal auditory canal. Unfortunately, it is almost impossible during life to diagnosticate the extension of pus in this direction and only at autopsy and even then infrequently can traces of the phlebitis be ascertained. Cheatle[1] described a case showing the transmission through these larger veins in a most admirable manner. The patient was that of a male of twenty years, who died with symptoms of meningitis. Autopsy showed a suppurative meningitis over the right side with septic thrombosis of the lateral and longitudinal sinuses. The point of special interest and of great pathological importance to the otologist being the discovery of a vein large enough to admit the passage of an eye probe which made a direct communication from the tympanum to the lateral sinus.

Unfortunately, the textbooks on anatomy, and especially on otology, are practically silent in regard to these most important venous channels of the temporal bone, bare mention being made of some and not at all of others, which, it will no doubt come to be recognized, are the carriers of infection to the adjoining sinuses in many cases of mastoiditis.

The mastoid emissary vein, when the subject of phlebitis, plays an important part in the development of pus collections in the posterior cervical region, in connection with necrosis of the mastoid. I have been able to clear up the diagnosis of an obscure purulent condition here, by careful study of the external parts which are covered by the distribution of this channel, the presence of a deep-seated abscess sometimes showing itself quite early, in conjunction with a periphlebitis of this vein. It pursues a most irregular and tortuous course through the bony walls of the mastoid process, either as a single venous channel which, in my experience, seems to be more constant than the other form, where it divides into numerous small channels and makes its appearance on the external surface of the mastoid, through from three to seven minute perforations. In a dry specimen in my possession the internal orifice for the vein measures one-eighth of an inch across, while on the external surface of the same bone it appears through four small orifices, dividing into these smaller vessels in the interior of the bone. The vein is subject to wide variations, both as regards its caliber and distribution, but its most constant course is by curving outward and backward from the lower bend of the sigmoid sinus and passing through the bone emerges in the immediate vicinity of the occipito-temporal suture, usually appearing about one inch posterior to the external auditory canal. When single no two specimens are alike in size, as on the one hand it may be so small as to be hardly visible and have no pathologic or diagnostic value at all, while again it may in size and structure perform the part of a large sinus carrying the blood from the sigmoid sinus to the external jugular vein.

From the standpoint of mastoid complications, the mastoid vein is of much practical value in two aspects; as a carrier of infection from the mastoid cells to the sinus and as an aid in the diagnosis of intracranial inflammation. I have seen one case of acute mastoid disease in which this vein was affected immediately under the cortex, a septic thrombus forming at this point and extending inward occasioned a like result of the sigmoid sinus, but the case reported by Buck[2] presents this mode of infection much more conclusively. In his patient there was an acute inflammation of the middle ear, terminating in a purulent periphlebitis of the lateral sinus, an incision, and counter irritation over the mastoid had been made, but, becoming infected, had led to phlebitis of the mastoid emissary vein, which in turn had directly infected the sinus by continuity of tissue. As an aid to the diagnosis of pathological alterations of the sinus, I have found tenderness and a boggy swelling at the point of exit of the vein of considerable help in conjunction with the other symptoms, and when the symptom-complex is not clearly evident of the intracranial condition, this factor will assume a position of considerable importance. At the same time the signs mentioned are not always conclusive of sinus involvement alone, as the symptoms are sometimes present when there is an extradural collection of pus in proximity to the vein, but at the same time some involvement of the sinus is usually present.

The line of least resistance from the primary focus of infection to the sinuses, meninges, or brain tissue is not necessarily along the thinnest osseous areas or the largest vascular channels, but in many cases the infection passes through minute venous routes, and it is only on these premises that the cerebellar and isolated cerebral abscesses in conjunction with mastoid necrosis, and in which a considerable area of healthy brain tissue intervenes, can be explained. Numerous cases of mastoid abscess affect the intracranial contents, not necessarily through the bones in the line of the least resistance, for I am sure every surgeon has observed cases in which the infected material apparently travelled along the lines of greatest resistance, a healthy barrier of dense bone interposing between the primary disease and its complication. This can only be explained, I believe, by the infection travelling along the microscopic veins, careful examination alone proving the correctness of this assertion. This route is well demonstrated when the infection in conjunction with the mastoid and antrum involves the exceedingly dense structure of the petrous portion of the temporal bone, and while I do not deny that the larger number of cases are readily explained by direct osseous destruction, yet there is a constantly increasing number of cases where the veins are the principal factor.

In this locality we must, of necessity, take into consideration the vast and complicated venous network at the base of the cranium in relation to the large venous trunks of the cervical region, rather than try to explain the route of the infection by the non-resistance of the osseous tissue.

On account of its intimate connection with the mastoid, the lateral sinus, and especially its sigmoid portion, is extremely susceptible to thrombotic changes, while less so are the inferior and superior petrosal, the cavernous sinuses, the bulb of the jugular, and the whole length of the internal jugular vein, involved in the pathological alterations. Not only is the lateral sinus more exposed to thrombotic changes on account of its close relation to the temporal bone, but it is in intimate relation with the other sinuses, and especially with the mastoid emissary and numerous small veins draining the temporal region. Variations in its position and size are so common that for purposes of surgical procedures no reliability can be placed upon external landmarks, although as a general principle Whiting[3] says that if the mastoid is markedly prominent and convex, the sigmoid groove will be found very near the posterior wall of the auditory canal, while if the process is broad and flat, the sinus usually lies quite far behind the posterior wall of the osseous canal. Of importance, from its relation to the other sinuses and especially the internal jugular vein, is the tendency of a localized periphlebitis of the lateral sinus to extend, and with the displacement of emboli, produce septic changes in other organs at remote distances. Being formed at the torcular by the longitudinal sinus, it passes outward and forward to receive the superior petrosal sinus in relation to the petrous portion of the temporal bone, then, as it turns inward to find its exit into the bulb of the jugular, it receives the inferior petrosal. But in addition to this most intimate relation with the venous sinuses and temporal bone, there are also present numerous venous tributaries entering it in all directions from the pneumatic cells and rendering it peculiarly susceptible to septic changes in practically all cases of mastoiditis of any duration.

When the petro-squamos sinus, which carries the intracranial venous blood into the primitive jugular during fetal life persists, the tendency toward pyemia and suppurative meningitis as a secondary infection from otitic sources is greatly increased, and as several cases have been recorded in which the infection travelled by this route, due consideration must be given to it in considering the venous channels in this relation. A. H. Cleveland[4] recorded a case of a boy of six years dying of pyemia of otitic origin, in which the necropsy showed that the petro-squamos sinus was deep and large, while necrosis had taken place at its anterior extremity and pus had infected it, causing a thrombus, which extended backward into the lateral sinus, and in addition to the local changes, a patch of meningitis existed on the same side. After it has fulfilled its fetal functions the anterior opening becomes obliterated, and the small vein representing its remains, opens into the middle meningeal vein. In childhood its presence may still be detected extending from the vein mentioned to the lateral sinus, while in adults it rarely persists, and when present is often so small as to be difficult of recognition. As it is rarely found in adults, and from its large size when present in early life, its relation to septic infection is not of as much moment in the former as in the latter. This being well shown by A. H. Cheatle[5] in two cases which he reports, in one of which, a male of twenty years the vein was found large enough to admit a probe.

Both the inferior and superior petrosal sinuses inosculate with the cavernous and transverse sinuses and by the vestibular vein receives the blood from the labyrinth into the superior petrosal, while through the internal auditory vein the blood is usually received by the inferior petrosal, although infrequently it empties directly into the transverse sinus. In addition there are several small venules inconstant and irregularly distributed, which place the otitic cavities in relation to these sinuses, and when these are infected with the resulting septic phlebitis and thrombosis, the small radicles probably are a common method by which the pus organisms are transmitted to the intercranial cavity. In a case seen by Stirling[6] of a child of seventeen months, with thrombosis of the petrosal, cavernous, and circular sinuses, the infection followed the course of these small veins from the attic into the superior petrosal sinus.

Although the cavernous sinus is not in direct proximity to the auditory apparatus, yet its connection with the lateral sinus by means of the superior petrosal, with the jugular vein through the inferior petrosal and with the surface of the cranium by means of numerous minute veins, renders the symptoms resulting from obstruction of its caliber of considerable importance in relation to the subject under discussion. Occupying a unique relation to the other sinuses by its contents, consisting of the internal carotid artery with its sympathetic plexus, the third, fourth, sixth, and ophthalmic nerves, pressure within its walls upon these important structures often produces symptoms of valuable importance in arriving at correct conclusions in regard to pathological changes in this portion of the vascular system. Stirling first called attention to a sign of obstruction of this sinus, consisting of a moderate degree of œdema or puffiness of the eyelids and engorgement of the opthalmic vein, on the side corresponding to the affected vessel. While, as a result of the interference with the circulation here, the blood is dammed back in the tributary veins, and œdema of the tissues supplied by these channels takes place, at first limited to but one side and later, as the thrombus extends to the adjoining sinuses by way of the circular or transverse sinuses, it becomes marked on both sides.

As the cavernous and the remaining sinuses, in more or less relation to the mastoid region, take but little part in necrosis of this bone and communicate with it but indirectly, little need be said of them in this connection.

Although not primarily affected from the ear, but secondarily by way of the veins and other sinuses, yet they may be of great importance as pathways for the further extension of the thrombotic process; this being shown in a case reported by O. J. Stein[7], in which, in a case of fatal sinus thrombosis, the clot was believed to have extended to the opposite sinus by way of the transverse and circular sinuses. This was not verified by autopsy, but seems very probable in the light of a case coming under my observation in a man of thirty-five years, in which, following mastoid necrosis of the left side, the sinuses were completely thrombosed, including the inferior petrosal on the right side. The clot crossed over the transverse sinus and completely obliterated the venous flow over the entire area mentioned.

In the inflammatory changes of the small veins leading from the temporal bone to the interior of the cranium, the two outer coats of the vessel suffer at first the brunt of the inflammatory attack originating in the mucosa of the tympanum or mastoid cells. They become hyperæmic and later infiltrated with serum and pus. In the early stages of mastoid suppuration, this condition of the emissary vein can readily be detected on operation. This process may go no further, the inflammation spreading along the venous wall without doing serious damage to the parts in transit, or finally cause a localized pus collection or periphlebitis at some distant point within the cranial cavity. Or, as is more commonly the case, the inner coat of the vein becomes cloudy and fissured, disintegrating in part here and there, with the dissemination into the larger channels of small particles of the vascular lining, blood clots, and pus cells. If the vein is not infected, the thrombus, which may form either, remains localized, completely shutting off the further encroachment of the septic process in the mastoid through this particular channel, or it may extend, obliterating the channel with an aseptic thrombus. Or again, it may later become infected and cause sinus thrombosis or brain abscess dependent upon the location of the distal extremity of the vessel. Another salutatory termination which I have observed in a case of old mastoid disease was the complete obliteration of the vein due to fibroid thickening with subacute phlebitis, and while the vein was surrounded by pus and detritus no evidence of infection transmitted through this particular channel could be recognized.

After infecting the lateral sinus the clot may still augment in volume, and in the presence of septic material, small particles may become dislodged and produce pyemic symptoms with localized abcesses in other portions of the body. In the subacute form, with thickening of the vein, there may be local occlusion and the development of a small abscess. Hemorrhage does not usually take place even if the vein is ulcerated through, as it collapses early from the newly-formed fibrous tissue around it and the pressure of the surrounding inflammatory infiltration. Occasionally the vein may withstand the purulent and necrotic changes of the surrounding osseous tissue for a considerable time, until a limited patch of acute phlebitis develops from the violence of the local infection when an opening will ensue, into which the pus organisms and their products will gain entrance; the development of otitic pyæmia therefore is usually in this locality the result of an acute exacerbation of a sub-acute phlebitis.

The minute thrombus or multiple thrombi may form at any point in the vascular network of the temporal bone, following the early stages of acute inflammation of its lining mucosa, and from the localized stagnation of the blood current thus produced, caries will develop at this point. Retrogressively the primitive thrombus may extend into the brain interior by the minute venules running from the surface of the temporal lobe to the superior petrosal sinus and from the anterior surface of the cerrebellum to the lateral sinus, while the process may be reversed, involving the sinuses primarily, or the process may involve the venules which course from the temporal lobe to the dura mater covering the roof of the tympanic cavity. So extensive in fatal cases may the thrombus become, that, extending from sinus to sinus, it may occlude the entire venous channels of the cranial interior. An interesting case of extensive thrombosis, in which the jugular and facial veins were also involved, being reported by Littaur and Mensing[8]. The internal jugular vein is frequently involved in connection with the lateral sinus and a tenderness or cord-like feeling over its course may sometimes be elicited. While another symptom, which has been found of diagnostic importance in some cases but which has proven of little value in my hands, is obtained by laying the finger with sufficient force across the external jugular of the affected side to produce obstructive pressure, the vessel will then show but slight turgescence or none at all, while upon the healthy side it becomes engorged to a pronounced degree if similar pressure be made.

Osteophlebitis of the temporal bone, as described by O. Korner[9] occurs very rarely as a result of the entrance of pus into the small veins from the primary focus of the mastoid, but pyemia from the thrombus and septic detritus is much more frequent, although if the osteophlebitis is at all extensive, pyemic symptoms and multiple abcesses are usually concomitant. A phlebitis of the small veins is one of the most frequent causes, in my experience of otitic meningitis, and the pachymeningitis externa so produced may lead to thrombophlebitis of the larger sinuses or to brain abscess. The extreme difficulty of tracing the course of the infection may be seen by the study of three cases reported by Meier[10], in which the pus was conveyed to the cranial cavity by a phlebitis of the veins passing through the carotid canal.

While the majority of the complications of mastoid necrosis are the result of infection through direct destruction of tissue, yet many cases of sinus phlebitus, brain abscess, and meningitis are directly traceable to infection by way of the small venous channels of the temporal bone, a further study of these venous channels, of which but little is now known, I am confident will elucidate many obscure points in the complex problem of these complications.

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A CASE OF EPITHELIOMA OF THE MARGIN OF THE EYELID APPARENTLY CURED BY THE USE OF A SOLUTION OF ADRENALINE CHLORIDE.

By WILBUR B. MARPLE, M.D.,

NEW YORK CITY.

Six months ago I would have said that I had never seen an eye case which had been permanently benefited by the use of adrenaline. But during the last six months I have seen one case which, so far as I know, is unique, and which is, in some respects, so remarkable as to warrant describing it in extenso. The patient was a married lady, about forty-five years of age, in good health, the wife of a business man of this city, referred to me by a fellow practitioner here. She was first seen June 5, 1901, and gave the following history: She has had a small growth on the left lower lid, which began about six years ago, in what she thought was a stye at the middle of the lid (her physician said it started apparently as a meibomian cyst) and this has gradually crept toward the outer canthus. During the past winter it has annoyed her considerably, becoming readily inflamed and bleeding easily, though there has been no pain associated with it at any time.

On the occasion of her first visit, the condition was as follows: The border of the left lower lid was the seat of a characteristic epitheliomatous infiltration, extending from the external canthus and reaching beyond the middle of the lid, in all 18 m.m. in length. The nodular infiltration at the middle of the lid extended downward 6 m.m. and the lid was somewhat notched here. This infiltrated area was more or less red. The nature of the growth was explained to the patient, and its removal was advised, which she decided to have done in the autumn after the hot weather was over. A small portion was excised, and subjected to a microscopical examination, which revealed the characteristic histological picture of epithelioma. She was given a solution of adrenaline as a placebo to instill into the eye every evening, as the growth looked quite irritated. I saw the patient once more early in July just before she left the city for the summer, when I noted that the growth looked much less irritated. I did not see her again till last January, and was somewhat prepared for what I found by a note received in December from her husband, in which he said that the medicine I had given his wife had cured her entirely. This proved to be almost literally true, for I found along the margin of the lid previously occupied by the epitheliomatous growth a clean indrawn cicatrix with the lashes, of course all gone. Only at one spot was there dangling a small shred of the tissue of the growth. The patient reported that she had used the adrenaline (1-1,000) regularly for three months until the end of September. After that irregularly, and had ceased using it altogether since Christmas. After she had used the preparation for a month or so she noticed that little brown scabs or crusts formed on the outer surface of the growth, which fell off either spontaneously or with the least rubbing, as on washing her face. As these little crusts came away the mass became always a little smaller, until it had practically disappeared. During all this time the adrenaline was absolutely the only remedy used in her eye by the patient. To say that I was even more surprised at the result than was the patient is but expressing the truth, for I had given the remedy simply as a placebo to use until the growth could be excised. I am sure the result is cosmetically better than would have followed the use of the knife. I cannot see what else could have produced this remarkable result except the adrenaline, for nothing else was used except that, and simultaneously with the commencement of its employment a growth which the patient had had for six years began slowly to disappear. If the adrenaline was responsible for the cure the explanation is not difficult to seek. The nutrition and blood supply of these epitheliomatous masses is very poor, and the bloodlessness following the use of adrenaline apparently acted like a ligature in compressing the vessels, and gradually the most peripheral portions of the mass died and were rubbed off in small scales. This individual was remarkably susceptible, as I accidentally discovered, to the peculiar blanching effect of adrenaline, for a piece of cotton wet with the solution and laid on the unbroken skin of her cheek would, in five minutes, make the spot as white as a piece of paper. Whether the result here depended upon a peculiar susceptibility of this individual to the adrenaline or whether a similar result can always be obtained in such a case, it is impossible to say. I have at present two similar cases under treatment, but they have been under observation only a short time. If a like result is obtained, then we shall have in adrenaline a most valuable curative agent in dealing with such epitheliomatous growths.

SUMMER DIARRHŒA IN INFANTS AND YOUNG CHILDREN.

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Summer diarrhœa in infants and young children is due in almost every instance either to contaminated food or to food of improper quality or quantity. It is a communicable disease, and this fact should be impressed upon mother and nurse by the physician to safeguard other children in the same household, and to guard against reinfection in the infant already ill. Bottles, nipples, cooking utensils, and the hands of the mother and nurse should receive scrupulous and painstaking attention.

Attacks of summer diarrhœa vary in intensity from the simple case of the child who has had two or three moderately loose movements daily, containing a few or many undigested curds of milk and mucus, without fever or constitutional symptoms, to that of the acutely infected child poisoned with organisms of great activity, with vomiting, profuse diarrhœa, pain, hyperpyrexia, and rapid emaciation—the much-dreaded "cholera infantum." We use the term "summer diarrhœa" because the heat is unquestionably an important factor in the etiology of such attacks. We must consider the influence of the hot weather upon the food as well as upon the child. The first consideration is often lost sight of, but, in the opinion of the writer, it is the most important. If the mother and nurse are careless, or are not properly instructed in the importance of preserving the baby's food at a proper low temperature, the bacteria present in all milk rapidly multiply and harmful chemical changes take place. Many families of the middle and poorer classes have no ice. Not infrequently the early milkman leaves his milk bottles standing in the hot morning sun, to remain there until the household is astir an hour or two later. Then, too, domestics are often careless in caring for the milk, and the bottles are allowed to stand for hours in the warm kitchen atmosphere. During these intervals the bacteria in the milk have been rapidly proliferating, and it is no longer a safe food for the young bottle-fed infant. The child is affected by the summer heat because of lowered vitality and lessened resisting power. The functions of the liver and stomach are less active, and in consequence less gastric juice and bile are secreted.

In hot weather milk should always be sterilized or Pasteurized. For a healthy child Pasteurizing is sufficient, while for the child who has already had an attack of bowel trouble, the milk should be thoroughly sterilized. After either process rapid cooling is of great importance, for if allowed to cool slowly, the remaining spores of the bacteria develop new activity in the warm milk. The writer has no patience with those physicians who claim that sterilizing is harmful and unnecessary and "takes the life out of the food." Results of clinical experience teach exclusively that *not* to sterilize or Pasteurize in hot weather, except in certain specific cases and under most favorable conditions, is little short of a crime.

With these facts in mind, it is not difficult to arrive at a rational plan of treatment. An accurate differential diagnosis of the precise lesion and its location is not essential. As a matter of fact, at the onset of the trouble, in most instances no lesion exists. Inspection of the stools seldom reveals more to us than the presence of undigested curds, mucus or other products of intestinal fermentation. A bacteriological examination of the stools is available in only a limited number of cases, and is more or less unsatisfactory.

The first essential point in the treatment of every case of summer diarrhœa is to stop milk feeding at once, whether the child has been breast-fed or not, for a period depending upon the severity of the case. Milk, even though previously sterilized, when undigested in an already infected intestinal tract and at the body temperature, is a perfect culture medium. In a breast-fed baby eight to twenty-four hours is a sufficient period to stop the milk feeding; then it may be resumed, but each nursing preceded by the administration of an ounce or two of sterile water. In the bottle-fed, milk feeding should not be resumed until the movements are nearly normal, and then largely diluted with water and carefully modified to suit the conditions and the symptoms of the patient. Instead of milk in the bottle-fed, some bland, nourishing, and easily-digested substitute must be provided. After an initial dose of castor oil or calomel, no food at all should be allowed until all curds and undigested food have been expelled from the bowel. If the movements are loaded with curds, it is often advisable to repeat the oil in four or five hours. During this interval, sterile water, preferably warm, may be freely given. Usually this will be all the infant craves, the normal appetite for food having been replaced for the time by an abnormal thirst. When food is again allowed, which will be after six to twenty-four hours have elapsed, a smaller amount must be given than was allowed before the attack, but the intervals may be shortened, provided that the two-hour limit is observed. To replace the milk, in very young infants, dextrinized barley gruel is the most available substitute. The objections formerly made against cereal feeding to young infants are now overcome by the ease and simplicity with which the dextrinizing process is done. A preparation of diastase made for the purpose is easily obtainable. The gruel should be salted and sweetened, if deemed necessary, by the addition of a rounded tablespoonful of Squibb's sugar of milk to each twenty-four ounces. In addition to the gruel, demulcent drinks, such as thin arrowroot water, are often grateful, and of some therapeutic value. Animal broths of mutton or chicken may be added to the gruel, also beef juice, carefully prepared from selected beef in teaspoonful doses. White of egg is now relegated to the long list of back numbers. It is insoluble, hard to digest, and often adds to the trouble already existing in the stomach and bowels.

As the condition of the bowels improves whey, made from fresh milk by the addition of rennet or essence of pepsin, sterilized by thorough boiling may be given, diluted one-half with arrowroot water or sterile water. Mild cases recover rapidly under such diet, and very often without any medicine other than the initial dose of calomel and castor oil.

In a certain proportion of cases bowel irrigation is of advantage. Every case does not require it, and in some cases it does positive harm. Where the movements are occurring every few minutes with tenesmus and pain, the rectum is already empty, and the introduction of the catheter acts as an irritant to the already inflamed mucous membrane of the bowel; there is increased straining, and very often rectal eversion follows the procedure. Irrigation is to be resorted to only in cases where there is no tenesmus, where the movements are infrequent, very offensive in character, and contain much mucus

The cases of very severe onset, with vomiting, fever, purging, and indications of acute ptomaine absorption, require most prompt and thorough treatment. Delay of even an hour may prove fatal. The stomach should be promptly washed, the bowel irrigated, and a two-drachm dose of castor oil administered. All food should be withheld and water given in teaspoonful doses every fifteen minutes. For the fever, cold packs, cold sponging, and, if the condition of the circulation does not contraindicate it, a rectal enema of a pint of water, at a temperature of 60° F., may be given. In collapse, a hot saline enema, at 100° F., is a valuable and ready stimulant.

The question of giving stimulants requires the physician's best judgment. The mild cases require none. Alcoholic stimulants are generally to be avoided. Whiskey and brandy are seldom retained, and usually serve only to further irritate the already inflamed gastric membrane. Hypodermics of strychnine, atropine, or digitalin may be administered if the case is sufficiently grave.

Warm fomentations over the abdomen, with a mild counterirritant, such as five minims of oil of mustard to the ounce of camphor liniment, applied to the skin, are grateful to the patient and help to relieve the pain.

In exceptional cases where the pain is so very severe that it becomes a factor in the general collapse, and the measures already indicated fail to relieve, a hypodermic of morphine may be resorted to, with proper caution.

The drugs to be used in the treatment of the diarrhœa are few. After the initial dose of castor oil or calomel—and the writer usually prefers the former—no medicine is required in the mildest cases. When the diarrhœa continues and there is mucus in the stools, with more or less tenesmus, subnitrate of bismuth with very small doses of Dover's powder is of service. Opium in any form is to be given with extreme care and in minute doses. To stop the diarrhœa suddenly is not our object. Opium will do this, but the condition of the child is not always improved thereby. The temperature rises suddenly, symptoms of ptomaine absorption become rapidly evident, delirium ensues, and the child will die if this plan of treatment is persisted in.

After the acute stage of the trouble has been passed and the movements no longer contain undigested curds or food, but are still loose, watery and frequent, a mild intestinal astringent is of value. Tannigen, alone or combined with subnitrate of bismuth, four grains of each, is a valuable drug at this time. It may be given preferably in powder mixed with a teaspoonful of cold water, every three hours.

The sick child must receive proper care and intelligent nursing. The clothes should be loose-fitting and everything done to add to the comfort of the little sufferer. It should be kept in as cool and dry an atmosphere as possible. In the country a shaded piazza is the most desirable place. Dampness and malarial influences are to be carefully avoided. Quiet is another very essential element. In extremely hot weather frequent bathing—two or even three times a day—is very beneficial.

Every possible source of irritation or annoyance to the child is to be sought for and relieved. Inflamed gums from erupting teeth, should be incised, chafed groins and excoriated buttocks should receive appropriate care, and no detail is too trivial to receive attention from the physician, nurse, or mother if the little patient is to make a rapid and unretarded recovery.

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THE OPERATIVE TREATMENT OF HERNIA IN THE UMBILICAL REGION.

To accomplish a cure of an umbilical or a neutral hernia of any size, is often one of the most difficult things with which the surgeon is confronted, and many operative methods have been suggested which, in theory at least, promise a large proportion of success. The reasons for failure in a large majority of cases in which failure occurs are obvious and need not be enlarged upon, except that it is well to remember that in most instances the same conditions which produced the hernia in the first place will remain after operation, and that the abdominal wall will be in the same condition as before operation except at the immediate point of suture where it is at least temporarily stronger. For operative purposes, the neutral and umbilical hernias may be considered together, since they require the same treatment, and, size for size, give about the same results.

In the *Deutsche medicinische Wochenschrift* of May 15, 1902, Heinrich offers what appears to be a useful suggestion bearing upon this class of hernia, and claims a great theoretical advantage for the technique which he describes. The chief aim of operators has been to secure apposition, so broad and firm, that subsequent strain, which is inevitable, especially in a large abdomen, may not reproduce the hernia, but many failures to realize this favorable state of affairs have resulted, and attempts at improvement in technique are being made constantly. Heinrich's idea is to free a rather extensive area of the fascia of each rectus and to unite the resulting surfaces over as great a superficial extent as possible by means of silk sutures. The fascial sheath of the rectus should not be opened, since when the muscular tissue itself is freed from the confining sheath of the fascia, and is sutured to the muscular tissue of the other muscle, there is a great tendency for the fibers to separate longitudinally, and thus to cause serious weakness where strength had been expected. Whether it is necessary always to use silk sutures, is questionable, for the idea that the great strength of silk makes it a desirable suture material in cases of this class is certainly erroneous, since tension sufficient to exert a severe pull on the sutures will be enough to cause them to cut through the tissues to some extent, and thus to defeat the purpose of their insertion. Nonabsorbability is, perhaps, a good quality in a suture sometimes, but catgut can be so prepared that it will have this quality to as great an extent as is required, and there will be no future trouble from the necessity of removing knots, from which asepsis does not always protect us when we use silk.

It must be remembered that the firm union of fascial tissue requires a longer time than in the case of other more vascular structures, and for this reason after an operation for umbilical hernia it is necessary to keep the patient in the recumbent position for a considerable period, even though the wound gives all external appearances of being completely healed. Too early strain upon the new tissue which unites the fascial surfaces will certainly result in some stretching and yielding, and the chances of a recurrence of the hernia will be greater than if time is given for this new tissue to assume a firm fibrous character. As a rule, patients with hernia of this class are not good subjects for serious surgical work, since they almost always have the constitutional disabilities due to obesity, and, as we have indicated, the abdominal walls are objectionable surgically on account of their thinness and lack of firmness. However, many such patients must be operated upon, sometimes under the unfavorable accompaniment of strangulation, and improvements in technique are therefore welcome. The suggestion which we have been discussing seems useful, and good results ought to follow its adoption.

THE ETHICS OF CONSULTATIONS.

THE utility of consultations has often been questioned on the score that they mean little or nothing for the patient. The practitioner in a difficult case is supposed to need endorsement for his course, and he is said to obtain it in the unqualifiedly approving verdict of his counsellor. It is further claimed that the true ethics of the profession admit of no other alternative.

From the patient's standpoint this is true enough, and is as it should be in view of the necessity of preserving confidence in the medical attendant. The consultants have, on the other hand, every opportunity to differ in their private conference, but it is obviously unnecessary to do so in the presence of the family. Any disagreement that may exist as to diagnosis and treatment should be suitably adjusted before a conjoint verdict is rendered. If this course is impossible each one concerned should give a separate opinion and allow the patient or his friends either to choose what suits them best or seek other advice. Under no circumstances should such different views be offered until after the freest possible interchange of views in the secrecy of the consulting room.

We are called upon to make these statements in answer to the queries of a correspondent who complains of unfair treatment by a consultant who is claimed to have taken advantage of his position.

It is not necessary to detail the circumstances of the case further than to state that the difference of opinion was founded on a comparatively trivial matter of clinical history, and finally ended in the dismissal of the previous medical attendant.

The main difficulty arose in separate and exclusive examinations of the patient by the respective medical men, and in distinctly contrary conclusions likewise separately and independently expressed. The consultant coming from a distance was unable to have a formal consultation with the family physician on account of the latter's unexpected detention in another quarter, and in order to economize the time between trains hurriedly examined the patient, gave a snap and erroneous diagnosis—as was afterwards abundantly proven—and left irretrievable mischief of disagreement behind him,

It was a question of immediate operation or death founded on entirely false premises, and the alarm of the family and surprise of the regular attendant is not difficult to conjecture. The eminent gentleman who had come and gone was so plausible in his statements and so confirmed in his view that the patient was forced, in the absence of the family physician, to believe in him and acted accordingly. The operator was hurriedly summoned the day following, and with his special assistants and a trained nurse took entire charge of the case, virtually ignoring his professional brother, who was this time within waiting and convenient distance. When the latter declined subsequently to attend the patient and follow out the directions left with the family by the surgeon, he was quickly and indignantly dismissed by the hypnotized victim. The "plain doctor," as he calls himself, very pertinently asks if this was fair professional treatment at the hands of even a well-known expert.

The answer is obvious enough. It is just such circumstances as these and regretfully may it be said they are not very uncommon—that aim the death-blow at the utility of consultation from both sides of the equation and give the patient the coveted opportunity for ridiculing our science and misinterpreting our laudable intentions.

The duty of the interloper—for in a professional sense in the end he proved himself such—was either to confer directly with the other legitimate consultant or decline altogether to give the family any opinion. From any point of view it was highly unprofessional to do more, even under apparently the most stringent expediency, than address a private note to the absent physician and leave the subsequent details to be managed by him. The latter could then have seized an opportunity to discuss the point at issue and thus relieve himself of personal responsibility in the premises. Possibly also in the best interests of the patient he might have averted the death which was clearly hastened, if not directly occasioned, by the operation. Need we further point a moral to the disgraceful proceeding on the part of the meddling and discourteous expert?

Pure Food Laws.

At a time when there is so much agitation regarding the question of proper international ,national, and interstate food laws any specific data bearing upon the nature of adulterants in common use become alike interesting and instructive. Felix Paquin, Ph.G., chemist of the Memphis Board of Health, has a very suggestive article on this subject in the August issue of the *Memphis Medical Monthly*. The writer tells us that the following chemicals have been found in the various foods in common use:

"Boric acid and borates; salicylic acid and salicylates; benzoic acid and benzoates; fluorides, fluoborates, and fluosalicylates; phenols and phenol derivatives; sulphides and sulphites; formaldehyd; asaprol. Compounds and nostrums containing one or more of the above together with coloring agents—anilin dyes and carbonates. "Wine, beer, and milk frequently contain boric acid, salicylic acid, formalin, anilin dyes. Catsups nearly always contain salicylic acid and artificial coloring, sometimes benzoic acid. Jellies and jams, in most instances, contain benzoic acid, salicylic acid, anilin dye, and in the case of jellies a mineral acid to imitate the acidity of the fruit, which is in most instances entirely left out of its manufacture. Meats, especially sausages of all kinds, are preserved with sulphites, boric acid, salicylic acid, and anilin dyes. It is proper to mention that most baking powder bread, rolls, and biscuits contain a certain quantity of hydrate of alum or phosphate of alum. The cheaper alum baking powders are almost exclusively employed in their manufacture."

After this enumeration the auth discusses the effects of prolonged use of boric acid, the sulphites, salicylic acid, and formaldehyd. While admitting their preservative qualities, he very properly inveighs against their use in foods. Most of them interfere directly with the digestive process, some with urinary elimination, and others act as slow poisons. In fact, there appears to be no argument for their use except that of benefit to the manufacturer, who not only practises fraud upon the purchaser by adulteration, but oftentimes is enabled to place on the market foods which are in a state of decomposition at the time of their manufacture. The only remedy, according to Mr. Paquin, is the enactment of uniform laws throughout the country forbidding the use of all preservative ingredients not indicated on the package, making the inspection of food obligatory according to a fixed standard, and giving the preference to the home manufacture of the more perishable articles.

A Tuberculosis Squabble.

The Franco-Prussian War has been revived on a small, very small scale, the two and only combatants being Dr. Garnault of Paris and Dr. Koch of Berlin. The latter, it will be remembered, got himself much talked about last summer by springing upon the Tuberculosis Congress in London the views of various American observers (which he offered as his own without a word as to their true source), to the effect that bovine tuberculosis could not be transmitted to man. The love of notoriety being contagious, a number of men in different parts of the world quickly sprang into newspaper prominence by proclaiming themselves about to institute experiments to disprove Koch's assertion. Some of these scientists inoculated other persons, some more bravely inoculated themselves with tuberculous matter taken from cows. One of the latter was Dr. Garnault of Paris, who recently announced in a letter to the *Temps* that pieces of his skin around the site of the inoculation had been examined by Professor Tuffier at the Pasteur Institute, who had found giant cells characteristic of tubercle. The Berlin correspondent of the *Figaro* thereupon interviewed Dr. Koch, who said Garnault was playing to the gallery, and that his experiments were neither serious nor scientific. The real test, he said, would be to drink the milk of an infected cow, which, he added, would be harmless. Dr. Garnault is reported to be greatly incensed by the Berlin man's sneers, and says Koch is a poseur and a plagiarist, and he will prove him wrong if he has to die in doing so. He says that tuberculous milk is fatal to children, but harmless to adults, and that the experiment of drinking it would be ridiculous and unscientific at his age. The next battle will be fought in Vienna, for Garnault says he intends to publish a full account of his experiments, confounding Koch at the same time, in the *Neue Freie Presse* of that city. To the onlooker it is evident that both parties to this wordy war are in the right—in their characterizations of each other.

News of the Week.

Major Gorgas Still Saving Lives.—The United States Minister in Cuba has reported to the State Department a case of life saving by Major W. C. Gorgas of the Medical Department of the United States Army, who rescued a Cuban boy from drowning at Havana. Major Gorgas jumped into the water and rescued the boy just as he was sinking for the last time. A large crowd of Cubans, among whom were several policemen, were gathered at the water side watching the drowning boy, but none of them made any effort to save him. Dr. Gorgas had already saved a thousand or more lives, by his repression of the yellow-fever epidemic while he was at the head of the sanitary department in Havana.

The Value of Vaccination. Dr. D. W. Poor, in his recent report on the work of the Orange Smallpox Hospital, during the eight months it was in operation, adds to the mass of testimony regarding the protection afforded by vaccination. Among the eighty-six cases received there were nine deaths. Thirty-nine of the patients had never been vaccinated, and of these seven died; while among the forty-six vaccinated patients but two died, and these two had been vaccinated twenty or more years ago.

Crusade against Filthy Lucre.—Health Officer Friedrich of Cleveland has begun a crusade against the use of dirty money in that city, asserting that many cases of smallpox and other contagious diseases can be directly traced to its circulation. Many of the banks have agreed to gather in what they can of the worst-appearing of the paper money now in circulation and replace it with new bills.

A Queer Professor in Berlin.—Dr. Schweninger, Prince Bismarck's physician up to the time of the prince's death, has been appointed professor of the history of medicine at the University of Berlin. He is said to have reduced Bismarck's weight by cutting down his allowance of beer, and his grateful patient secured for him a sinecure on the faculty of the University. He has now been transferred from the chair of skin diseases to that of history. Medical professors at a number of German universities are said to be protesting against the appointment on the ground that Dr. Schweninger has never taught or written on the subject of medical history—but that is a small matter. The real grievance is that he has been made "ordinary" professor, whereas before he was merely an "extraordinary" one.

Mortality in New York City. The report of the Bureau of Records of the Health Department for the quarter ending June 30, 1902, states that there were in that time 17,173 deaths, 18,624 births, and 1,522 still-births. The number of deaths (17,173) in this quarter exceeded that of the corresponding quarter of the year 1901 by 558, this increase being due almost entirely to an increased number of deaths of children under five years of age; the greatest increase occurred among the deaths from diarrhœal diseases, there being 254 more deaths from these diseases in children under two years of age; there were 120 more deaths from measles and 195 more deaths from the acute respiratory diseases than in the corresponding quarter of last year; in addition to the foregoing an increase was noted in deaths from the following diseases, whooping cough, 117; cancer, 23; Bright's disease and nephritis, 53; suicides, 45. The noteworthy decreases were among the contagious and infectious diseases, to wit: smallpox, 31, scarlet fever, 170; diphtheria and croup, 38; influenza, 76; pulmonary tuberculosis, 130.

The Mississippi Valley Medical Association.—The twenty-eighth annual meeting of this association will be held on October 15, 16, and 17, at Kansas City, Mo., under the presidency of Dr. S. P. Collings of Hot Springs, Ark. The secretary is Dr. Henry Enos Tully of Louisville, and the chairman of the committee of arrangements is Dr. A. H. Cordier of Kansas City. The address in medicine will be delivered by Dr. Hugh T. Patrick of Chicago; the address in surgery, by Dr. George W. Crile of Cleveland, Ohio. The preliminary program contains tains the titles of thirty-nine papers promised for the meeting.

Medical Society of the Missouri Valley. The annual meeting of this association will be held on September 18, at Sioux City, Ia., under the presidency of Dr. Richard C. Moore. The Secretary is D. Charles Wood Fassett of St. Joseph, Mo.

First-Aid Instruction to Railway Employees.—The officers of the Chicago and Northwestern Railroad have ordered that all train men of the road are to receive instruction in first-aid to the injured. The details of the work are to be arranged by Dr. Owen, chief surgeon of the company. It has been estimated that 50 to 75 per cent. of the deaths which now occur from injuries received in railway wrecks would not occur provided the injured received skilful and intelligent aid at once. The value of the theory has appealed to the officials of the Northwestern. Every passenger and freight train will carry a medicine chest well stocked with all the materials which the surgeons think essential for the purposes. The employees who will receive instruction as to the best manner of using the supplies are engineers, firemen, conductors, and brakemen.

The Disposal of Rabid Dogs. The Board of Health has decided that hereafter all dogs that have bitten persons will be kept under observation for ten days in the laboratory at the foot of East Sixteenth street. When it is decided that they are not mad they will be returned to the owners, but if they are mad or have symptoms of hydrophobia they must be killed. A new section of the sanitary code makes it unlawful for the owners of such animals to take them out of the jurisdiction of the Board of Health.

The Status of Coroners' Physicians in New York City.—In connection with the application of Dr. Stephen E. Whitman for a writ of mandamus compelling his appointment as coroner's physician, a legal point was raised the other day which may put all of the Manhattan physicians out of office. Dr. Whitman was certified for the position on the ground that as former coroner's physician in Richmond he was in the preferred class. It was contended, however, that Dr. Otto E. Schulze, who heads the eligible list, should be appointed, and the coroners refused to appoint Dr. Whitman. In his argument in behalf of Dr. Schulze the lawyer argued that the Civil-Service Commission was compelled to certify his client's name, and that, as each coroner had a right to appoint his own physician, the section that took away this right on civil-service-law grounds was unconstitutional. Dr. Whitman's lawyer raised the point that such a contention meant that none of the Manhattan physicians held their positions legally. The question has not yet been decided.

A Hospital Interne Dismissed.—One of the internes of the Fordham Hospital was dismissed recently by the Board of Trustees for insubordination and discourtesy. The charges have not been made public, but it is understood that the young man refused to take orders from the medical board, and that he was discourteous to the supervising nurse. He was appointed to the position one year ago, since which time charges have been made against him twice. Recently, in the operating-room, he was ordered by the operator to remove the ether cone from the patient's face, but refused to obey. For this he was suspended for two weeks. A short time afterward the charge was that he had beaten a patient in the ambulance while on the way to the hospital. The charge was not substantiated, however, and was dropped.

Prince Edward Island Medical Society.—The annual meeting of this Society was held at Charlottetown on July 9. After the usual routine business was transacted, the following officers were elected for the ensuing year: *President*, Dr. F. F. Kelly, Charlottetown; *Vice-Presidents*, Drs. R. B. Shaw, Charlottetown; P. C. Murphy, Tignish, and G. A. C. MacIntosh, Murray River; *Treasurer*, Dr. P. Conroy, Charlottetown; *Secretary*, Dr. R. B. Shaw, Charlottetown.

The Health of the Troops in the Philippines.—Surgeon-General Forwood has made public the report of Lieut.-Col. P. F. Harvey, chief surgeon of the division of the Philippines, giving a detailed account of the health of the troops in the islands for the month ended on June 15. The report shows a considerable increase in percentage of sick as compared with that of the preceding month. The south Philippines sickness increased in quarters, station hospitals, and the department hospital, but, the report says, the reason for this cannot be indicated at this time. During the month covered by the report the total number of sick was 2,265, being 7 per cent. of the command present, 31,050, and during the same peroid there were seventy-nine deaths, including thirty-seven from cholera and one killed in action.

Columbian University.—Major Walter Reed of the Medical Department of the United States Army has been elected professor of general pathology at the Columbian University, Washington; Dr. Sterling Ruffin, professor of the practice of medicine; Drs. H. B. Deale and H. W. Hawkes, professors of clinical medicine, and Dr. Thomas A. Clayton, professor of materia medica and therapeutics; Dr. James Carroll, Acting Assistant Surgeon, U. S. A., has been appointed associate professor of pathology and bacteriology.

Shotgun Precocity.—According to the newspapers, a boy of seven years, living in Tennessee, shot and killed his brother of five the other day with a 22-caliber target gun, as the result of a dispute.

Antisepsis in Orange.—The Board of Health of Orange, N. J., is a progressive body, and many of its acts are worthy of imitation by other sanitary authorities. It has recently passed an ordinance requiring all barbers to wash brushes, combs, razors, cups, and other implements in boiling water before beginning business for the day. After finishing with each customer a barber, before using a razor again, must wash it in an antiseptic. The board has also adopted an ordinance requiring saloon and restaurant-keepers to wash in fresh water—not merely to rinse in a can of dirty fluid under the bar—every glass or drinking vessel before serving a drink. A penalty of $10 is fixed for every violation of either ordinance, and the board will have inspectors at work to see that the provisions are obeyed.

Smallpox in a General Hospital.—The Mountain Side Hospital of Montclair, N. J., which receives patients from several towns in the neighborhood, has been quarantined on account of the discovery of a case of smallpox in the medical ward. The patient was a servant from New York, who was taken ill soon after taking employment in Montclair, and the nature of her disease was not discovered until after she had been a day in the hospital.

Hospitals for Ironworkers.—It is announced that the officers of the American Steel and Wire Company have decided to establish a hospital for the treatment of employees on the grounds of each of the twenty-two plants of the company. The plans for the buildings, which will be as nearly uniform as conditions will permit, are being prepared by a Philadelphia architect, and the total cost to the company of buildings and equipment will not fall short of $300,000. The determination of the company to establish the hospitals was arrived at after a year's experiment with a temporary hospital at Allentown, Pa. It is calculated that within the next six months all the hospitals will be ready.

Cholera in China and Japan.—It is stated that the epidemic of cholera has spread from Manila and the ports of China to Japan. Up to the middle of July 231 cases and 142 deaths had been reported officially. Four cases occurred in Tokio. The number of cases in Fukuoka Ken was 121, of which ninety-three were fatal. At Tientsin up to July 11 the number of cases in the city was 1,049, of which 764 were fatal. The total in the northern section was 1,015 with 593 deaths. The epidemic is abating.

Prize Competition for the Erection of a Sanatorium for Tuberculosis in England.—The Advisory Committee appointed by the King in connection with the erection of a sanatorium for tuberculosis in England, announces that 180 essays were sent in in competition for the three prizes offered. The Committee was unanimous that the following essays were the best, and prizes have accordingly been awarded in the order mentioned: First prize to Dr. Arthur Latham of London, with whom is associated, as architect, Mr. William West of London. Second prize to Dr. F. J. Wethered of London, with whom are associated, as architects, Messrs. Law & Allen of London. Third prize to Dr. E. C. Morland of Croydon, with whom is associated, as architect, Mr. G. Morland of Corydon. Honorable mention was also made of essays of great excellence: Drs. P. S. Hichens of Northampton, Turban of Davos, Jane Walker of London, and J. P. Wills of Bexhill.

Professor Leopold Schenck, formerly of the University of Vienna, died at Schwanberg, Styria, on August 18. He was born in Hungary, August 23, 1840, and received his medical degree at the University of Vienna in 1865. He was appointed, in 1873, professor extraordinary of embryology and president of the Embryological Institute of the university, and in 1896 was made ordinary professor. Two years later he created a sensation by the announcement of his theory of sex determination. This was that the mother could ensure at will the sex of her child by means of a specially-arranged diet. The publication of this theory was the occasion of much adverse criticism, and Professor Schenck was forced to vacate his chair at the university in consequence. He always contended that his theory was scientifically correct, and that the opposition to it arose from ignorance and envy on the part of his colleagues.

Bequests to Philadelphia Hospitals.—By the will of the late Mary E. Jackson of Philadelphia a reversionary bequest of $6,000 is made to the Protestant Episcopal City Mission in trust for the Hospital for Diseases of the Lungs for the endowment of a free bed. The sum of $5,000 is bequeathed to the Pennsylvania Hospital for the endowment of a free bed, and the sum of $5,000 to the Prostestant Episcopal Hospital for the endowment of a free bed in the Harrison Memorial Annex for Incurable Patients, those afflicted with cancer to have precedence.

Obituary Notes.—Dr. Nicholas Williamson, Mayor of New Brunswick, N. J., from 1896 to 1902, died at his home in that city on August 15, of typhoid fever. He was fifty-four years of age. He began the study of medicine while paymaster in a local factory, and was graduated from the New York University Medical College in 1871. He also took the medical degree the following year from the College of Physicians and Surgeons in this city. He was prominent in public affairs as well as in his profession, and was largely instrumental in saving his city from bankruptcy at a time, in 1884, when its finances were at a very low ebb.

Dr. I. Renwick Glen died on August 5 at Plainfield, N. J., at the age of sixty-two years. He was a graduate of the medical department of the University of Pennsylvania. He was born in Fishkill, N. Y., but had lived in Pennsylvania and New Jersey most of his life.

Dr. Martin Luther Holbrook of this city, a well-known writer on popular medicine, died August 12, at the age of seventy-two years. He was born in Ohio and was brought up to farm labor, but a sharp attack of malaria turned his thoughts to medicine, and he was graduated in 1864 from the Hygeio-Therapeutic College, an institution which has since become extinct. He was associated for a time with Dr. Lewis in his propaganda of physical culture and hygiene. For thirty-four years he was editor of the *Herald of Health*, and was also for a period professor of hygiene at the Woman's Medical College in this city.

Dr. Thornsbury B. Yates of Grafton, W. Va., died at his home on the morning of August 7, aged forty-nine years and six months. The immediate cause of death was heart failure, superinduced by a long-standing spinal affection. He was a graduate of the University of Maryland of the class of 1878.

Perforation of the Membrana Tympani from Lightning Stroke.—H. McNaughton-Jones reports the case of an officer sitting on blankets in his tent and drinking from an iron cup, who suddenly, during a storm, found himself awaking, without any previous knowledge of having been injured. He was paralyzed except in his left arm, and various burned areas were scattered over his body. The hearing of the left ear was seriously affected, and when he was examined carefully a few days later, the perforations were discovered. The entire membrane was injected and of a deep red color. Two perforations were found, one in the posterior superior quadrant and the other below the umbo. Considerable tinnitus was present. Under the application of a weak silver-nitrate solution, protection of the ear with gauze, and occasional inflation, he made a gradual recovery.—*Journal of Laryngology.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING—THE MANCHESTER MEETING—EARL ROBERTS AT NETLEY—THE SMALLPOX EPIDEMIC—DENTAL HOSPITAL—MAJOR ROSS.

London, August 1, 1902.

The King's progress throughout the week has been steady, I may say rapid. The wound, now reduced to small dimensions, is closing satisfactorily, and his Majesty's general condition continues to be all that can be desired. The King can now walk the length of the pavilion deck of the royal yacht without assistance and quite easily. These facts are confirmed by the bulletin issued yesterday, and another will not be issued until Thursday in next week. Yesterday a second cruise of six hours was thoroughly enjoyed by the King, and it is expected that he will leave for London on Wednesday next. The Prince of Wales is expected to leave for town to-day. The surgeons feel no doubt that his Majesty will be able to go through the coronation ceremony on the 9th inst. without undue fatigue, a prognosis which your readers will have had opportunity to verify before this letter can be published.

Professional attention is directed to Manchester this week, where the B. M. A. is holding high revel amid its more serious discussions. Reproaches were lately leveled at it as nothing but an enormous picnic, and the hospitality of the north is doing its best to justify the jibe. Two garden parties in a day, dinners, a ladies' reception, soirée, a theatrical variety entertainment, a conversazione, an open-air fête, cricket matches—all these have been crowded in, and Saturday will be devoted entirely to excursions.

Manchester has certainly done its best to afford distractions. Nevertheless, some good discussions have been held, of which your special reporters will give you an account.

I hear that more than 1,500 members went to the meeting, which is, therefore, a success in point of numbers as well as of science and hospitality.

On Tuesday Earl Roberts went to Netley and distributed the prizes, after which he gave a most interesting address to the students. He said he understood their regret on leaving Netley, that this was the last session of the great school, but he thought there could be no doubt about London being the most suitable place for such a training school. No profession required more careful training than theirs, and in none was there greater necessity for constant study and research. In his own recollection, the advances in medicine and surgery were very remarkable. A few nights ago he had the honor of meeting Lord Lister, and he could not help telling him how deeply indebted to him they, as soldiers, were for his wonderful discoveries. Only those who could recollect what a field hospital was forty years ago could have any idea of what had been accomplished by the introduction of antiseptics.

They were about to enter on the active work of a noble profession, and the Indian service offered in many and various directions opportunities for men of ability and industry to come to the front and achieve success and distinction His lordship then mentioned some of the medical officers who had distinguished themselves in India in various sciences during the last 200 years, to show them the unique prospects before them, and hoped all would bring their best energies to maintain and increase the splendid reputation and grand traditions of the service to which they belonged. He commended the natives of India to their special care, and advised them to lose no time in learning their language and cultivating their friendship. There were many able natives in the lower ranks of their profession from whom they would obtain valuable assistance if they treated them with the kindness and courtesy due them, and which they would thoroughly appreciate. He wished them all prosperity in India.

The Asylums' Board had a long discussion recently respecting the epidemic of smallpox, which was regarded as stamped out. But the danger of recrudescence in the autumn will not be forgotten. The Board decided to have a motor ambulance constructed, at a cost of £1.000, for the conveyance of patients. There was a further proposal to have a midway ambulance station, but this was rejected. The charge levied on ratepayers for maintenance of smallpox patients in the Board's hospitals has been 1s. 8¾d. per head per day. The chairman of the Hospitals' Committee seemed very satisfied with the way the epidemie was met and "stamped out," the admissions becoming fewer week by week. The Board adjourned until October without publishing the statistical statement I hear that it contained proof that the interim report issued in January placed the mortality too high—24 per cent.—and that the corrected figure is 17 per cent. During the last fortnight there have been 115 admissions, 276 discharges, and 16 deaths. The number remaining under treatment on July 26 was 372.

Mr. Morton Smale, Dean of the Royal Dental Hospital, presided at the distribution of prizes. This being the first gathering since the King conferred the title of Royal on the hospital, Mr. Smale proposed, before going on with the distribution, to send a message expressing heartfelt thankfulness for his Majesty's recovery and gratitude for the honor conferred. This proposal was adopted with enthusiasm, and the prizes were then distributed by Sir A. Rücker, who commended to the students the London University, which he believed would become one of the most marvellous institutions in the world.

Major Ronald Ross will proceed to Ismailia in September to assist the Suez Canal Company to cope with malaria. Major Ross continues his connection with the Liverpool School of Tropical Medicine. He did not accept the offer to come to the Jenner Institute.

The new Thames Tunnel is completed, and for two days is to be opened at a small charge, for the benefit of the Seamen's and Poplar Hospitals. Afterward it will be a free means of communication between the two sides of the river.

DIET, DRUGS, AND DIAGNOSIS IN TYPHOID FEVER.

To the Editor of the Medical Record

Sir: An analysis of Dr. Charles H. Lewis's article with the title given above, which appeared in the Medical Record for August 2, 1902, brings out some curious points.

Of the ninety cases reported in the article six ended fatally, and it was apparent when they were first seen that they would so terminate, in spite of any care or treatment. So that under Dr. Lewis's treatment the mortality was *nil*, if the patient was seen before he was in extremis. The doctor is to be congratulated on this happy outcome, and yet he says: "The physician who never loses a case is instinctively set down as a man who never has one, or who does have a treacherous memory."

The first and most important result to be striven for by the physician is the ultimate and complete recovery of his patient, but this is not the only object he should have in view. If the patient is a producer, every day he is sick is a loss to himself and to the community, and it is the duty of his physician not only to cure him, but to cure him as quickly as possible. Of Dr. Lewis's ninety cases six died, and in one, No. 76, the date of onset is not given. The eighty-three remaining cases were sick an average of over sixty-two days each, and were under treatment an average of over fifty-three days each. Of these eighty-three cases four were complicated, one with double parotitis, one with intestinal hemorrhages, and two by relapses. This leaves seventy-nine cases of ordinary typhoid fever that were sick an average of over sixty days each, and under treatment an average of over fifty-one days each. Of these seventy-nine cases thirty-two were seen on or before the eighth day. This makes thirty-two cases of simple, uncomplicated typhoid fever, first seen on or before the eighth day, in which the average duration of sickness was over sixty-four days, and the average time under treatment over fifty-eight days. Cases 66, 67, and 68 were under observation from seven to fourteen days before there were any symptoms of the disease, and were under treatment from the very beginning of the attack, and yet they were sick on an average of over eighty-five days each. These three were presumably strong children, aged five, three, and seven years, respectively. The question is why were they sick so long? When a fairly strong and healthy person is attacked with typhoid fever, is seen early, given good nursing, and persuaded to drink large quantities of sterile or acidulated water; when he is kept quiet in bed, and the bowels are kept open; and when the disease runs an uncomplicated course, and no other treatment is used, he should be able to resume his ordinary occupation inside of forty days, as an average. When this is not the rule, something is wrong, generally the treatment. It is fair to suspect that a treatment that results in such patients being sick an average of over sixty-four days each, retards rather than hastens their recovery. It is not possible to say positively that there is anything in Dr. Lewis's treatment that would have this effect, but it is open to criticism in some particulars. The large, iritial dose of calomel, generally followed by a saline, has the approval, I think, of everyone who has tried it; but the small continued doses of calomel have not proved of use in the hands of many careful observers. A large dose of calomel not only empties the intestines and the gall-bladder, but it also has considerable effect as an intestinal antiseptic. One-half a grain of calomel, twice a day, has no local action on the intestine, and it is doubtful if it increases the secretion of bile; that it had no effect whatever in Dr. Lewis's cases (except to cause stomatitis), is apparent.

The slow recovery of these patients was due, I believe, to the manner of feeding them. I have come to think in the last few years that milk is one of the worst possible foods in typhoid fever. The undigested curds pass into the intestine, where they ferment and putrefy, thus prolonging and intensifying the irritation already present. Toast I also believe to be a dangerous food during and for a short time after typhoid fever. This was pointed out over fifteen years ago by Dr. E. W. Hedges of Plainfield, N. J., inan article in the Medical Record for January 29, 1887, page 136, where he cites three cases of relapse in typhoid fever, apparently caused by eating toast. In the cases under consideration the toast was not given until late in the disease, and I am unable to see, from the tables given, that it did any harm; nevertheless, I believe it to be too dangerous a food to use in such cases. In an article by me in the Medical Record for June 30, 1900, entitled "The Treatment of Typhoid Fever," will be found a description of a method of treatment; and in the Medical Record for September 30, 1893, under the head of "Camphorated Carbolic Acid," will be found a description of the remedy. The main points in my plan of treatment are, the use of carbolated camphor as an intestinal antiseptic, a blood antiseptic, and a stimulant to the abdominal nervous system; an initial dose of from ten to thirty grains of calomel, and occasional doses of five or more grains throughout the course; a tablet of aloin gr. $\frac{1}{8}$ and podophyllin gr. $\frac{1}{8}$ every day or second day (except when the calomel is given), to increase the section of bile, and to keep the gut empty; strong feeding, by giving such food as will be absorbed from the stomach without passing on to the intestine, and by giving it in small doses, frequently repeated; large draughts of sterile water; and absolute rest. The carbolated camphor is simply gum camphor three parts and crystals of carbolic acid one part, allowed to liquefy. There should always be visible camphor present in this liquid, in order that the carbolic acid be kept super-saturated. It should be given in ten-minim doses, in a capsule, every two hours, until the kidneys or heart show signs of irritation, when the interval between doses may be increased. For food I depend almost entirely on dissolved beef, made after Weir Mitchell's formula; and egg albumen stirred into cold water, and acidulated either with lemon juice, or hydrochloric acid. Sometimes I use liquid peptonoids as a change.

Under this treatment I have not lost a case in fifteen years, and I have seen a good many, and my memory is still in good working order.

Moreover, and this is the point that I wish to emphasize, if I see a case before the eighth day, and there are no complications, that man is back at his work before the end of the fifth week. When I see the case early there are almost never any complications. This is not the old carbolic-acid treatment; it would be more nearly correct to call it the camphor treatment. But the good effects are undoubtedly due to the combination of the two drugs.

D. E. English, M.D.

Milburn, N. J.

Epilepsy in Its Relation to Crime.—William P. Spratling places the number of epileptics who become permanently insane in a legal sense—that is, who are continuously unable to distinguish between right and wrong—at not less than 15 to 20 per cent. The epileptic subject to prolonged periods of mental disturbance and not continuously insane, may be in a subconscious state, lasting from a few minutes to several days after cessation of the fit. His mind is a blank, his actions go on uninterruptedly, and should he commit a crime while in this state he ought not to be held responsible for it, since he could not have had criminal intent. Aside from the epileptic's inability to distinguish between right and wrong when under the influence of a seizure, we ought to remember that inhibition in most cases is also impaired or destroyed; a fact that seems to escape consideration in establishing responsibility in epilepsy in this country. Judge Somerville held that the true test of responsibility in cases of insanity is the power to refrain from doing the act—in other words, whether the alleged evil doer acted under duress of disease which may have impaired or destroyed his powers of inhibition. The application of a similar test in establishing responsibility in epilepsy would seem especially fitting and just.—*Journal of Nervous and Mental Disease.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, August 14, 1902.

A Consideration of Uræmia. William H. Robey, Jr., reports several cases, a study of which shows that the patient who presents all the signs of marked degeneration of the kidneys and whose daily excretions is far below normal, does not necessarily die of acute uræmia, and need not even have any uræmic symptoms, while one in whom the insufficiency is apparently very slight, may suddenly develop uræmia, although before and during the attack the kidneys seem to be doing their work, and at the autopsy are found to be no more degenerated than those of persons dying of some other condition In past years the kidneys have been considered adequate if they were secreting a fair amount of the solid constituents of the urine. These cases clearly show that we must radically revise our ideas of renal insufficiency, and must learn to recognize new elements in urine or blood before we can justly make a prognosis in any case of chronic nephritis, no matter how favorable the condition may appear when measured by our present standard.

Journal of the American Medical Association, August 16, 1902.

Sodium Glycocholate in Diseases of the Liver.—T. W. Keown concludes that the indiscriminate use of glycocholate of sodium is to be avoided; it is not suited to all cases, and although there are no contraindications to its use, yet good results are to be expected only in those cases of gallstone formation of so-called torpid liver found in certain diseases, such as alcoholism, drug habits, melancholia and its congeners, constipation, chronic malaria, etc. It also materially aids the digestion of fats, and may prove a useful adjunct in wasting diseases of all kinds.

The Present State of Our Knowledge Concerning So-Called Partial or Graduated Tenotomies and the Heterophorias. J. Elliott Colburn states that the operation for a few years following the publication of the first reports of cases by Stevens, Ranney, Standish, and many others, was employed for the cure or relief of all sorts of conditions, and of necessity there was a reaction, but, through the careful and legitimate employment of the procedure in properly-selected cases, it has taken its place as second only to refraction in relieving certain forms of eye-strain, and is practised by conservative ophthalmologists. The author usually gives his patient the choice between (1) a six-months' course of ocular gymnastics and general tonic treatment, doing but a limited amount of close work, with the possible result of an improved if not corrected muscle balance, with a reasonable hope, if the general health remains good and the muscles are not overtaxed, that there will be no relapse; and (2) a two to six weeks' treatment, undergoing the development of the total error and its correction by operations, with the establishment of an orthophoric condition.

Medical News, August 16, 1902.

The Etiology of Typhoid Fever.—Wm. Egbert Robertson, from a study of the literature on this subject, concludes that the all-important factor in the causation of typhoid fever is the bacillus, which, for some unknown reason, manifests a peculiar tendency to appear among us at regular intervals; that anything which affords an opportunity for its entrance into an individual predisposes to an attack of the fever; and that every case may serve as a source of infection to others, but, unlike the other exanthemata, only by the use of contaminated food or drink, or water used for various household needs. He refers to Traube, who reported one case only of direct infection, which occurred in a hospital patient, into whose rectum a thermometer had been placed just after it had been used on a patient ill with typhoid fever.

A Case of Isolated Neuritis Complicating Typhoid Fever.—Charles J. Aldrich reports the case of a laborer, thirty-eight years of age, who, during convalescence from a grave relapse of typhoid fever, developed a neuritis of the left external popliteal and left ulnar nerves. Both legs and feet were œdematous and painful, and there was some numbness and tingling in the distribution of the above-mentioned nerves. On the left ulna and right tibia some hard, tender nodes, evidently periosteal tumefactions, were discovered. The patient also complained of much pain in the neighborhood of the sternum opposite the fourth costal insertion, at which point there was found an indurated swelling, caused, in the author's opinion, by necrosis. Its operative treatment was refused by the patient. There was a left foot-drop; the area of anæsthesia corresponded to the integumental distribution of the left external popliteal. The left hand had a weak grasp, and pain and touch sensation were absent in the distribution of the left ulnar nerve. Attention is called to the observation that the external popliteal or peroneal nerves, as well as the ulnars, seem to be especially vulnerable to the action of the various toxins of acute infectious disease.

New York Medical Journal, August 16, 1902.

Consideration of the Aortic Aneurysm. James Dudley Morgan considers the location and frequency of aortic aneurysm, its pathogeny, and principal symptoms. Quoting Sir William Jenner's injunction: "Suspect anything else but aneurysm in examining a pulsating tumor of the abdomen," he points out the great similitude with which the abodminal aorta of a neurasthenic may take on an aneurysmal feature.

A Summer in Wood's Holl.—Beaman Douglass, believing that a paper on his experiences at Wood's Holl might serve to open a new channel for thought, even though it might not contribute any actual scientific facts to the medical profession, describes the life of the numerous students at that resort, and gives an account of the various courses of lectures and laboratory instruction given in zoology, botany, physiology, and embryology, most of which are of great interest to the physician.

Tenotomy and Myotomy, with Reports of Eight Illustrative Cases.—Prescott Le Breton discusses at length the subject of tenotomy and myotomy and their indications. In cerebral paralysis division of the spastic muscles has greatly simplified the treatment. The tendo Achillis, plantar fascia, tibials, hamstrings, thigh adductors, and various tendons of the arm and hand may all require cutting, depanding upon where the spasticity and incoordination exists. Traction is of no service, as deformity recurs immediately. In infantile spinal paralysis flexion at the hip, except in very severe instances, is best treated by traction in bed, or partial tenotomy followed by traction, as tenotomy in this region is rather formidable. At the knee mild flexion may yield to bandaging or plaster-of-paris splints, but the hamstrings are ordinarily severed and suitable apparatus is provided. Deformities of the feet require tenotomy and immobilization in the corrected, not overcorrected, position. Other cases in which tenotomy may be of service are: Friedreich's ataxia; post-typhoidal contractures; pseudo-hypertrophic muscular paralysis in its later stages; long-standing hysterical contractures in which structural changes have taken place in the muscles; flexion deformity of the hip and knee at an advanced period of the lesion; severe cases of psoas-contraction of Pott's disease; congenital and acute spastic torticollis; clubfoot and clubhand. The cavus existing in cases of paralytic talipes equinus should be corrected by forcible reduction and section of resisting bands of plantar fascia. For the relief of congenital elevation of the scapula, the trapezius, rhomboids, levator anguli scapulæ, and part of the serratus magnus have been divided with successful results.

American Medicine, August 16, 1902.

Remarks on the Hæmatology of Rheumatism. A. M. Davis gives a very summary review of the etiology of this disease (omitting most of the more recent investigations) and quotes the various findings of clinicians as regards the blood as a whole, the red cells, leucocytes, and æmoglobin. For determining the total acidity of the blood he recommends Lowy's method as more practical than that of Landois-Jaksch. Although these tests are of practically no clinical significance, as they do not help to arrive at any definite conclusion concerning the real condition of the blood, the author hopes that laboratory methods will be devised in the near future by means of which definite and reliable analyses of the free and combined acids can be made, and that their detection may tend to solve the problem of the specific etiology of rheumatism.

Arthrodesis of the Ankle for Infantile Paralysis.—John Dane makes a plea for early operation upon the following grounds: (1) By avoiding the use of costly apparatus for a period of years a considerable saving in money and a still greater saving in trouble is effected for the parents as well as the child; (2) At an early stage in the trouble (*i. e.* about a year after the onset) the bones are relatively normal, both as regards their shapes and their mutual articulations; nor are there marked malpositions of the foot as a whole, which so often have to be overcome in operations at a later stage; (3) The tissues are then in a period of great plastic activity, when repair is both quicker and more perfect than in the older child. Cartilage is being changed into bone all through the foot, and we have less fear of a failure to secure bony union at the site of operation; (4) When at an early age the foot is secured in a relatively normal position the statics of the lower limb are not so much disturbed, and growth goes on under more nearly normal conditions than can be possible when there is a constantly increasing tendency to the transmission of weight along abnormal lines; (5) By avoiding mechanical support the unaffected and partially paralyzed muscles are not subjected to the injury inseparable from the use of constricting bands and straps. They have, in consequence, a freer blood supply and develop more rapidly

Recurrent Vomiting.—Charles W. Larned gives the histories of two cases representing typical instances of the affection in children aged four and five years, respectively. The vomiting, having once begun, was almost incessant in both children, the second child having had sixty-one seizures in the course of twenty-four hours; in both cases, toward the end of the attack, the vomitus contained more or less blood and bile. Constipation during the attacks was most obstinate in both children, the stools when passed being decidedly light in color and very offensive. During the early stage, in both instances, the urine was very scanty, high-colored, but showed neither albumin nor casts. Toward the end of the attacks in the second case a trace of albumin and a few granular casts were often found; this condition cleared up rapidly, however, after convalescence had set in. The abdomen became scaphoid in both instances after vomiting had lasted for some hours; in neither case was abdominal pain complained of, and only slight uneasiness was elicited on palpation. The temperature did not exceed 100° F in either child. There was intense thirst, but desire for food was absolutely wanting, although both children became ravenous as soon as the vomiting had subsided. The character and frequency of the pulse and respiration differed in the two cases. The duration of the attacks was from one to four days in both children. In neither child was there the slightest regularity as to the time of recurrence. The author discusses the clinical manifestations, etiology, pathology, prognosis, and treatment of the disease.

Philadelphia Medical Journal, August 16, 1902.

The Infectious Origin of Purpura Hemorrhagica.—A. W. Schram and W. H. Rubovits report a fatal case of purpura hemorrhagica, in which the degenerative tissue changes found post mortem, especially those in the blood vessels, lungs and kidneys, the uniformly enlarged lymphatic glands and spleen, the intestinal changes, the altered blood, and, above all, the circulation of microorganisms in the blood, were characteristic in every respect of septicæmia. The pathological findings of purpura hemorrhagica have revealed nothing which may be interpreted as the characteristic morbid changes of an independent affection; of a disease *per se*. None of the conditions found either clinically or pathologically, is sufficient evidence to accord to the so-called primary or idiopathic purpura the dignity of an independent affection, but they are rather the manifestations of a morbific influence, of which the purpura is a prominent clinical sign. From a pathological standpoint at least, purpura hemorrhagica must be regarded as one of the manifestations of septicæmia.

Malarial Fever Mistaken and Treated for Thermic Fever—J. Valentine Levi and Joseph M. Asher report three cases, which were brought to the University of Pennsylvania Hospital during the extreme hot spell in July of last year, with a large number of genuine cases of thermic fever. Tubbing produced little or no effect, and when the patients were well enough to be questioned, two of them gave a history of malaria. Examination of the blood showed the plasmodium in two of the cases, including the one which gave no malarial history; in the third no plasmodia were found, but excessive pigmentation was present. Improvement occurred under quinine treatment in all. In the "Twentieth Century Practice of Medicine," it says: "Sunstroke may simulate an attack of pernicious fever in malarial climates, and in summer when it attacks men mostly in the field." Marchiafava and Bignami also state that there are cases of malarial fever complicated with sunstroke. Even if this be the case, the value of the knowledge that malaria is present is self-evident.

The Lancet, August 9, 1902.

A Peculiar Case of Scarlatina Hæmorrhagica.—V. C. de Boinville records the case of a boy, four and a half years of age, who had an attack of scarlet fever that presented nothing unusual. The day after the temperature had fallen to normal, however, and, just as desquamation was setting in, bleeding from the anterior nares commenced and small hemorrhagic spots appeared on the anterior aspect of the scalp and in the neighborhood of the knee-joints. Subsequently an eczematous rash broke out on the buttocks, and the spots thus formed bled on the slightest friction. The patient became generally feeble, the temperature rose to 103° F, and death ensued in a state of collapse. The author asks whether it can be that nature had, as it were, surpassed herself in her process of healing, that the antitoxins had become excessive, and that a "reactionary antitoxæmia," if one may use such a term, had set in. Or can it be that, after the supposed toxins had been sufficiently eliminated, to permit of a fall of temperature and partial recovery, a fresh supply of toxins hitherto combined with other material, or otherwise rendered inert, had suddenly become let loose in the blood and set up a secondary toxæmia?

Myoma of the Vagina.—W. Roger Williams discusses the pathology, diagnosis, and treatment of this rare form of vaginal tumor. As in the case of their uterine congeners, the precise structure of the so-called vaginal fibroids has been much debated; the report of cases rarely enable us to determine with certainty whether we have to do with myomatous, fibromyomatous, or merely with fibromatous formations. Probably further investigation will show that nearly all vaginal "fibroids" are myomatous *ab origine*. They differ from their uterine congeners in their comparative rarity, and in that they are nearly always solitary. They increase slowly, but seldom attain a large size. A considerable proportion of individuals affected with these tumors are single, an among the married the ratio of sterility is in excess of the normal. Menorrhagia or other menstrual derangement rarely occurs. Myomata of any size, especially when they interfere with natural functions or present signs of septic infection—inflammation, œdema, sloughing, etc.—should be removed. If the tumors are polypoid and the pedicle is of no great thickness, the latter should be transfixed, ligated in two places, and divided between the ligatures. In all other cases enucleation is the best treatment.

Verbal Obsessions.—James Shaw defines verbal obsessions as those in which isolated words—mostly obscene or blasphemous—constitute the morbid besetment. They should be distinguished from coprolalia, obscene speech; from the blasphematory mania of Verga, which this observer describes as a special variety of obsession taking the form of oaths, blasphemies, or indecent utterances; and from the onomatomania of Charcot and Magnan, in which a word cannot be recollected without a painful searching of the memory, or a word or phrase is ever present in consciousness and must be emitted at intervals, its utterance being repressed for a short space only at the cost of extreme and constantly increasing mental pain. In the two cases he records the besetting words were never uttered. The words differed from psychical or psychomotor hallucinations, in that they were never spoken of as "voices in the head," nor as "voices" at all. Verbal obsessions may constitute the leading feature of a sort of obsessional aberration, as in one of the cases, or an early symptom of a form of insanity, an obsessional melancholia. The other case exemplifies the induction of obsessional melancholia by verbal obsessions. The prognosis as to mental recovery is much less favorable in the aberration almost purely obsessional than in the seemingly more formidable obsessional melancholia with its blurring of consciousness, greater mental pain, and diminution of self-control, difficulty of inducing fatigue, and its presentation of a distinct fixed idea or so-called faith-delusion of having committed an unpardonable sin.

The Diagnosis and Treatment of Malignant Stricture of the Œsophagus.—Charters J. Symonds considers a few of the early symptoms and the treatment of this disease, which is not infrequently treated for dyspepsia. He summarizes the diagnosis as follows: (1) Among early symptoms we may have so-called dyspepsia, nausea, and repulsion for food; pain alone when the central district is affected; (2) The passage of a bougie is the only way to clear up the case, and its employment need not be feared; (3) Extraœsophageal disease rarely gives rise to serious dysphagia; (4) Spasmodic obstruction, apart from the hysterical form, has always, when pronounced, an organic cause, and this would be better called intermittent dysphagia; (5) With regard to the three special districts, it may be said (*a*) that all organic obstruction in the upper third is malignant and has a special tendency to cicatrize; (*b*) that in the center half of the gullet a sarcoma or a myoma, both rare diseases, may cause fatal obstruction, and here also a pouch may give rise to difficulty in diagnosis, but can generally be excluded; and (*c*) that in the lower end alone does simple stenosis occur, and here there may be difficulty in distinguishing it from cancer of the stomach causing great reduction of the cavity (leather-bottle stomach); (6) Finally, in estimating the extent of the disease, the special value of the steel bulb is noted, and also the use of the coudé bougie in obstruction at the lower end. The general question of treatment is put in the following way as applying to all cases: (1) While the patient can swallow fluids and semi-solids, and while a bougie can be passed and plenty of nourishment taken, he may be left alone so long as (*a*) he can swallow well, or (*b*) a small bougie, No. 12 catheter gauge, can be passed; (2) If the dysphagia increases, even though a bougie can be passed, then a tube must be inserted or gastrostomy must be performed. These conditions are seen in the soft fungating forms; (3) If a bougie cannot be passed or goes with difficulty, then the same course must be followed, as we know that complete closure may occur at any time; (4) If both conditions arise, *i. e.* the patient cannot swallow and a bougie cannot be passed, then immediate mechanical treatment is required.

Deutsche Medicinische Wochenschrift, July 24, 1902.

Formation of a Fistula between the Liver and Lung.—Eschenhagen's patient had suffered for several years with cholelithiasis. At the time of the initial observation a complicating purulent cholangitis had developed, and the general condition was extremely bad. The patient rapidly passed into a comatose condition, and physical signs of a right-sided pleurisy appeared. An examination of the blood failed to show the presence of any leucocytosis. The liver, which had been considerably increased in size, returned practically to its normal proportions, and the coma gradually disappeared. Shortly thereafter the expectoration suddenly became yellow-colored, and upon examination was found to contain the various elements of bile. The pleurisy subsided and the general condition greatly improved. There then followed a period of about four weeks during which there were frequent attacks of bile-expectoration. Ascites developed, the cardiac action became greatly impaired, and death took place under appearances of marked asthenia. At the autopsy it was discovered that the infectious cholangitis had given rise to multiple liver abscesses, one of which had broken through into a bronchus of the right long, thereby causing gangrene and pleurisy in the territory involved and producing the bile-expectoration above noted. The case is of interest because of the great rarity of thorax-liver fistulæ, and also because of the absence of a leucocytosis, although the process from the beginning must have been septic in nature.

A Rare Case of Perforation Peritonitis.—Paul Hilbert reports a case of peritonitis due to a perforating ulcer of one of the diverticulæ of the sigmoid flexure. The patient was a male, thirty-seven years of age, and had suffered with pains in the right hypochondrium, together with dyspnœa, cough and expectoration, for about six months previous to his coming under observation. During the latter portion of this time there had developed an abundant ascites and a moderate œdema of the lower extremities. Upon physical examination of the chest the lungs were found normal, but a marked cardiac insufficiency was detected and was held responsible for the clinical picture. The ascitic fluid was withdrawn by puncture, and upon microscopic examination was found to contain numerous erythrocytes and pus corpuscles. Within a few hours after the withdrawal of the fluid the temperature rose to 38.9°C., and characteristic symptoms of peritonitis appeared. These increased in severity, and death took place within three days. Upon autopsy the perforated ulcer above noted, was found, and the cause of the peritonitis thus detected. The case is of interest in that a review of the literature shows that perforating ulcers of the intestinal tract are extremely rare in the sigmoid flexure; and, furthermore, because of the peculiar clinical history, the symptoms of peritonitis not developing until the ascitic fluid had been withdrawn, in spite of the fact that the examination of this fluid demonstrated that infection of the same was present previous to the puncture. It seems probable that the absence of peritoneal symptoms was due to the presence of the fluid in the peritoneal cavity, which separated the layers of the peritoneum and thus prevented the characteristic local symptoms so characteristic of this disease.

Berliner klinische Wochenschrift, July 28, 1902.

Lupus Erythematodes.—Eugen Holländer takes sides with those who hold that lupus erythematodes is in no way tubercular in nature. There are many facts which may be advanced in support of this opinion, but that which carries the most weight is the result obtained by a cauterization of the lesions of this disease. Experience has shown that this form of lupus cannot be cured by cauterization, no matter how thoroughly and carefully this may be done. Surely, if the lesions were caused by the bacillus tuberculosus, means which destroy this microorganism should be effective in the treatment of the disease. Holländer reports the successful treatment of a large number of cases by the internal administration of quinine combined with the local application of the tincture of iodine. The quinine is given in doses of .5 grams, three times a day, and within five to ten minutes after each dose the iodine is applied. This treatment is continued on each of five or six successive days, and then intermitted for a like period. The number of treatments necessary varies with individual cases, but. as a rule, does not exceed three or four of the periods above described. The exact manner in which the cure is brought about by this treatment is not entirely clear, but since it seems certain that the disease, primarily, is an affection of the cutaneous glands, it is reasonable to suppose that the drugs mentioned exert an influence upon the vessels of these glands, and thereby favor a restitution of their normal functions.

Myelogenous Changes in the Spleen and Lymph Glands. Hans Hirschfeld reports the post-mortem examination of many cases of scarlet fever, diphtheria, erysipelas, sepsis pneumonia, peritonitis, purulent meningitis, and pulmonary phthisis, with a view to ascertaining the varieties of leucocytes present in the spleen and lymph glands. It was found that in many cases these structures contained a large number of polymorphonuclear neutrophilic leucocytes and neutrophilic myelocytes. Eosinophilic myelocytes were rarely found. Normoblasts were frequently encountered. The neutrophilic myelocytes were more abundant in the spleen than in the lymph glands. The question now arises as to whether the myelocytes in these cases originate in the spleen and lymph glands or whether they are carried thither from the bone marrow by the blood. It seems certain that the former is the case, since when the myelocytes were found in the spleen and lymph glands it had never been possible to demonstrate their presence in the peripheral blood during life, as would be expected provided that they had been present in the general blood current. If therefore it is true that in these instances myelocytes originate in the spleen and lymph glands, Ehrlich's view that they are formed only in the bone marrow is false. Hirschfeld in opposition to Ehrlich has maintained for years that myelocytes are not of independent origin, but that they are formed from the lymphocytes. Until recently it has seemed certain that this transformation took place only in the bone marrow. The observations here recorded, however, show that under cercertain conditions the same process may go on in the lymphoid structures, for if it is granted that myelocytes are ever formed in the spleen and lymph glands, in such cases they could originate in no other manner than from lymphocytes, and a similar origin in the bone marrow is to be naturally supposed. The explanation of the myelogenous changes in the spleen and lymph glands in certain cases of infectious diseases would seem to rest upon the leucocytosis necessary for protection. In such the bone marrow is not able to produce the necessary number of leucocytes (phagocytes) and the formation of the phagocytes is transferred in a certain measure to the structures above named.

Münchener medicinische Wochenschrift, July 29, 1902.

Spinal Reflexes in Hysteria.—Steiner reports a case of hysteria which shows an unusual relation of the reflexes. It has been generally taught that in this disease the tendon reflexes are maintained while the cutaneous reflexes in the involved territory are reduced or absent. It is evident, however, that this relation does not always hold true. The case under consideration was without question purely hysterical in nature, and was kept under observation for more than two years. In the beginning the tendon reflexes were preserved and the cutaneous were absent. Later, however, this relation was reversed. Subsequently the tendon reflexes returned and the cutaneous vanished. This case shows that an absence of the tendon reflexes does not not necessarily mean that organic lesions are present.

Ulcer of the Stomach.—Agéron considers the various points in the diagnosis of ulcer of the stomach. Great importance in this respect is to be attached to disturbances in the motor functions of this organ. It is certain that in many instances of this disease in which the well-known classical symptoms are absent an early diagnosis may be made by the help of accurate observations upon the motility of the stomach. It is thought by many that a disordered motility does not occur until the ulcer is far advanced and has given rise to stenosis or other marked anatomical lesions. Sufficiently careful observations, however, will show that this is very far from being true. The motility is best determined by means of the test meal. If within two hours after the ingestion of such a meal the stomach is not entirely empty it may be regarded as certain that the normal motility of the organ is impaired. Such an impairment is never met with in cases of hysteria or so-called nervous dyspepsia. Two points in the treatment require especial emphasis. First the necessity of continued rest in the horizontal position and, second, the influence of the subgallate of bismuth upon the ulcerative lesions. The bismuth is best administered suspended in oil. Ten grains should be thus given three times a day, the stomach having been previously cleansed with a warm boracic-acid solution.

Clinical Significance of Retroflexed Uterus.—A Theilhaber disagrees with Wormser, who thinks that during the second and third months of pregnancy the retroflexed uterus should be manually replaced and supported by a pessary. While this may be necessary in places where the displaced uterus is incarcerated, experience has shown that such incarceration is extremely rare and may practically be excluded from consideration. During the past nine years the author has examined 1,000 pregnant women who, in the first months of pregnancy, showed a retroflexed uterus, yet only in two instances was the uterus incarcerated. In all the others the uterus righted itself so as to assume its normal position as the pregnancy advanced. The author believes that most practitioners bestow entirely too great a significance upon a retroflexed uterus, and that the symptoms caused thereby are in the vast majority of cases due to accidental complications, such as endometritis, hysteria, etc. Furthermore, that the best results are to be obtained by treating these conditions rather than by replacing the retroflexed organ.

French and Italian Journals.

Purulent Infiltration of the Cervix.—Chéron reports the case of a woman who was suffering from a severe infection. The uterus was disinfected several times energetically, but the patient quickly succumbed. At autopsy it was discovered that the uterus appeared perfectly healthy to the level of the cervix, but at this part it was profoundly altered. The cervix was very much enlarged and œdematous, and on section there was shown to be a true purulent infiltration, which was limited by the internal os. These cases of infection localized in the cervix are exceptional. It shows that if supravaginal hysterectomy were practised in these cases the healthy parts would be removed while the diseased parts would be left behind —*Le Bulletin Médical*, July 12, 1902.

The Influence of Thyroid Medication on the Pruritus of Jaundice.—Gilbert and Herscher declare that the ingestion of thyroid extract will cause the disappearance of, or at least will greatly ameliorate, the pruritus of jaundice. Under the influence of this medication, the reaction of Hay is modified, and as it is admitted that the pruritus is due to the action of the bile salts on the terminations of the nerves, these authorities have come to the conclusion that thyroid extract exercises over the bile salts a destructive or modifying influence. Solutions of the bile salts mixed with thyroid extract and injected into the vein of a rabbit's ear, are much less toxic in their effects than are the pure solutions of the bile salts. Thus it is shown that thyroid extract is a prophylactic against poisoning by biliary salts.—*Le Bulletin Médical*, July 30, 1902.

The Rôle of the Lymphatic Ganglia in Protecting the Organism from Tuberculosis.—Luigi Manfredi and B. Frisco conclude from their experimentation that it is possible, by means of endolymphatic injections of tubercular bacilli, to produce a tuberculosis which remains localized in the lymphatic system. The glandular system exercises a certain protective influence not only toward itself but toward the organism: (1) By a mechanism which arrests or retards further progress of the bacilli, and which is due partly to the natural structure of the ganglia and partly to inflammatory processes initiated in the ganglia by the presence of the bacilli; (2) By an influence which attenuates the virulence of the bacilli, and which is slowly germicidal; (3) By a marked tendency to sclerosis of the infected gland. The defensive powers of the lymphatic ganglia can be experimentally increased, or, in other words, a certain degree of immunity against tuberculosis produced by repeated endolymphatic inoculations with small doses of tuberculous virus. *Il Policlinico*, July, 1902.

Little's Disease.—Mariano Salaghi reports six cases of this affection. Two of them presented the rare complication of atrophy ,and degeneration of the thenar eminence and of the interosseus muscles of the hand. This demonstrates that although the greater number of symptoms in Little's disease point to a cerebral lesion there may be at times cœxist lesions of the spinal motor cells. The affection should be considered a paresis of cerebral origin, rather than a paralysis. In the cases reported the disease did not occur until between the fifth and tenth year, so that for the theory of arrested development there should, perhaps, be substituted the theory that there is an hereditary lesion or a lessened resistance of some of the cortical motor neurones, resulting in their degeneration and destruction of a certain number of nerve units. From the course of the disease in these cases it would seem fair to infer that when the disease develops late it is of graver import than when it begins with birth or shortly after.—*Rivista Critica di Clinica Medica*, July 19, 1902.

Importance of Toxic Phenomena in Appendicitis.—Dieulafoy gives the results of his wide observations in cases of appendicitis. He states that every case of acute febrile appendicitis, even with a rapid course, has been cured when operated on within the first two days; the cases operated on the third day have generally been cured, but not always; from the fourth day, some cases are cured, while others succumb. It is often difficult to tell just when an attack has begun. Appendicitis often exists twelve or twenty-four hours before any great pain or severe symptoms occur. He says, for example, a patient is attacked by appendicitis with slight symptoms; there is no severe vomiting. But the general condition becomes worse, the skin becomes leaden in tint, and the urine is less abundant, and contains albumin and casts. At operation there is slight peritonitis, but a rectocæcal abscess and some gangrene of the posterior wall of the appendix. In spite of the operation, the patient sinks, and finally, after severe attacks of hæmatemesis, he succumbs. At autopsy there is only a little pus in the peritoneum, and the viscera appear normal to the naked eye. But the kidneys, on careful examination, show an acute degenerative nephritis, due to the action of toxins. It is clear case of toxic appendicitis. In dealing with this affection it is very necessary to know its stage.—*La Médecine Moderne*, July 9, 1902.

Tubal Pregnancy: Intraperitoneal Hemorrhage.—René Tesson states that tubal pregnancy is of frequent occurrence. It presents itself in various forms, and it is accompanied by diverse accidents, chief among which are hemorrhages. The writer reports several cases. One of these patients was a domestic, twenty-eight years old. She had always menstruated normally. She had one child three years old. She did not remember the exact date of the last menstruation, but a few weeks later she was taken with acute abdominal pain and vomiting. She was not confined to bed, but continued to suffer for more than a week. A few days later she came to the hospital. Examination showed that the uterus was displaced by a soft mass which was diagnosed as a retrouterine hæmatocele. The patient was ordered to be kept in bed under observation. Suddenly, after the examination, the patient gave a cry, and it was evident that there had been a sudden hemorrhage and there was not a minute to lose. Laparotomy was at once performed. The abdomen was filled with blood, which came from the right tube. This was excised and the abdomen and pelvis were cleaned out. A drain was inserted behind the uterus, and the wound was closed. Intravenous injection of serum was made during the operation. The fetal cyst had been ruptured on its anterior surface. Convalescence was rapid and uneventful. This case shows how precarious the condition of these patients is. When the diagnosis is made, it is best to do an early operation, in order to prevent such accidents.—*Gazette des Hôpitaux*, July 8, 1902.

Annals of Surgery, August, 1902.

A Case of Splenectomy for Leukæmic Enlargement.—Theodore A. McGraw operated on a child of eight years, with a fatal result. The disease was of at least two years' standing. The author holds that the danger of operation is in exact ratio to the previous duration of the disease. To be able to operate early, we must get the cases early, and to this end the general practitioner should coöperate with the surgeon, and make examinations of the blood as a routine procedure in all cases of wasting disease.

Morrison's Operation for Ascites Due to Laennec's Cirrhosis.—F. Tilden Brown reports a case, and reviews others. Fifty per cent. were greatly improved or cured. He says, in conclusion, that the more rapid the accumulations of ascitic fluid, have been the greater the reason to provide for long-continued drainage, which is to follow the operation, and to expect that very gradual improvement in all symptoms is the most and best which can be hoped for. The value of Morrison's adhesive strapping to keep in approximation the denuded peritoneal surfaces, and at the same time to compel the serous effusion to find its only available space in the pelvis, is evident. The importance of the long continuance of this device was accentuated on two occasions, when a hospital interne attempted at the end of four weeks, and again later, to dispense with the adhesive strapping, each time an accession of ascitic fluid to the upper part of the peritoneal cavity was apparent.

Congenital Dislocation of Hips.—Edward H. Ochsner describes the "bloodless functional weight method" of Lorenz, which consists in reduction, reposition, formation of acetabulum, and restitution of function, these different acts not always following each other in regular order, but some of them occurring more or less simultaneously. If untreated, the disease has a bad prognosis, the unsightly deformity persisting throughout life. The power of endurance becomes greatly reduced, and pain may be slight or so severe as to incapacitate the patient for all work requiring walking or standing. If the patient is submitted to the bloodless operation before the age of six years in double and ten in single dislocations the prognosis is much better. In 212 carefully-observed cases Lorenz reports 108 anatomically and functionally perfect results, 102 anatomically imperfect, but functionally good, results. The author reports six cases of his own.

Angiotripsy as a Substitute for the Ligature in Routine Work of General Surgery.—Oscar J. Meyer describes his experimentation on animals with his simplified angiotribe. No secondary hemorrhages were encountered in any of them, though no bandage nor immobilization were employed, and the animal was allowed to roam at large after the third day. The specimens obtained show that the tissues thus treated are not devitalized and do not become necrosed, but are only powerfully compressed, the life of the cells not being destroyed. In many cases angiotripsy will render drainage obsolete, or considerably curtail the time necessary for its employment, as well as greatly lessening the chances of infection, by restricting secretion. Another advantage is the reduction of suffering to a minimum, as angiotripsy crushes the nerve. This is very noticeable in operations for hemorrhoids. In extirpations of extensive cervical tubercular or carcinomatous glands, and in thyroidectomy angiotripsy has rendered the author excellent service. In a friable organ, as the liver or the kidney, and in a sinus, like in the dura mater, it is of no avail.

Complications Following Gastroenterostomy.—William J. Mayo reports 107 cases of gastroenterostomy with ten deaths, due to exhaustion, exhaustion with pernicious vomiting, progressive pneumonia, and detachment of the anastomosed intestine from the stomach-wall. The deaths from exhaustion were due to the extreme starvation which existed at the time of operation. The latest theory in regard to the frequency of lung complications following operations on the stomach is that some of the venous blood returning from the stomach does not pass through the portal vein, and in this way infected emboli are carried directly into the circulation and pass at once to the lungs. The two cases in which the anastomosed intestine was detached occurred in one case from an amount of free fluid present, in the other after an epileptic seizure. The most important feature in the mechanics of the anastamosis is that the union shall be at the inferior border of the stomach, close to the greater curvature, and at the bottom of the stomach-pouch, giving a funnel shape. The anastomotic opening should have its inferior border at the bottom of the stomach, and as to whether the opening shall extend from this point upward anteriorly or posteriorly is of little moment.

The Edinburgh Medical Journal, August, 1902.

Some Functional Neuroses of the Throat.—P. M'Bride reports a case of *laryngeal*, or *pharyngeal whistling*,, due undoubtedly to neurasthenia. Second, third, and fourth cases are of *functional aphonia*, caused in one case by fright; in one by neurasthenia, and in one by a hysterical temperament. The voice returned as suddenly as it had gone in the first case, and in the others as a result of tonic treatment. *Inspiratory spasm* has been met with by the author several times, which bore the closest resemblance to bilateral abductor paralysis, but the fact that the patient suffering from inspiratory spasm sleeps quietly, while in abductor paralysis the respiration is noisy, affords a means of distinguishing between the two conditions. Holding the nose and mouth shut for a few seconds, is, in the case of inspiratory spasm, followed by a full, quiet inspiration, which test gives a ready method of differentiating the two conditions. The author would, however, feel disinclined to risk it, unless the presumption was in favor of the functional ailment.

Insects and Cholera.—Andrew MacKaig describes an outbreak of cholera in India which seemed to appear almost simultaneously in different parts of the country, but in every case where large numbers of people were gathered together on famine relief works. The chief point of interest is how the disease attacked persons who had no relation whatever to contaminated water and were most careful in all hygienic measures. The number of flies swarming about every article of food was beyond description, and at Godhra, in the house where the author lived, every care was taken to prevent flies settling, and there were no cases of cholera. He holds that the number of cholera cases varied in direct proportion to the number of flies at any given time. Certainly, cholera and flies increased and decreased with each other. Native cholera sufferers are usually found lying on the floor, covered partially with a few rags, the ground being in a state too awful to be described. A cloud of flies is present, which rises with a loud hum on a motion being made near the patient, but at once settle again. It is hard to see how these flies could escape being cholera carriers.

The Causal Relation of Cocci to Rheumatism.—W. Blair Bell is convinced that all *acute* rheumatic affections are of microbic origin, and, further, that they are of coccal causation. Also that the source of infection is sometimes obvious and sometimes obscure. Further, he thinks that those specially called "rheumatic," as opposed to pyemic suppurating lesions, are produced by a toxin circulating in the blood without an accompanying army of cocci; but that certain of the cocci, *e. g.* pneumo- and gonococci, do frequently invade the joint and produce symptoms which are no longer purely "rheumatic." From this multiplicity of determing factors he concludes that "rheumatism," in its acute form, is a *symptom* only of many toxæmias and not a clinical entity; chronic rheumatism being a *symptom* of some perverted chemical change, associated with cold food, nervous changes, etc. Finally, he believes that the so-called specific diplococcus is a modification of either the strepto- or staphylococcus—an attentuated variety—and that it is by these that the ordinary non-suppurating "rheumatic fever" is pronounced. He says, however, that his statements lack absolute proof and are merely of a suggestive nature.

Therapeutic Hints.

Cancer. Take galangal root, grate or pulverize to fine powder, add zinc chlorid, make plaster and apply all over the cancer surface; renew every day until the cancer begins to give way from the healthy tissue. I generally let the plaster stay on the cancer about four or five days, then remove and apply any good salve. In about ten or fifteen days you can remove the entire growth, and the place will heal very readily. With but few exceptions the knife is a failure. —W. S. Robinson.

How to Take Castor Oil.—The disgust for castor oil is due to the odor, not to the taste. If the patient grips the nostrils firmly before pouring out the dose, drinks same complacently, and then thoroughly cleanses the mouth, lips, larynx, etc., with water, removing the least vestige of the oil before removing the fingers, he will not get the least taste from the oil, which is bland and tasteless. It all depends upon keeping any air from entering the nose during the time while there is any oil present.

—F. S. Hough in *Iowa Medical Journal*.

Treatment of Locomotor Ataxia.—The most important consideration is, as a rule, rest in bed, which, if prolonged, often hinders the progress of the disease. In any case, undue fatigue or over-exertion should be avoided. The rest cure is eminently suited to this condition. The second great indication is good nursing and plenty of good rich food which contains very little fat. The third indication is frequent warm baths. The greatest benefit results from saline baths at a temperature of from 30° to 32°C. The bath should not, as a rule, last longer than fifteen minutes. Chills and sweating should be avoided and warm clothing should be worn. For individual symptoms, electricity, massage, narcotics, and analgesics are indicated. —*Indian Medical Record*.

Chionanthus Virginica. This drug is recommended for the relief of jaundice whenever there is no fixed obstruction. Whenever the jaundice comes on quickly, and is not of long standing, this drug will produce a speedy cure. Tenderness in the region of the liver is one of the indications for this remedy, and cases of long standing will most frequently be at least greatly benefited. It has a decided effect over the glandular structures, and is efficacious in recovering from bilious fevers and obstinant intermittants, and an herb tonic during convalescence. Dose is from gtts xiii to gtts xiv.

—Dr. Ellingwood in *Medical Summary*.

Book Reviews.

Clinical Lectures on Neurasthenia. By Dr. Thomas D. Savill. Second Edition. New York: Wm. Wood & Co.

This work has no pretension to being a systematic treatise on neurasthenia. It is simply a report of five lectures on this common disorder. Aside from some irrelevant matter concerning clinical teaching in Poor-Law Infirmaries (Lecture I), the lectures are readable and instructive. Lecture II is devoted to the general presentation of neurasthenia, its causation, course, and prognosis. Lecture III and IV are given up to the diagnosis and pathology of the disorder, while the mental symptoms of neurasthenia are considered in the last lecture. The author has been happy in his choice of illustrative cases, and this, coupled with considerable literary skill, makes the volume interesting and readable. The only criticism that might be offered is that the subject has scarcely been brought up to date. The book, of about 150 pages, is attractively printed and put together.

A Text-book of Insanity. By Charles Mercier. Lecturer on Insanity at the Westminster Hospital Medical School. New York: The Macmillan Company, 1902.

This little book of 220 pages has been prepared because year after year the author has had to recommend books on insanity to his students which he knew to be excellent in themselves, but which are too bulky and voluminous. This recalls the explanation that an American psychiatrist gave for writing his recent book, "The Absence from English Medical Literature of a Comprehensive Work on Insanity." Some modern writers of psychiatric textbooks would seem to have an inclination toward megalomania, which is easiest squelched when dealt with in its incipiency. There are not only a number of comprehensive works on insanity in the English tongue, but most excellent brief textbooks. Mr. Mercier devotes Part I of his book to a discussion of conduct, mind, certifiability, and fitness to be at large, and the causes of insanity; Part II to the forms and varieties of insanity, and Part III to the legal relations of insanity. Taking it all in all Part I may be said to be a satisfactory brief presentation of the institutes of insanity, and the same may be said of the chapter on the causes of insanity. The sections devoted to the varieties of insanity do not merit similar approval. The sections on dementia and acute insanity, are, in the opinion of the reviewer, unworthy of favorable comment. For instance, we do not believe that the writer voices the opinion of many psychiatrists when he says "The only form of dementia which has a true clinical distinctness and constitutes a separate clinical entity is that which is known as stupor," unless he applies the designation stupor to the clinical picture which most modern psychiatrists give the designation dementia precox.

Nothing is said of the treatment of insanity, and, save the stereotyped description of the changes in the brain in general paresis, nothing is said of the pathogenesis and morbid anatomy of any of the forms of insanity. These may not be considered by the author serious deficiencies in a textbook, but they are so considered by the reviewer. If the general practitioner has a standard book on mental diseases, like Macpherson's or Kraft-Ebing's, and desires to get another psychiatrist's point of view, we recommend Mercier's little book.

Clinical Psychiatry: A Text-book for Students and Physicians. By A. Ross Defendorf, M.D. New York: The Macmillan Company, 1902.

The above title conveys no idea that this volume is in reality an abbreviation of Kraepelin's "Lehrbuch der Psychiatrie," although this fact is set forth on the title page. The book is being advertised, however, as a textbook of Clinical Psychiatry by a gentleman who has not written a word of it and who is not responsible for a statement contained therein, but who, nevertheless refers to himself in the preface as the author. "It was the author's first intention to publish a complete translation of Kraepelin's "Lehrbuch," but it was feared that it would be too large to subserve the function of a textbook, and would have rendered impossible the daptation of the Kraepelin phsychiatry to our peculiar American needs." Just what is meant by the latter half of this sentence the reviewer does not know. All that seems clear to him is that Dr. Defendorf started to translate Kraepelin's textbook, and finding that it would make a large volume, Kraepelin's textbook *being* a large volume, he went through it with a pair of scissors and called himself the author of a book on clinical psychiatry and thanked two fellow psychiatrists for "their continued inspiration." This is a new way of book-making, and we can imagine that it requires inspiration to do it. We trust sincerely that no injustice is being done Dr. Defendorf, one of the earnest and advanced workers in the field of psychiatry in this country. It may be that Prof. Kraepelin has authorized him to translate and epitomize his book, or it may be that the publishers are taking it upon themselves to advertise this book as Defendorf's Psychiatry. If so, fairness and justness to the world-renowned author demand that these facts be set forth.

The contents of the volume are a brief presentation of the facts of general symptomatology and a consideration of the different forms of mental disease. Under the latter are discussed the infection, exhaustion, intoxication, and thyroigenous psychoses, dementia precox, dementia paralytica, organic dementia, involution psychoses, maniac-depressive insanity paranoia, the general neuroses, constitutional psychopathic states and defective mental development.

While we gladly welcome any publication that makes Kraepelin's interpretations and descriptions more widely known, we deprecate the way in which it is done in this instance.

Die Aetiologie des akuten Gelenkrheumatismus nebst kritischen Bemerkungen zu seiner Therapie. Von Dr. A. Menzer, Stabarzt und Assistenten der iii. med. Universitätsklinik der Kgl. Charité. Mit einem Vorwort von Prof. Dr. Senator, Geh. Med.-Rath. Berlin: 1902. August Hirschwald.

This interesting volume, although concisely written, views the subject treated from various standpoints. The first chapter gives a review of the older bacteriological experiments which were conducted with a view to clearing up the etiology of acute articular rheumatism, including results of examination of the blood, of the vegetations on the heart valves, the pleural exudate, and the urine. Then follows an account of the recent experiments on animals. The writer discusses the relation between the streptococcus found in the tonsils and acute articular rheumatism. A chapter on treatment is given. There is an extensive bibliography, and a number of beautifully colored plates. The volume is a valuable contribution to the study of acute articular rheumatism.

Le Mal de Mer. Comment on s'en préserve, comment on en guérit, comment on le soigne. Guide Hygiénique Complet du Vogageur à bord des Navires. Publié par le Comité de la Ligue contre le Mal de Mer, sous la Direction du Docteur Madeuf. Paris, 1902.

This little book is one of the first fruits of the recently established League against Seasickness. It is an exceedingly interesting book to read, and its optimism would be most comforting could one only forget the proved worthlessness of so many vaunted sure cures or preventives of seasickness. The author of this book, however, puts forward the claims of no specific—says, indeed, that there is no specific—yet asserts, with all the positiveness of conviction founded upon ample experience, that seasickness is a true disease, and that it is preventable and curable. The directions for those who would voyage with pleasure and freedom from illness are most explicit, beginning with a preparatory course of treatment before going on board, and continuing through the preliminary stages of apprehension and slight discomfort to those of nausea, dizziness, emesis, despair, and indifference to fate. It is fair to presume, however, that those who follow the early instructions will have no need of the therapeutic counsels for the declared disease.

Practical Dietetics, with Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City; Visiting Physician to the Presbyterian and Bellevue Hospitals. Second edition, enlarged and thoroughly revised. New York: D. Appleton and Company, 1902.

Since the first edition of this book, published in 1895, there has been an increasing interest in the medical profession in the subject of diet in health and disease, and we doubt not this increase is due in part to Dr. Thompson's excellent work. One may have a general idea regarding the nutrient value of some of the more common foods, and a more particular and personal knowledge of their differences in digestibility, but this is a very slender foundation upon which to base a dietetic prescription. Hence the need of such a work as this, in which the subject of dietetics is handled in much the same way as that of drugs is in a treatise on materia medica. In the present edition there is not a great deal that is different from the old, except for some thirty pages of new matter, largely based upon the publications of the Department of Agriculture. The most important changes are in Part VIII, dealing with Diet in Disease, and these sections are eminently satisfactory and practical, furnishing a trustworthy guide to the physician in this difficult field of practice.

The Essentials of Histology, Descriptive and Practical. For the Use of Students. By E. A. Schäfer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh; Formerly Jodrell Professor of Physiology in University College, London. Sixth Edition. Revised and Enlarged, with 463 Illustrations. 416 pages. Philadelphia and New York: Lea Brothers & Co., 1902.

This edition has been markedly enriched by the addition of many original and selected illustrations, to such an extent, in fact, that it could well serve as instructive reading without the use of microscopical preparations to one familiar with the same. The work is divided into lessons, at the beginning of which full directions for the technique of the preparation of special specimens are given. The author has disregarded the unimportant details and has confined his description to the essentials, thus making the book particularly well adapted to beginners. In this issue the chief changes to be noted are the enlargement of the chapters on the central nervous system together, with the new and most admirable illustrations.

The Roller Bandage. By William Barton Hopkins M.D., Surgeon to Pennsylvania Hospital, etc. With Illustrations. Fifth Edition. Revised. Philadelphia: J. B. Lippincott Company, 1902.

The student is often required to show theoretical and practical proficiency in bandaging, and a convenient textbook dealing with the subject is often of value. This little volume fills such a place exceedingly well, and its popularity is attested by the fact that this is the fifth edition. The best part of the book is the illustrations, which are graphic and excellently executed.

A Manual of Instruction in the Principles of Prompt Aid to the Injured, Including a Chapter on Hygiene, and the Drill Regulations for the Hospital Corps, U. S. A. Designed for Military and Civil Use. By Alvah H. Doty, M.D., Health Officer of the Port of New York, etc. Fourth Edition, Revised and Enlarged. New York: D. Appleton & Co., 1902.

This edition is an enlargement of those which have preceded it, and a number of changes have been made with a view to meeting the latest requirements. The chapter upon disinfection has been especially improved, and the introduction of the army-drill regulations adds considerably to the value of the book from the military point of view. The volume is especially useful to nurses, orderlies, and hospital stewards, who will find it a serviceable work of reference.

The John Hopkins Hospital Reports. Volume X., Nos. 3, 4, and 5. Baltimore: The Johns Hopkins Press, 1902.
The present volume contains the following four monographs: "On the Pathological Changes in Hodgkin's Disease, with Especial Reference to Its Relation to Tuberculosis," by Dorothy M. Reed; "Diabetes Insipidus, with a Report of Five Cases," by Thomas B. Futcher; "Observations on the Origin and Occurrence of Cells with Eosinophile Granulations in Normal and Pathological Tissues," by W. T. Howard, Jr.; and R. G. Perkins; and "Placental Transmission, with Report of a Case During Typhoid Fever," by Frank W. Lynch. In the article on Hodgkin's Disease there are some very interesting clinical histories given, and it is embellished by fine plates. The writer of Diabetes Insipidus gives a summary of his paper, together with a valuable biography. A short summary, with a colored plate illustrating various cells, concludes Eosinophile Granulations. There is an elaborate biography appended to Placental Transmission. The volume taken as a whole is very pleasing and represents the work for which the Johns Hopkins Hospital is noted.

Neurasthenie und Hysterie bei Kindern. Von Dr. Alfred Saenger, Nervenarzt in Hamburg. Mit zwei Abbildungen im Text. Berlin: S. Karger, 1902.

The author considers his subject under four heads: Neurasthenia, hysteria, associated neurasthenia and hysteria, and hereditary neuropathy.

The Physician and His Patient, or The Business and Social Relation Which Should Exist between Them. By A. E. Lawrence, Cincinnati. Press of Jennings & Pye, 1902.

In this little book of forty-eight pages the writer vividly depicts the annoyances to which the physician is almost constantly subjected. The ideal relations which should exist between him and his patrons are described. A few words are given to the consideration of the quack. The average life of the physician, as computed by mortality tables, is given as fifty-six years.

Alkoholismus im Kindesalter. Von Prof. Dr. Max Kassowitz, Direktor des ersten öffentlichen Kinder-Kranken-Institutes in Wien. Berlin: S. Karger, 1902.

The writer gives a number of very interesting cases of alcoholism in children, and then considers alcohol from various points of view as a therapeutic agent.

Atlas and Epitome of Abdominal Hernias. By Dr. George Sultan, First Assistant in the Surgical Clinic in Gottingen, Prussia. Authorized Translation from the German, Edited by William B. Coley, M.D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons); Surgeon to the General Memorial Hospital; Assistant Surgeon to the Hospital for Rupture and Crippled, New York City. Philadelphia and London. W. B. Saunders & Company, 1902.

This little volume will, undoubtedly, prove valuable both to the general practitioner and to the surgeon. It is profusely illustrated, and each plate is clearly described. Hernia in general is first treated. Then follows the subject of special hernias, including inguinal, femoral, umbilical, obturator, sciatic, perineal, inguinoperineal, diaphragmatic, ventral, lumbar, and the several varieties of internal hernias. The special features of this book are the illustrations and the attention which is paid to the surgical intervention in hernia. The Surgical Clinic at Göttingen and the Institutes of Anatomy and Pathology were sources from which the author has derived abundant material. There is a convenient index appended.

Tuberculous Otitis Media.—G. K. Grimmer offers the following conclusions: (1) Advanced tuberculous changes may be present in the mucous membrane of the tympanum and of the tympanic membrane itself without producing visible evidence through the external auditory meatus; (2) The membrana propria of the drumhead offers marked resistance to tuberculous infiltration and is only destroyed by a process of erosion. This resistance also accounts for the frequency of multiple perforations in tuberculous cases; (3) Latent tuberculous nasopharyngeal adenoids and all other latent foci must be excluded before deciding that any case of middle-ear tuberculosis was a primary infection; (4) A high percentage, probably 65–70 per cent. of cases of suppurative otitis media with neighboring bone lesion, in children under five years, are tuberculous; in older persons, not more than 16 per cent. of similar cases are tuberculous; (5) Intraperitoneal inoculation of guinea-pigs is a good and reliable method of proving the presence or absence of tuberculosis in granulations from the middle ear. Reliable proofs may also be obtained by examining, microscopically, such granulations or even an enlarged mastoid gland or nasopharyngeal adenoids when present; (6) In cases of suppurative otitis media, the absence of ear pain, early and extensive destruction of bone, early facial paralysis, multiple perforations, pale, flabby granulations with caseous points in the meatus, about a mastoid sinus, and in the mastoid antrum, and an enlarged mastoid gland point strongly to the disease being tuberculous; (7) The detection of bare bone with a probe through the meatus, the character of the discharge, facial paralysis, and extensive destruction of bone appearing as a late symptom, are of doubtful value in arriving at a diagnosis, while the presence of cholesteatomatous masses is positively opposed to tubercles being present.—*Archives of Otology.*

The Criminal Use of Chloroform.—J. Howe Adams cites some cases in Dr. Quimby's experience, from which two important inferences may be drawn. First, that minor surgical operations, such as opening abscesses, removing ingrowing toe-nails, etc., may be done with perfect safety and much more pleasantly than in the ordinary way. Secondly, a person somewhat skilled in the use of chloroform may enter the sleeping apartment of a person or persons and administer the drug with evil intentions. Hence the use of chloroform in the hands of the criminal may become an effective instrument in the accomplishment of his nefarious designs.—*The Medical Age.*

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventieth Annual Meeting, Held at Manchester July 29, 30, 31, *and August* 1, 1902.

(Special Report to the MEDICAL RECORD.)

(*Continued from page* 280.)

SECTION OF TROPICAL MEDICINE.

Wednesday, July 30.—*First Day.*

President's Address.—Sir WILLIAM R. KYNSEY, C.M.G., in his opening remarks said that in the history of the past year there was no great discovery to be recorded; it might be looked back upon as one of steady progress in elucidating some of the many problems of tropical medicine, the greatest and most beneficent being in the scientific prevention of disease. In the case of yellow fever the mosquito had been tried and found guilty of being the sole agent in the spread of that disease. In Havana yellow fever was endemic for a century and a half; during the past year it had been freed from the scourge by the destruction of the mosquitos in the neighborhood of each focus of disease as discovered, and by careful disinfection of every house that had lodged a yellow-fever patient, in order to destroy the mosquitos that had bitten a sick person. This great sanitary triumph must ever redound to the honor of American medicine.

Prophylaxis of Malaria.—No excuse, the speaker continued, was necessary for dwelling a moment on this important subject. He had high authority for the statement that, taking one year with another, malaria destroys twice as many people in India as cholera, small-pox, and all other epidemic diseases put together. It was a matter of history that the same cause almost annihilated the soldiers of the Walcheren expedition, and the army under Wellington in Spain was so assailed by malaria that, according to Ferguson, the enemy and all Europe believed the British forces were exterminated. Malaria stopped the great Panama scheme of de Lesseps. The speaker had known districts in Ceylon almost depopulated. A most disastrous outbreak occurred some years ago at Galle—a town previously malaria free—attended with great loss of life, in consequence of the construction of a railway, the embankments of which were made by excavating pits at the sides, that soon were filled with rain water. In those days the origin of the fever was, of course, attributed to disturbance of soil. We now know the pits provided breeding places for the Anopheles, and the Singhalese and Tamil laborers from malaria districts supplied the organisms. Although ignorant at the time of the true conditions which caused the outbreak, Sir William advised the filling up of the pits on the disturbance of soil theory with satisfactory results.

It will be interesting to recall two experiments—one made by the Colonial Office on Dr. Manson's advice, and the other by the Japanese Government, which clearly showed it to be both possible and practicable to prevent malarial infection. In the experiment conducted by Drs. Sambon and Low in the Roman Campagna and in London in order to prove the truth or error of the mosquito malarial theory, and also how far protection against malaria might be consistent with the ordinary avocations of life, two experiments were necessary, one that healthy persons in London should be bitten by infected mosquitos from a malarious region, and the second that men should live in an undoubtedly malarious place during the fever season, being protected only from the bites of mosquitos. Those bitten in London contracted ague. Drs. Sambon and Low and two others lived in a mosquito-proof hut in a most intensely malarious place in Italy, where all the inhabitants suffered from malaria. The four inhabitants of the hut remained perfectly healthy all the time. The experiments by the Japanese Government were carried out on the Island of Formosa, and they furnished a most conclusive demonstration of the relations between mosquitos and malaria. A battalion of soldiers, who were completely protected from mosquitos for 161 days during the malaria season, escaped the disease entirely, whereas there were 259 cases of malaria in another battalion in the same place and during the same length of time not protected from mosquitos.

By a study of the life-history and surroundings of the Anopheles, and by varied and long-continued experiment, Ross has determined the best means of preventing malarial infection. He advised the extermination of the Anopheles, and although this was difficult it was not so difficult as it appeared at first sight. These mosquitos breed in small pools of a certain kind easily recognized and easily dealt with, always close to human habitations, as the females must pass frequently between the pools where they lay their eggs and the houses where they obtain their food. If the Anopheles are found in a house the breeding puddles are close by. The great practical points derived from Ross's work are two: (1) That the life of the Anopheles is in direct and intimate relation with the annual epidemics of malarial fever; (2) That it is only necessary to drain the Anopheles puddles and not the whole of a malarious district.

The discovery of the malarial parasite, and the investigations into the life-history of the mosquito which conveys it to man, have placed us, the speaker said, in the position to suggest measures which, if carried out, would have the effect, in an unhealthy district, of largely reducing the amount of malarial fever and eventually of exterminating it: (1) Malarial fevers should be included and notified among infectious diseases, so that precautions could be taken to prevent their spread; (2) Persons, especially children, suffering from malaria should be isolated and treated with quinine, to prevent as far as possible the infection of mosquitos; (3) Persons infected with malaria should be prevented from coming to a healthy place to infect mosquitos; (4) The puddles in which the Anopheles breed should be drained and filled up or treated with kerosene to destroy the larvæ; (5) Doors and windows of houses in malarious districts should be screened with wire gauze, and beds should be provided with netting, to prevent mosquitos from entering and biting the occupants.

Discussion on Beriberi.—Dr. PATRICK MANSON, C.M.G., F.R.S., opened this discussion by stating that it was of importance that from the outset we should be in agreement as to what the word beriberi indicated. The term had been applied to a variety of morbid conditions, and it was not quite certain that it was always correctly employed. Several specifically distinct forms of neuritis were grouped together under the term beriberi. Clinically, beriberi was a multiple peripheral neuritis. There were, from the etiological standpoint, many kinds of peripheral neuritis, but though etiologically distinct, all kinds had necessarily many clinical symptoms in common. Arsenic had been accredited with causing a polyneuritis akin to beriberi, but it was quite certain that what was generally regarded as beriberi had nothing to do with arsenic. One often heard of malarial neuritis, and sometimes even of small epidemics of what was described as malarial neuritis, but Dr. Manson was convinced that the vast majority of cases and epidemics were really of beriberi. He quoted two cases in which malaria and beriberi appeared to run concurrently, but he had seen tuberculosis combined with malaria, and there was no more reason to associate malaria with tuberculosis than with beriberi. In coming to a conclusion concerning an exact diagnosis in beriberi, the marked proneness to cardiac implication seemed to be a distinctive feature, and Dr. Manson would tabulate the signs and symptoms of beriberi as follows: (1) The ignorance of the cause of the disease; (2) Its occurrence endemically and epidemically; (3) The proneness to cardiac disability and dropsy; (4) Non-implication of the cranial nerves, with the exception of the pneumogastric; (5) Non-implication of the intellectual and emotional centers; (6) Rarity or complete absence of trophic skin lesions; (7) High rate of morality under certain conditions.

The immediate cause of beriberi, whether germ, toxin, inadequate and insufficient food, or traumatism, was unknown. Dr. Manson personally believed that what was called beriberi was produced by a toxin, the product of a germ operating in some culture medium located outside the human body. Further, the same toxin entered the body neither in food nor in water. He was thereby forced to conclude that the toxin was introduced through the skin or that it was inhaled. A beriberi patient was best treated by removal from the place in which he sickened—a fact which suggested, if it did not prove, that the cause of beriberi could not be a germ living and multiplying within the body of the patient, for if such were the case the patient when he left the endemic spot would still carry the germ with him. No satisfying proof of the existence of a specific germ in the blood of beriberi patients had been made. That the toxin of beriberi was produced by a living germ was shown by the fact that the disease could be introduced into virgin country and there spread. That is to say, the hypothetical cause was capable of being transported and of multiplying. Spontaneous multiplication was a property peculiar to living things; therefore the originating agent of the toxin of beriberi must be a living thing—a germ.

Undoubted proof that food had nothing to do with beriberi had been supplied recently by the observations of Dr. Travers of Knala Lumpor, Malay Peninsula. The observation was as follows: In Knala Lumpor, in 1895, there were five large institutions, in four of which beriberi had never been known. In one of the five institutions—what is known as the new jail—within six or seven months of its opening, beriberi broke out, and the disease, had stuck to it ever since. The food supplied to all the five institutions, or at all events the rice, was of the same kind and quality. Moreover, on removing a certain proportion of the sick from the new to the old jail, beriberi disappeared from among them, while in the new jail the disease continued to prevail. Not only was the food the same for all the institutions, but it was actually cooked in the same vessels.

Dr. Manson inferred from this experience of Dr. Travers that beriberi had no direct, if any, connection with food, most certainly not with rice.

That beriberi was not conveyed by drinking water had been many times proved, and required no further confirmation. As, therefore, beriberi was not caused by a germ operating directly in the human body, it could not pass as an infection directly from man to man. It would seem, therefore, that beriberi was the result of a toxin conveyed to man either by the air or through the skin by contact or by means of some insect or other animal which inserted it under the skin, or by a combination of two or more of these ways.

The Cause of Beriberi.—Captain E. R. Rost, I.M.S., said that he had found in rice liquor as sold in native shops in India and Burmah, a diplobacillus. He found the same bacillus in pigeons that had been allowed to feed on infected and mouldy rice, and he experimentally produced with this microbe a disease in birds similar to beriberi. He summed up his conclusions regarding the etiology of beriberi as follows: (1) By feeding fowls on fermenting rice obtained from the rice-liquor shops, he had induced a disease similar to beriberi. (2) He induced the same symptoms (*a*) by feeding the fowls on mouldy rice obtained from the lower bags of damp godowns; (*b*) by intraperitoneal injection of rice-water liquor; (*c*) by subcutaneous or intraperitoneal injection of the venous blood of beriberi patients; (*d*) by reinjection from fowls suffering from the disease produced as above. From these experiments and from his observations on human beings, Captain Rost concluded that rice was the food whereby beriberi was originated.

Dr. L. Sambon said that he could not agree with Dr. Manson that Dr. Travers' experiment swept away the vast amount of evidence in favor of rice being a possible factor in the etiology of beriberi. In the uncertain state of our knowledge he would restrict the diet in beriberi countries to strictly fresh rice; in coolie gangs previous sufferers from beriberi should be separated from others, and patients suffering from beriberi should be segregated within the endemic area, so as to prevent the spread of the disease to non-infected districts.

Major Ronald Ross, C.B., F.R.C., reported that he had examined chemically the hair from thirty beriberi patients, and in ten cases arsenic was found. He drew attention to the fact that it was only in the cases examined early in the disease that arsenic was found. This might be a mere coincidence or it might point to a real connection between arsenic poisoning and beriberi.

Dr. C. W. Daniels of the School of Tropical Medicine said that tropical peripheral neuritis included other diseases than beriberi, especially a post-dysenteric peripheral neuritis. Confusion existed in regard to the symptoms of beriberi, owing to many ailments being included under this generic title.

Dr. James Cantlie, M.B., F.R.C.S., said that the fact that beriberi was an infectious disease and not a mere famine illness should not be lost sight of. In a general ward in Hong Kong, in which were beriberi patients, he had seen the patients with open ulcers acquire beriberi in the wards while the medical cases escaped the disease. All were being supplied with the same food. He did not favor the rice infection theory, but at the same time he could not understand how, if the disease was dependent upon the presence of a toxin and not a germ in the blood, beriberi could be carried by patients and spread in virgin countries. If a toxin existed in the blood of beriberi patients and the germ which produced it had been left behind in the locality whence the beriberi patients sailed, it was inexplicable that the disease should spread to the persons in the new locality.

Dr. W. F. Prout, principal medical officer, Sierra Leone, described the arrival of a ship at Sierra Leone from Panama with 500 negroes on board. Half the negroes were suffering from beriberi, but, although they were brought on shore, the disease did not spread. He was therefore inclined to support Dr. Manson's theory that the disease was caused rather by a toxin than by a germ in the human body.

Dr. P. A. Nightingale (late of Bangkok) stated that beriberi was not endemic in Bangkok, Siam, but, although the people there fed on fresh rice some eighteen months ago, an outbreak of beriberi occurred there.

Sir William Kynsey, the President, said that, after twenty-five years' experience in Ceylon, he could safely say that there was no beriberi in that island. At one time, however, it was supposed to be so prevalent in Ceylon that it was called the Ceylon disease. He would like to know, in connection with the subject of arsenic and beriberi, whether the popular tale that the Styrian peasants ate arsenic in large quantities was true or a myth.

Thursday, July 31.—Second Day.

The Climate and Diseases of Bangkok, Siam.—Dr. P. A. Nightingale read this paper. The chief diseases met with in Bangkok, he said, were malarial fever of the estivo-autumnal type, dysentery of all varieties, but the ulcerative or gangrenous type were chiefly confined to Europeans; sprue was fairly common amongst Europeans; early morning or hill diarrhœa, so-called, was not uncommon; typhoid fever had been increasing in frequency lately; cholera was an annual visitant; leprosy was rife. The diseases more rarely met with were beriberi, malignant diseases (cancer, sarcoma), elephantiasis (filarial), dengue fever, latah (amok), and climatic buboes. Plague had not occurred in Bangkok.

Enteric Fever in Sierra Leone.—Major F. Smith, R.A.

M.S., read a paper on this subject. Although enteric fever was a rare disease in Sierra Leone, it would seem to be showing a tendency to increase in frequency. Many doubted the presence of typhoid fever in this district, but of thirteen cases recorded by Major Smith two gave a positive reaction by the agglutination test. So far as this test could prove the presence of typhoid, it was to be concluded that the disease did exist in Sierra Leone, and, considering the unsanitary environment, it was little short of marvellous that the disease had not spread.

Dysentery.—Andrew Duncan, I.M.S. (retired), opened the discussion on this topic. Under the term "dysentery" a number of ailments were grouped together, which, as investigation advanced, were coming to be differentiated. Of late years we had been made acquainted with the microorganism of Ogata and Shiga in Japan; of a similar organism discovered by Flexner in the Philippines; yet a third organism in Egypt; Celli and Fiocca in Italy held the bacillus coli dysenteriæ to be the exciting cause, basing their opinion on the fact that a toxin separated from the growth of the organism acted upon the intestines of animals; various pyogenic cocci and certain streptococci had been held responsible for the disease; the bacillus pyolaxeus in America and the paramœcium coli in Cochin, China, had each been accredited with being the originators of dysentery.

Dr. Duncan held the opinion that the amœba has nothing to do with dysentery in India, and he did not think that the evidence brought forward in support of the amœba coli as a cause of dysentery was convincing. The presence of this organism in dysenteric stools had frequently been denied, and there seemed, in cases in which it was present, to be no direct relation between the numbers of amœba found and the severity of the illness. It was also known that the amœba was found in the stools of persons suffering from diseases other than dysentery, and even in the normal intestine. In regard to the mortality from dysentery, a great deal depended upon the period of the disease when the patient came under treatment. Early treatment was imperative, and the extreme fatality one heard of was chiefly owing to the fact that dysenteric patients put off placing themselves under medical treatment until it was too late.

The treatment of dysentery varied with the type of the disease and, perhaps, with the country in which it occurred. In India there seemed no reason to discard ipecacuanha in acute cases. The treatment by salines had met with considerable success in India. In South Africa, during the war, ipecacuanha was given up and salines adopted. Treatment by the monsonia ovata had met with but indifferent success. Sulphur and Dover's powder found many advocates. In chronic dysentery Dr. Duncan gave binnatti twenty grains with one-quarter grain of Dover's powder (a seemingly ridiculously small dose); a dose of two drachms of castor oil every other night; a suppository of two and one-half grains of extract of opium every night; A dose of twenty minims of oil of turpentine, repeated when necessary, had many times proved beneficial. The question of opening the intestine in chronic cases was also worthy of consideration

Major W. J. Buchanan, I.M.S., Deputy Inspector of Prisons, Bengal, contributed a paper entitled "The Prevention and Treatment of Dysentery in Institutions in the Tropics." He held that one could now differentiate two great types of dysentery, namely, the (1) amœbic, and (2) the bacillary. The amœbic form, although generally known as the "tropical" variety of the disease, had no right to be so named, as it occurred in countries beyond the tropics. In India the bacillary form of the disease was much more common; practically the amœbic form was only recognized by the occurrence of liver abscess, the finding of the amœbæ, or the absence of reaction with Shiga's bacillus. Liver abscess was a very rare sequelæ of bacillary dysentery, except of the terminal gengrenous form; certainly it was practically unknown in the course of what was known in India as "gaol dysentery." Of 1130 cases of dysentery, on which Major Buchanan based his statements, not a single case of liver abscess was met with in the living or the dead. The dysentery of Indian prisons was probably almost entirely bacillary, and the tests made have shown it was due to Shiga's bacillus. We have no knowledge of how these organisms are carried into the body; polluted water might play a part, and the water theory would explain the epidemic prevalence of dysentery, but it would not so easily account for the endemic form. Good water, however, did not prevent dysentery. Dysentery was a seasonable disease. Moreover, outbreaks of dysentery coincided with badly-cleaned rice or wheat used as food. Dysentery would also seem to be a communicable disease, hence the necessity for isolation of patients, disinfection of clothing, etc., and the disinfection by lime and incinerations of all dysenteric stools. Major Buchanan advocated the saline treatment of the disease; of 1130 cases treated by this mode of treatment, the mortality had been under 1 per cent. Treatment by ipecacuanha had a place in therapeutics, but izal had failed.

Tropical or Amœbic Abscess of the Liver and Its Relationship to Amœbic Dysentery.—Dr. Leonard Rogers contributed a paper with this title. The statement made that natives of India rarely suffer from liver abscess was totally erroneous. The amœbiæ, although absent from the thick pus of a liver abscess, could always be found if the wall of the abscess cavity were scraped. The amœbiæ was well nigh constantly met with in liver abscess, for in thirty-five consecutive cases in which it was sought for it was found in the abscess wall. Cocci of suppuration were found in less than half the cases, while in the pus from just-opened abscesses they were obtained in only one-third. Even when found, pyogenic organisms were not necessarily virulent or capable of producing pus. The amœbiæ, therefore, seemed to be the only constantly found organisms in "tropical" or amœbic abscess of the liver. In regard to the relationship of dysentery to liver abscess a large proportion (95.83 per cent.) of cases pointed to dysentery being an invariable accompaniment of amœbic or tropical liver abscess. In 95 per cent. of Major Rogers' cases there was positive evidence of preceding dysentery. Leucocytosis was a marked accompaniment of liver abscess, and was most marked in those cases in which the disease was most difficult to diagnose, namely, the small deep-seated abscesses of the liver.

Dr. Patrick Manson said that he was inclined to regard treatment by ipecacuanha as an efficient remedy not only in the acute form of the disease but also in the chronic. The treatment must be kept up for at least nine days; daily doses commencing with, say, 30 gr of ipecacuanha and dropping gradually to 5 gr. daily being required. Rest in bed he considered a most important adjunct to treatment, and occasional doses of castor oil. Dr. Manson doubted the value of the serum test as applied to the bacilli of Shiga or Flexner. He also warned against the acceptance of the term "amœbic" as being applicable to a definite form of dysentery.

Dr. Edward Henderson, late of Shanghai, China, said that in his belief many patients with dysentery tended to get well without treatment, but if any particular drug had been given it was customary to attribute the improvement to that drug.

In all probability, rest in bed, suitable diet, and castor oil would cure most cases of catarrhal dysentery, but in cases of gangrenous dysentery no drug had been found efficacious.

Dr. W. G. Rockwood of Ceylon said that there seemed evidence to hand that dysentery was communicable; ipecacuanha had failed in his hands, but the saline treatment had given improved results. He had seen liver abscess in females, curiously enough in the left lobe

Dr. J. H. Musser of Philadelphia stated that he firmly believed in the relationship between the amœba coli and dysentery, and of this disease with hepatic abscess. It was a mistake to regard the disease as tropical, as cases had been found in the United States as far north as Michigan. Flexner had shown that the bacillus of Shiga was the cause of the dysentery met with in the Philippines, in the West Indies, and in several parts of America. The serum test seemed a reliable test in the recognition of the affection.

Dr. James Cantlie, late of Hong Kong, said that it was of some consequence to know how the saline treatment acted. If it was merely by "scavenging" the intestine, then it was surely the best plan in severe cases of dysentery to wash out the colon directly by cutting down on the ascending colon in the right lumbar region. He had met some seven or eight cases of liver abscess in persons who had only been in the tropics a few weeks, and who never had malaria, dysentery or any kind of intestinal flux. He could not agree with the apparently accepted doctrine that all liver abscesses were due to dysentery. In the cases he mentioned, the abscesses were all "suprahepatic" abscesses, and as he had shown before, these were different in their etiology and pathology from the "infra-hepatic abscesses," which he thought were almost invariably associated with dysentery.

Professor **Sandwith** of Cairo accepted the division of dysentery into amœbic and bacillary. He had believed for many years that dysentery is an infectious disease, and should be treated with the same precautions as typhoid fever. Weevil-eaten grain may be a cause of dysentery, as suggested by Major Buchanan, and it was noticeable that hellafra, a disease caused by diseased maize, often ended in dysentery both in Italy and Egypt. He had for some time renounced ipecacuanha as useless in dysentery. He had employed enemata extensively in treating dysentery ever since 1885, and he was fully convinced of its efficiency, and he injected at least one liter containing alternately boracic acid of sulphate of copper.

Inspector-General **Turnbull**, R.N., said that in Hong Kong he had seen gangrenous and catarrhal dysentery, and an aphthous form commencing with aphthæ of the mouth. In three cases of liver abscesses he treated by trocar and cannula successfully; there had been no dysentery before or after treatment.

Sanitary Work in West Africa.—Dr. M. Logan Taylor read this paper. The work carried on in several parts of West Africa during the past twelve months had been directed to ridding the towns and villages of the anopheles mosquito. The smallest pool would serve to harbor larvæ of anopheles; where the pools were small, the water was simply swept out; when the pools were larger, they were treated with some culicicide, either crude kerosene or crude creosote oil; other culicicides, such as formalin, corrosive sublimate, copper sulphate, carbolacene, etc., were tried, but they were less expedient and more expensive. A little oil was poured in a pool and the water well stirred up so that a film of oil spread over the whole surface. Natives very quickly learned how to do this. Crude kerosene thus applied would last a week if no more rain fell during that period. Crude creosote oil killed larvæ much more quickly than the crude kerosene.

Bilharzia Hæmatobia in Cyprus.—Dr. George A. Williamson of Cyprus contributed this paper, the interest attaching to which was the record of the fact that bilharzia was found in the urine of a man who had never been out of the island of Cyprus. When admitted to hospital his urine was found to contain numbers of typical bilharzia ova, frequently embedded in a man of red blood corpuscles. Not only were the characteristic ova found, but the ciliated free-swimming embryo was observed to develop from the ovum when water was added to the urine. Although bilharzia have been found in Mesopotamia and in Arabia, they were the only countries outside of Africa in which the parasite had been proved to exist; now Cyprus must be added to the list.

Friday, August 1.—Third Day.

Yellow Fever.—Mr. James Cantlie of London opened a discussion on yellow fever by a review of what recent researches, more especially by the United States Army Commission in Cuba, had brought to light in connection with this disease. The Commission had proved. (1) That blood taken from a yellow-fever patient, and injected into a non-immune person would cause yellow fever; (2) That the blood could produce this effect whether fresh, defibrinated, or diluted, and passed through a Berkefeld filter; (3) That no bacillus is found in the blood of yellow-fever patients; (4) That the specific agent which causes yellow fever is attenuated or destroyed by exposure to a temperature of 55° C. for ten minutes; (5) The mosquito-stegomyia fasciata is responsible for the spread of yellow fever, serving as the intermediate host; (6) After the mosquito has fed on a yellow-fever patient, twelve days must intervene before its bite can infect; (7) Mosquitos have been proved to be capable of conveying yellow fever by their bite up to fifty-seven days after feeding; (8) Infection by contact with the sick, as in nursing yellow fever, does not expose the nurse to danger; (9) Infection of fomites does not take place. The conclusions gathered from these experiments and observations were: That either the specific agent of yellow fever is ultra-microscopic, or that there is no bacillus or other germ present in the blood. Analogy would teach us to believe, however, that the specific agent in yellow fever is a germ and not a toxin. Were a toxin the cause, it is difficult to conceive why the intermediate host—the mosquito—must harbor the parasite for twelve days before the bite is effective. This fact would seem to indicate that the specific agent is a germ and not a toxin. Mr. Cantlie drew attention to the possibility of yellow fever existing elsewhere than in the West Indies, and the west coast of Africa. He drew attention to the diseases "acute yellow atrophy," "bilious remittent fever," especially to the "typhus bilieux" in Egypt, which, in the early part of the nineteenth century, when Napoleon occupied Egypt, was known of under the name of yellow fever—fievre jaune.

The Differential Diagnosis of Yellow Fever and Malignant Malaria.—Dr. George C Low contributed this paper. In certain islands of the West Indies, when an outbreak of fever occurred, some doctors would diagnose the ailment as malarial, others as yellow fever. The diagnosis, therefore, was not, in the early part of the outbreak of yellow fever, always easy. Reliance could not be placed on the facial expression, on the condition of the tongue or the skin, on the early appearance or delay of jaundice.

The relation of the temperature to the pulse was of some importance; in yellow fever the pulse showed while the temperature was yet high; in malaria this was not observed. The early appearance of albuminuria in yellow fever was not a sufficiently distinctive feature to be relied upon, as the same occurred in malarial infection. Epigastric pain or vomiting, so frequently described as characteristic of yellow fever, were not confined to cases of this disease, nor was hæmaturia, which occurred in both diseases. The blood examination was the only reliable method of determining the question of differentiation between yellow fever and malaria; but it was possible that the malarial parasites might be present in the blood of a person suffering concurrently from yellow fever. Gray of St. Lucia has lately made differential counts of the leucocytes and found in several cases of yellow fever that the large mononuclear leucocytes were normal, whereas in malaria their increase formed a diagnostic point. Postmortem, the presence of malarial pigment, parasites in the brain, spleen, or gastric mucosa at once pointed to malarial infection.

Malta, or Mediterranean Fever.—Dr. P. W Bassett-Smith and Staff-Surgeon R N. Haslar contributed a paper entitled "The Agglutinating Properties in the

Blood In Cases of Mediterranean Fever, with Special Regard to Prognosis. Remarks on Other Blood Changes and Reactions During the Course of the Disease." The cases seen by the authors during the past two and a half years numbered 196.

The technique employed consisted in using an emulsion made from a five-day old agar culture of the micrococcus in saline solution. This was drawn up into sterile pipettes and killed at 65°C. for a period of fifteen minutes; the same series of pipettes being utilized throughout in the cases. The blood was centrifugalized and the serum generally employed a few hours after it was obtained. The dilutions were made with a measuring pipette as recommended by Wright, an equal part of diluted serum (20 c.mm.) and emulsion being always used, so that the number of organisms present in each sedimentation tube was approximately the same in each instance. These were left at room temperature for twenty-four hours and the results recorded, the dilutions ranging from 1 to 20 to 1 to 2,000.

From a study of the clinical characters of the cases and the agglutination curves, the author found that the high agglutinating power of healthy convalescents slowly fell again, but reacted to 1 to 100 or less for months. In debilitated convalescents, there was no rise.

As regards prognosis, it was found: (1) High sustained agglutinations in the early stages of the fever were favorable; (2) A continuation of low agglutinations during the whole course of the fever following cachexia was bad, the cases dragging on for years with recurrent attacks of slight fever and the neuroses so difficult to cure; (3) A continuous rise with improving clinical symptoms indicated approaching convalescence; (4) As a rule, there was no relation of the agglutination curve with that of the fever. Mediterranean fever had been diagnosed in sailors returning from China.

Men who have once had the fever should not return to the endemic area for some time, the bactericidal power of the serum against the specific organism of Mediterranean fever being very slight.

In Malta fever the hydræmic condition of the blood was very apparent. The red cells were markedly diminished, the white were often relatively increased, the relative preponderance of the mononuclear basophylic cells being marked.

The Geographical Distribution of Malta Fever and the Value of Splenic Enlargement as a Test of Malarial Incidence.—Dr. James A. Hislop of Assam contributed a paper with this title. After referring to the many regions of the tropics or the tropical countries from which Malta fever has been reported of late years, Dr. Hislop remarked that he had met with cases closely resembling Malta fever in Assam. It would appear that in Assam there occurred a fever which resisted quinine, yet is accompanied by great enlargement of the spleen. It appeared certain that fevers other than malaria caused enlargement of the spleen. The generally-accepted doctrine that any uncomplicated fever lasting more than six days and resistant to quinine properly given is not malarial, required to be modified in view of recent observation and experience.

Kala-azar, an Analogous Disease to Malta Fever.—Dr. Charles A. Bentley of the Borjeilie Tea Estate, Tezpurp, Assam, sent a communication with this title. Kala-azar had at different times been considered as the result of ankylostomiasis (Giles); as a very intense form of malarial fever (Rogers); post-malarial cachexia (Ross), etc. In eighteen months Dr. Bentley had seen and treated some 400 cases of kala-azar, and from a study of the disease he had come to the following conclusions: (1) Kala-azar was neither malarial fever, benign or malignant, nor was it any form of malarial cachexia or post-malaria cachexia. It might, however, be complicated by a coincident malarial infection; (2) Kala-azar was a distinct disease, of which the first and second stages had been described by Ross, in which an initial attack of irregularly intermittent, remittent, or continued fever was followed by recurrences of a similar nature in the first stage; and the second stage of nearly continuous fever of a low type; together constituted the whole of one febrile affection of long duration.

The application of the three methods of diagnosis, namely, periodicity, the therapeutic action of quinine, and the blood examination, showed that kala-azar failed in all three to justify its being considered a malarial infection. As justifying the connection between kala-azar and Malta fever, it was found that, clinically, they closely resembled each other, the micrococcus melitensis had been found in cases of kala-azar, and the result of the serum test appeared absolutely to prove the identity. It was true the death rate in kala-azar was abnormally high, whilst in Malta fever it was quite low; but in Assam, where persons contracted kala-azar, they were reduced to so low a state of poverty that death might be due to their feeble state.

Dr. Manson, in discussing the subject, related his experience of the unreliableness of cultures of the micrococcus melitensis as found in the clinical laboratories of London, and warned observers against relying too implicitly on deductions based on results obtained with the cultures in use in India.

Statistics of the Blood Examination in Cases of Malaria in Cyprus During a Period of Twelve Months.—Dr. George A. Williams of Cyprus contributed a paper on this subject. It was found that in 94.4 per cent. of cases diagnosed as malaria parasites existed in the blood. The percentage of the different varieties of blood parasites in reference to the total number found in malarial cases were: tertian, 48.46; quartan, 8.03; estivo-autumnal, 43.50.

Treatment by hypodermic (intramuscular) injections of quinine had proved most efficacious. The acid hydrochloride of quinine was used, and the smallest dose given for an adult was 3 grains night and morning for three days. The largest single dose given in any case was 10 grains, and the usual dose 5 grains night and morning for three days.

Heat Apoplexy.—Dr. Edward Henderson, late of Shanghai, China, read this paper. He divided the cases into those in which (1) exhaustion with a normal or lowered temperature, with little or no loss of consciousness, and (2) those in which a high temperature and more or less complete loss of consciousness are the distinguishing characters. In the latter variety had been assigned the names of thermic fever, siriasis, and heat apoplexy. The form of this condition, seen by Dr. Henderson, was one in which "a hyperpyrexia was closely connected with exposure to heat, and the appearance of the patient was that of a man suffering from apoplexy." The cases met with were amongst the foreigners in Shanghai, but there was reason to believe that the condition was also met with amongst the Chinese population. Sudden attacks of high temperature in children would seem to indicate that they were not exempt from heat apoplexy. Alcohol played an important part in this disease amongst adults, and the death rate was very high in alcoholics. Dr. Henderson showed photographs of a special couch he had devised for the treatment of cases of heat apoplexy and hyperpyrexia by the "cold douche." Heart failure was the ultimate cause of death in heat apoplexy.

The Prophylaxis of Sunstroke.—Lieut.-Col. Andrew Duncan, I.M.S. (retired), read a paper on this subject. The actinic and not the heat rays of the sun were the active agents in producing sunstroke. He said experience had taught him that an orange-yellow covering to the body would counteract the effect of the actinic rays, and during a trial of five years he had found wearing an orange-yellow shirt, lining the helmet with orange-yellow flannel, and the same material stitched inside the coat over the spine, afforded a very efficacious means of prophylaxis.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting Held May 14, 1902.

Primary Carcinoma of the Vermiform Appendix.—Dr. D. S. D. Jessup read this paper (see page 289).

Smallpox.—Dr. S. Pollitzer demonstrated a series of lantern slides illustrating the gross and microscopical lesions of variola.

Dr. James Ewing presented a review of a study of vaccine bodies in variola, and of the results of bacteriological examination, by ordinary methods, of cadavers of twenty-nine cases of variola. Vaccine bodies were studied in the cutaneous and visceral lesions of variola by a variety of methods. In the fresh condition the fluid from the cutaneous lesions at various stages was examined, unstained, and stained by gentian violet. By this method many leucocytes and epithelial cells and many red cells could be distinguished and set aside. The sporocysts described by Funck (*British Medical Journal*, 1901, I, p. 448), seemed to correspond to certain large cells containing one or many greenish refractive globules. In stained smears these resolved themselves into vacuolated leucocytes and epithelia. Myriads of fine granules were usually present, which stained like protoplasmic detritus. The typical vaccine bodies were larger, spherical, homogeneous, or translucent bodies, colorless or yellowish, with or without membranes, from one to seven inches in diameter. Many were extra-cellular, some within other cells. Treated with gentian violet the membranes about many of them became distinct. By this and other staining reagents the bodies exhibited certain polychromatic tendencies, varying toward distinct basophilia. The resemblance of many of the polychromatic bodies to the red cells in the pustules which were undergoing subdivision with loss of distinct acidophile staining suggested that many of the vaccine bodies might be derivatives of red cells. The bodies with membranes, and the small crescentic forms especially, seemed to have this origin. In stained specimens some of the bodies stained blue, some red, some red on the periphery and blue in the center. These latter forms resembled the polychromasia which Maragliano described in circulating red cells. The speaker failed to find any traces of amœboid movements in many specimens examined on a warm stage. In sections of the skin and mucous membranes, the main fact elicited was that the vaccine bodies were usually present in the lesions in all stages up to complete healing. They were not always present in the early necrotic foci of the tracheal and œsophageal mucosa. The forms of the bodies encountered included all of those described at length by Huckel. The bodies appeared in large numbers in the skin and mucous membranes in the petechial spots of a case of variola with ulcerative endocarditis, dying in the third week of the disease. In some of these spots, however, only fragmented acidophile red cells appeared. They were unusually abundant in a case dying in the late pustular stage, in which fresh hemorrhage occurred into the pustules (black smallpox). The abundance of the bodies seemed to bear a constant relation to the severity of the disease, and especially to the hemorrhagic character of the lesions. In the well-developed early pustule they were most numerous in the large flat cells on the outskirts of the necrotic zone. In the necrotic zone they were less numerous, were often found disintegrating and granular, and distinguished with difficulty. They were seldom numerous in the foci, exhibiting most active degeneration. In the early stages of necrotic lesions of the trachea many foci were found in which vaccine bodies were absent. The impression was therefore gained that if the variolous poison came from these bodies it was distributed in a most erratic manner. Infected cells must certainly long remain alive, and in some healing lesions it seemed equally certain that many infected cells would not suffer permanently from the presence of the body. In necrosing cells the bodies were found to vary in size, to appear as rosettes, crescents, rods, and finally to break down into fragments, sometimes with vacuolation, along with the cytoplasm of the harboring cell. Sometimes the necrosing cells become condensed and present an appearance recalling that of some sporocysts. In the necrosing epithelium of the cornea, conjunctiva, and nictating membrane of healthy dogs, Dr. Ewing failed to find any structures resembling vaccine bodies.

The distribution of vaccine bodies was found to be coextensive with the lesions of the disease, whether these were of the strictly variolous focal type or induced by secondary bacterial invasions. They were found in the cutaneous lesions of the pharynx, epiglottic folds, in the ulcerated nasal and ethmoidal sinuses, very abundantly in the trachea and bronchi, in the œsophagus, in the circumscribed or diffuse ulcerations of the stomach, abundantly in the intestine, and in the renal pelvic epithelium.

Various lesions of the skin and mucous membranes were examined to determine if vaccine bodies were present in other than variolous processes, and while never finding in any other lesion a great abundance of bodies resembling the vaccine corpuscles, Dr. Ewing found a scanty or moderate number of structures indistinguishable from vaccine bodies in streptococcus inflammation of the skin, in erysipelas, in pemphigus, in dermatitis herpetiform, in purpura hæmorrhagica, and in measles. In the decaying skin of variola the vaccine bodies disappeared without sign of multiplication between the fourth and eighth days.

Some vaccine bodies seemed to give evidence of an origin from the cytoplasm of the epithelial cells. This was especially true of those bodies which were connected with the cytoplasm of the cell by radiating fibers, and of those forms which exhibited a central basophile mass fringed by a peripheral acidophile portion. Yet the smallest and presumably the earliest vaccine bodies did not exhibit these radiating threads, but were extremely well-defined from the cytoplasm, and impressed the observer as being distinctly foreign to the cell. Hückel had some difficulty in adjusting his theory of a cytoplasmic origin to the appearance of these small compact bodies. The speaker's belief that many of the typical vaccine bodies in human tissues were remnants of red cells had been reached very slowly. It first appeared in the study of human material that vaccine bodies were most numerous in the hæmorrhagic lesions, and that by some stains, *e. g.* Heidenhain's iron-hæmatoxylon, the vaccine bodies behaved very much like red cells. Distinct transitional stages between red cells and fragments and basic vaccine bodies were not encountered until late in the series, when a trachea, which had been hardened in Orth's fluid (Muller-formalin), exhibited a great variety of forms, which resembled red cells in their tendency to stain with eosin more than the usual vaccine body. In the late secondary hæmorrhagic case, in which recent profuse hemorrhage had occurred into the pustules, a great variety of forms, apparently transitional between red cells and vaccine bodies, were found in and between epithelial cells. Finally, in the renal pelvic epithelium of two primary hemorrhagic cases was encountered a profuse display of the englobement of red cells and their fragments by epithelia, and their transformation into polychromatic vaccine bodies. Here were found red cells unaltered, within and between epithelial cells—large red cells with beginning or advanced vacuolation, some strongly acidophile, some strongly basophile; all sizes of acidophile fragments; some epithelial cells holding within the same vacuole various shades of acidophile and basophile fragments of red cells; englobed red cells with basophile centers and acidophile peripheries; or fragments fringed with protoplasmic or hæmatoidin granules. These polychromatic qualities were best demonstrated by staining with strong hœmatein and strong watery eosin. With dilute eosin most of the bodies remained tinged with hœmatein. By methylene blue or Nocht's method the bodies usually stained light or dark blue. Their perinuclear position and distinct halo were identical with those of the typical vaccine body of the cornea

The above observations, which were readily duplicated by a review of the previous material, seemed to place beyond doubt the conclusion that red cells might be, and very frequently were, transformed into bodies indistinguishable from vaccine bodies. Yet in specimens fixed by Muller's or Orth's fluid, strong staining in watery eosin developed a certain acidophile tendency in many of them, although leaving the nuclei of epithelia and leucocytes uniformly dark blue. The belief that many vaccine bodies were derived from red cells accorded with many facts concerning the occurrence of these bodies and the changes which might affect red cells. Two familiar types of degeneration of red cells occurred in the circulating blood in various conditions, especially in cases of severe streptococcus infection. They were: (1) Polychromasia of Maragliano, in which a central basophile portion of the red cell separates from a broad peripheral portion containing all of the hæmoglobin remaining in the cell; and (2) Polychromasia of Gabrichevsky, in which the entire cell stains a brownish color after treatment with eosin and methylene blue or eosin and hæmatoxylon. Punctate basophilia and schistocytosis, or subdivision of red cells with the appearance of basic centers of the fragments, also frequently occurred in the circulating blood. A pronounced case of this latter type had been described by K. Ehrlich and Lindenthal (*Zeitschrift fur klinische Medicin*, Bd. 30, p. 427), in nitrobenzol poisoning. The basophile portion was regarded as the remnant of nuclear material in the red cell Now, all of the above changes in the red cells occurred in very unusual abundance in and about the focal lesions of variola and vaccinia. In the earlier stages of the lesions the necrosing tissues and their vicinity were literally drenched with fragments of subdivided red cells exhibiting various polychromatic staining qualities. The speaker had seen no other type of lesion in which such active destruction of red cells occurred about necrotic foci. Hence, about the inflamed cells of the variolous lesion of epithelium there was a great abundance of already altered fragments of red cells, which, when englobed by the epithelia, at once possessed the characters of vaccine bodies. The somewhat specific quality of this destruction of red cells about the variolous lesion might explain the abundance of vaccine bodies in such foci, which was practically a pathognomonic feature of variola.

The perfectly homogeneous quality of the majority of vaccine bodies had suggested that they represented a form of hyaline degeneration of the cytoplasm; but the sudden appearance of these compact masses in the cytoplasm of epithelia had distinctly impressed the minds of most observers, including Hückel, with the idea that they must be bodies foreign to the cell. The granular edges of some of the bodies might be referred to the disintegration of the outer rim of the red cell, while the pseudopods of vaccine bodies were identical in appearance with the knobs on shrinking and deformed poikilocytes. Sometimes there was a rim about the compact vaccine body, such as existed also about hardened and densely-stained fragments of red cells. The occurrence of hematoidin granules about the halos of some vaccine bodies was an unusual but unmistakable suggestion of the true origin of these particular individuals.

While it seemed certain that many bodies passing as probable parasites were remnants of red cells, before attempting to extend this theory of origin to all vaccine bodies it was clearly necessary to demonstrate such a relation for the vaccine bodies in the corneal epithelium. Here, in a bloodless tissue, it seemed hardly possible that red-cell detritus could account for the great numbers and comparatively wide distribution of vaccine corpuscles. Hence the theory of the existence of a specific form of vaccine body, possibly parasitic, remained almost untouched. That the vaccine bodies of the cornea were not derived from red cells forced into the epithelium from the lymph spaces communicating with the canal of Schlemm, was practically certain, because these lymph spaces in corneal vaccinia, at least in the centers of the cornea, were usually free from red cells. Another possible mode of origin was from the abundant red-cell detritus of vaccine, which might account for the bodies seen in one inoculation wound, but Vasielevski claimed to have transferred vaccine from cornea to cornea through forty rabbits, finding the vaccine bodies undiminished in each case. These results, if correct, would indicate that the corneal vaccine body was either a parasite, or, as Huckel believes, a derivative of the epithelial cell.

Considering the very peculiar conditions of nutrition of the corneal epithelium pointed out by Ranvier it might very well be that entirely different processes took place in these cells and in vascular human tissues, and that the vaccine bodies of the cornea were entirely different from those of other tissues. Against this possibility was the very great similarity between all typical vaccine bodies; while the results of the present study still further complicated the subject by indicating that red-cell detritus might assume forms apparently indistinguishable in position, morphology, and staining reactions from typical vaccine bodies. Possibly some method might be secured by which one could distinguish red-cell detritus from vaccine bodies; or, on the other hand, some facts might be gathered pointing to the possible access of red-cell detritus to the corneal ulcer.

Studies on the Etiology of Vaccina and Variola.—Dr Anna W. Williams said that the studies reported in Dr. Ewing's paper might be divided, according to the methods employed, into two parts: (1) bacteriological and (2) histological. The direct object of the bacteriological studies had been to determine if an organism in pure cultures could be obtained which would produce typical vaccina or variola, while that of the histological studies had been to determine the nature of the "vaccine bodies." In the bacteriological studies the plan of work was as follows: (1) Studies of serial and isolated smears and hanging drops from eruptions on rabbits, calf, monkey, and man, from corneas of rabbits, from fresh and old glycerinated vaccine virus, and from filtered lymph. (2) Cultures made from all of these materials, but especially from the inoculated corneas of rabbits and old glycerinated vaccine virus, using ordinary and special media. The ordinary media were used as controls. The special media used were (1) Ascitic-broth, ascitic-broth in celloidin capsules inserted into the peritoneal cavity of the rabbit; (2) Wounded peritoneum and subcutaneous tissue of vaccinated and non-vaccinated rabbits; (3) Rabbits' skin in the peritoneal cavity of the rabbit; (4) Fetal rabbits' skin taken with aseptic precautions; (5) Fertilized hens' eggs.

The most interesting results were obtained from the inoculated rabbit corneas. These experiments were still in progress. The technic was as follows: The corneas were inoculated with old glycerinated virus and after a varying time the animals were killed, the eyes removed under aseptic precautions and washed in sterile broth. The whole cornea was then cut out, washed in successive sterile broths, placed on an agar plate, and kept at 36°C. over night. If there was no apparent growth the next day, the cornea was placed in ascitic broth, after smears and hanging drops had been made from the inoculated area, and returned to the thermostat. After twenty-four hours much of the epithelium had become loosened and on shaking, the ascitic broth became slightly cloudy with apparent irregularly granular detritus. Microscopically, besides much finely granular material there were seen a few vaccine-like bodies free, and many epithelial cells and leucocytes in various stages of degeneration, some of the former still containing "vaccine bodies." The ascitic broth containing these cells, "vaccine bodies," and granules, when rubbed on freshly-shaved rabbit's skin produced a typical eruption.

The chief points of interest in this cultural study of the corneas were (1) That it had given us a method for obtaining active vaccine virus unmixed with discoverable organisms, and (2) That it showed that vaccina is not produced by an organism or a combination of organisms growing readily in ascitic broth.

The histological studies were made principally upon rabbits' corneas. The sections were prepared by Dr. Flournay. Control inoculations were made with (1) Inactive vaccine virus; (2) Filtered vaccine virus; (3) A very large coccus isolated from vaccine lymph and having forms similar to many of the vaccine bodies; and (4) The tiny bacillus; and (5) the large coccobacillus spoken of in the first part of the paper.

From the study of the corneal sections it was shown that: (1) The epithelial cells of the cornea might be phagocytic for leucocytes, red-blood cells, certain bacteria, and variously shaped and sized chromatin-staining bodies, the so-called "vaccine bodies"; (2) Apart from the above inclusions, certain degenerative changes might appear in the epithelial cells; (3) All of these appearances were most frequently seen in the perinuclear zone; (4) The "vaccine bodies" appeared regularly after inoculations of active vaccine or variolous lymph; they did not appear after inoculations of any other substance tried.

The principal observations from these studies might be summarized as follows: (1) The specific virus of vaccina grows readily in the corneas and the skin of rabbits, producing in the latter situation the typical eruption; (2) Ascitic broth containing the epithelial cells from corneas which have been inoculated with old active vaccine lymph produces the typical eruption of vaccinia, though no organisms can be demonstrated in the ascitic broth mixture; (3) Such corneas show as the only constant characteristic appearance the so-called "vaccine bodies"; (4) Vaccina is not due to any organism or combination of organisms, growing readily in ascitic broth.

Dr. Ewing said that the contribution just read showed evidence of such a volume of work conducted on such a judicious plan that he felt that Dr. Williams and her colleagues were to be congratulated upon it. It was a specially important result that Dr. Williams was able apparently to demonstrate an increase of the virus in ascitic broth to which infected corneas had been transferred. Regarding the isolation of various bacteria from vaccine and variola, it was to be noted that one was in the habit of casting aside as unimportant cultures which were occasionally encountered, but it might well be that some of these demanded further attention; and although previous work in this field had been extensive, it still remained important thoroughly to test as many of these species as possible. The great difficulty of determining the presence or absence of specific effects from such bacteria had led to many erroneous claims for bacteria occasionally occurring in vaccine and variolous exudates. He had had some experience with these difficulties with a bacillus, which he called Bacillus 19. It resembled in morphology and in the fluidification of blood serum, that described by Martin in 1893. A calf was tested with this bacillus. Vaccination with Bacillus 19 was negative, and a culture was injected subcutaneously, producing an abscess from which after two weeks the germ was recovered pure. The first attempt to vaccinate this calf with active vaccine failed, but a subsequent vaccination made very thoroughly produced a "dry take." From this "dry take" a second calf was vaccinated also with an unsatisfactory "dry take." Both of these calves were vaccinated the second time, and each gave as good a take as after the first vaccination. These results on the calves being unsatisfactory, the bacillus was finally set aside when it was proven inert on monkeys.

Experiments with Filtered Vaccine.—Dr. William H. Park said that, as was well known, attempts to produce a vaccination with the fluid which had passed through a Chamberland or Berkefeld filter had uniformly failed. The present experiments were undertaken with the idea of using crushed virus and of concentrating the filtrate. It was thought to be conceivable that the vaccine organisms might be small enough to pass through the filter and still, because of being contained in the epithelial cells, they might not pass, the cells themselves being held back. It was also thought possible that the filtrate might contain a few vaccine organisms, and yet have an insufficient number to cause a vaccination. If this condition existed, it seemed possible that by quickly evaporating the filtrate, sufficient concentration of virus might take place to produce vaccination. The following experiments were tried: Fresh virus was dried over sulphuric acid in a vacuum. This vaccine material was crushed up with fine sand, using a pressure of twenty-five tons to the square inch. This material was rubbed up with water and separated into two portions. One was drawn through a Chamberland filter, the other through a Berkefeld filter. Both filtrates were evaporated over sulphuric acid in a vacuum. Calves and rabbits inoculated failed to take. Similar virus was crushed with the sand twice, and again six times. The filtrate from this material failed to take. Ordinary glycerinated vaccine and active serum from calves were filtered and failed to take in calves or rabbits. All these calves were kept in a special building belonging to the Department of Health where no possible contamination could occur. Three calves treated in the same way in the vaccine building developed a few typical vesicles, but these are believed to have been due to contamination from the other calves and not to substances which passed through the filter.

The Relation of Streptococcus Pyogenes to Variola.—Dr. James Ewing said that from the routine bacteriological examination by ordinary methods of the cadavers of twenty-nine cases of smallpox, the streptococcus pyogenes was demonstrated in the heart's blood in all cases, and in the cutaneous lesion of about ninty per cent. of the cases. This result with the heart's blood was only in accord with the results of some previous studies, as Le Dantec (Arch. de Med. Navale T. 64, p. 410) obtained the streptococcus in the heart's blood of fifty consecutive cases. The abundance of the growth was uniformly proportional to the severity of the disease, and in the primary hemorrhagic cases the cultures were remarkably profuse. In two cases the streptococcus was associated with the Klebs-Loeffler bacillus, in subjects exhibiting extensive tracheal diptheria; and in two cases dying late in the disease, with much ulceration of the skin, staphylococcus aureas also grew. Once a special bacillus, called "Bacillus 19," was also obtained. In five cases, cultures of ten c.c. of circulating blood were examined with a negative result. Only one of these cases was fatal. Arnaud, however, had reported finding the streptococcus in the circulating blood in two primary hemorrhagic cases (*Revue de Med.* 1900, p. 303). The demonstration of streptococcus in the cutaneous lesions in nearly ninety per cent. of the cases indicated the very general presence of this organism in these lesions. Perhaps more careful technique would have given more uniform results, as chain cocci were twice found in sections of the skin when cultures were sterile. Most of the autopsies were performed within one to six hours after death, and while there was opportunity for post-mortem development in some cases examined after a longer interval and in hot weather, the usual abundance of the streptococcus did not fail in early autopsies in very cold weather. The uniform presence, and especially the remarkable abundance of the streptococcus in these cases seemed paralleled in no other conditions except in scarlatina and peurperal septicæmia, while the histological lesions indicated widespread effects of the growth of this microorganism similar to those of pure streptococcus infection. This was especially true in the primary hemorrhageic cases in which the bacteriological and histological study of the cadaver strongly indicated that the streptococcus overshadows any other microorganism that might be present. These conditions led the speaker to conclude that it would always remain impossible to reproduce the fulminant type of variola without the aid of this microorganism. When the streptococcus was present in the circulating blood in enormous numbers and on the second or third day of a disease, the question naturally arose whether the presence of this microorganism in the disease should be classed as a simple secondary infection. Nevertheless, the known facts did not warrant the assumption of a necessary symbiosis because vaccine produces specific lesions when no streptococci can be demonstrated in the virus. The condition seemed very nearly like those described by Schleich as "syntoxic parasitism," although present indications favored the belief in a microorganism too small to be seen with the microscope rather than in the purely chemical nature of the specific virus or smallpox. A further review of the clinical features of smallpox demonstrates other interesting relations of the streptococcus to the disease. In two cases, general scarlatiniform eruptions developed during the course of ordinary discreet variola. One of the patients died in a children's ward in which no further cases of this sort developed. The other went through the usual course of scarlatina with profuse scaling desquamation, but later developed multiple abscesses in the skin. These were therefore probably not cases of true scarlatina, but examples of the scarlatiniform septic eruptions due to the streptococcus which was abundantly present in both. Three cases of ulcerative endocarditis were encountered with the usual abundance of streptococci in the heart's blood. One of these gave cardiac symptoms from the first and died on the eighth day with extensive ulceration of the mitral valve and a rather scanty eruption. Finally, erysipelas and diffuse phlegmonous inflammation of the skin were very common incidents in smallpox hospitals. In these various clinical features of the disease the streptococcus exhibited its well known capacity to produce a great variety of specific clinical effects, and in them it seemed to follow the ordinary rules governing secondary infection. In these clinical forms of the disease it was interesting to note how this microorganism could multiply in the system; first, as a complicating factor in the cutaneous lesion of smallpox then as the excitant of a scarlatiniform eruption, then, under the form of pyæmic abscesses, or as ulcerative endocarditis or erysipelas, etc., while none of these manifestations seemed to confer any immunity to the subsequent attack of the microorganism in another clinical form.

Dr. Park said that Dr. Ewing had demonstrated that in a large series of fatal cases streptococci were universally present in the blood and in the postules of the skin and mucous membranes. It seemed to him that he went too far, however, in thinking that the streptococcus was necessarily present before the symptoms and lesions in smallpox could develop. Both scarlet fever and smallpox caused marked changes in the mucous membranes of the throat: here streptococci were regularly present. The profound changes produced by the poison of variola combined with the location of the streptococci seemed to account sufficiently for the secondary infection of the streptococcus. If no streptococci existed, there would still be severe andprobably fatal cases of smallpox.

Dr. Ewing said his own ideas regarding the relation of the streptococcus to variola were by no means clear, but he had been greatly impressed with the very early appearance and enormous development of the streptococcus in the disease. Its behavior in the pirmary hemorrhagic cases, and in some other forms, seemed different from that of an ordinary secondary infection. He did not find either that the term "symbiosis" was justified by the facts. It would seem that the smallpox virus annihilated resistance to the growth of the streptococcus, with results which occasionally resembled fulminant puerperal septicæmia, in which the streptococcus was the only microorganism present. Perhaps Schleich's term "syntoxic parasitism," most closely expressed what seemed to be the condition in primary hemorrhagic smallpox. As to the relation of red cells to vaccine bodies, he was not prepared to claim that all vaccine bodies were derivatives of these cells, but having found that in the tissues the fragments of red cells were a very common origin of vaccine bodies, he was inclined to think that all vaccine bodies might have the same origin. In the cornea it seemed almost hopeless to attempt to prove this origin, in which case the theory of the exclusive origin of vaccine bodies from red cells must have falied of demonstration. He had already found that red cells were present in the inoculation wounds of the cornea under somewhat surprising conditions. Therefore, considering all the evidence against the parasitic nature of vaccine bodies, at a time when some Continental observers are grouping carcinoma and variola together, it seemed justified to urge that some and possibly all of the appearances on which this relation is based were referable to red cell detritus.

Clinical Theory of Smallpox.—Dr. W. S. Magill read this paper. He detailed results which he had obtained by the chemical separation of alkaloidal and diastatic substances from vaccine pulp and from glycerinated virus and the injection of these substances into animals.

Books Received.

The Practical Medicine Series of Year Books, Vol. VII. By Gustavus P. Head, M.D. 12mo, 270 pages. The Year Book Publishers, Chicago, Ill. Price, $1.50.

Manuel D'Histologie Pathologique. By V. Cornil et L. Ranvier. 8vo, 864 pages. Illustrated. Vol. II. Felix Alcan, Paris, France. Price, Fr. 25.

Die Anatomie und Physiologie der Kehlkopfnerven. By Dr. A. Onodi. 8vo, 179 pages. Oscar Coblentz, Berlin. Price, Mr. 6.

Kurzes Lehrbuch der Krankheiten der Oberen Luftwege. Von Prof. Dr. Holger Mygind. 8vo, 252 pages. Illustrated. Oscar Coblentz, Berlin. Price, Mr. 6.

Diagnostic Gynecologique des Organes Genitaux et de la Mamelle. Par Le Docteuer Clado. 12mo, 821 pages. Illustrated. Paper. A. Maloine, Paris.

La Guerison de la Morphinomania sans souffrance. Par Le Dr. Oscar Jennings. 12mo, 231 pages. A. Maloine, Paris.

The Schott Methods of the Treatment of Chronic Diseases of the Heart, with an Account of the Nauheim Baths, and of the Therapeutic Exercises. By W. Bezlythorne, M.D. Fourth Edition. 8vo, 138 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $2.00.

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A.M., M.D. Fifth Edition. 8vo. 678 pages. William Wood & Company, New York. Price, $3.50 net.

International Clinics: a Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Studbnts and Practitioners. By various authors. Edited by Henry W. Cattell, A.M., M.D. Vol. II. Twelfth Series, 1902. 8vo, 295 pages. J. B. Lippincott Company, Philadelphia, Pa.

A Text-Book of Practical Therapeutics. Ninth Edition. By Hobart Amory Hare, M.D. 8vo, 857 pages. Illustrated. Lea Brothers & Co., New York. Price, cloth, $4.00; leather, $5.00; half-morocco, $5.50 net.

A Brief of Necroscopy and Its Medico-Legal Relation. By Gustav Schmitt, M.D. 16mo, 168 pages. Funk & Wagnalls Company, New York. Price, $1.00 net.

Atlas and Epitome of Abdominal Hernias. By Georg Sultan. 12mo. 277 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $3.00 net.

Treatise on Diseases of the Skin. By Henry W. Stelwagon, M.D. 8vo. 1115 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $6.00 net; half morocco, $7.00 net.

New Instruments.

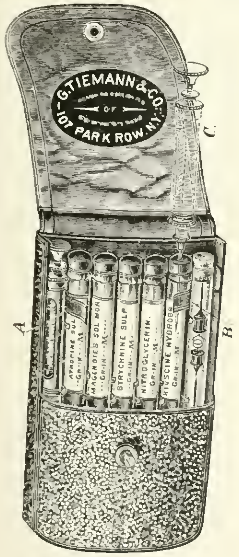
A CONVENIENT POCKET HYPODERMIC CASE.

By A. S. TAYLOR, M.D.
NEW YORK.

VISITING SURGEON TO RANDALL'S ISLAND HOSPITAL; ASSISTANT INSTRUCTOR IN OPERATIVE SURGERY AT COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK

The many inconveniences and the loss of time associated with the use of hypodermic tablets are known to every practising physician. When solutions are kept in stoppered bottles, there is also much inconvenience and the solutions are exposed to contamination. During my ambulance service at the New York Hospital in 1896 there was evident necessity for accessible and sterile hypodermic solutions, which could be used with the ambulance in motion. At that time Mr. Rauschenberg, the hospital chemist, suggested to me the use of solutions in sterilized vials covered by sterilized rubber caps, the working of which will be later explained.

Their use on the ambulance was so satisfactory, that the same system was soon introduced into the wards and operating rooms of the hospital. The pocket case is simply an adaptation of the same principle, and was made by G. Tiemann & Co. The essential idea consists in having the solution in a rubber-capped vial. (All sterilized of course.)


G. TIEMANN & CO.
107 PARK ROW, N.Y.
C
A
B
ATROPINE SUL ·GR·IN···M·
MAGENDIES SOL MOR ···GR·IN···M····
STRYCHNINE SULP ··GR·IN···M·
NITROGLYCERIN. ··GR·IN ·M·
HYOSCINE HYDROBR GR·IN··M·

The case is made of leather with metal lining in the back and sides. Metal clips are fastened to the back to hold the syringe and vials. On one side is the syringe and on the other is a sterile glass tube containing two sterile needles. Just beneath each of these is a leather strip (A and B) to facilitate its removal from the case. Between the two are five rubber-capped vials, each holding 100 m. of solution. The solutions may vary in strength and variety to suit the needs of the individual practitioner.

The case, as a whole, is curved transversely, so as to fit the body nicely when it is slipped into the vest pocket.

In using the case the needle is screwed onto the syringe, the case is inverted (see figure), the needle is thrust through the rubber cap of the vial containing the desired solution (c), the prescribed dose is drawn down into the syringe, and the needle is withdrawn from the vial ready for use. (The rubber caps may be kept sterile by laying a pad of sterile gauze over them in the case, or by wiping them with a one-per-cent. formaldehyde solution, alcohol or bichloride, just before using them. In an emergency these precautions may be omitted with but very slight risk). The elastic recoil of the rubber serves to close the puncture and prevent leakage.

The advantages of the case are:

1. Ease and speed in giving a hypodermic injection. For operations the needle may be screwed to the syringe, the syringe fastened in its clip, and the case put in the anæsthetist's pocket ready for instant use.

2. The presence of an ever-ready sterile solution and sterile needle. The five vials allow sufficient variety in the solutions to meet any emergency. The solutions will keep intact for months in the vials, as proven by tests. (Magendie's solution of morphine may become yellowish and is then unfit for use.)

3. The vials may be easily filled by any pharmacist who understands the principles of aseptic work.

During the last five years the method has been used throughout the New York Hospital, and hypodermic abscesses have become unknown.

152 West Fifty-seventh Street.

Surgical Suggestions.

Surgical Treatment of Pruritus Vulvæ.—Tavel advocates resection of the internal pudic nerve in obstinate cases of vaginismus and pruritus of the vulva, and reports two cases in which he applied the treatment with good results. The external incision on either side of the perineum, which is about four inches in length, is carried directly from before backward in middle of the fossa from the tuber ischii and the outer margin of the anus. The nerve, the course of which is indicated by the pulsations of the accompanying artery, is carefully separated from this vessel and followed backward to its trunk. The main divisions supplying the muscles of the vulva and the painful area of integument are divided near their origins, and peripheral portions of the nerve twisted and torn away. In this operation care must be exercised to avoid the inferior hæmorrhoidal nerve and the anal twigs of the deep perineal branch.—*Revue de Chirurgie.*

Fracture of the Elbow-joint.—Scudder (Treatment of Fractures) says that fractures of the epicondyle, of the internal condyle, and T-fractures into the joint, are best treated by the "acutely-fixed position." Experimental evidence, both upon the cadaver and upon the anæsthetized living subject, confirmed by clinical experience extending over a number of years in hospital and private practice of many surgeons, demonstrates that the "acutely-fixed position" actively reduces and holds reduced the fractures previously named. In the "acutely-fixed position," the coronoid process in front, the troclear surface of the olecranon behind, and the fascia, posteriorly and laterally, together with the tendon of the triceps, posteriorly, hold the fragments reduced and close to the shaft of the humerus.

This method of treatment preserves the carrying angle of the arm. Other methods fail to do this.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 16, 1902:

	Cases.	Deaths.
Measles	87	4
Diphtheria and croup	134	20
Scarlet fever	65	6
Smallpox	2	1
Varicella	9	..
Tuberculosis	220	115
Typhoid fever	104	16
Cerebro-spinal meningitis	..	3

The Periodicity of Hemicrania in the Male.—D. Fraser Harris reports the case of a man who suffers from recurring headaches, but is otherwise in good health. The total number of his headaches per annum has been about the same for three years, an average of 31 a year. From the figures submitted the author concludes that it cannot be doubted that there is a rhythmic expression of the phases of altered metabolism. This hemicrania or migraine in the male might be defined as objectively, the periodically recurring climax or crisis of a phase of departure from the healthy normal of metabolism, and subjectively as the one-sided headache, usually with nausea, depression, and sleepiness. The author reports this case as a contribution to the discussion as to whether there is in the male anything corresponding to the rhythmic waxing and waning of metabolic intensity in the female as evidenced by the menstrual period.—*The Edinburgh Medical Journal.*

Infected Fingers.—H. A. Leipziger thus concludes his study of the subject. He would have no more lancing of infected fingers. The time when simple incision is indicated is so early that patients are seldom seen at that stage. He would always explain to the patient that sloughing or necrosis may follow the operation from the damage already done by the poison. A general anæsthetic is to be given, and the field of operation carefully and antiseptically prepared. The operation should be thorough and careful, as every portion of tissue is important to the function of the fingers. The doctors who lance these fingers get paid for lancing, and get, perhaps, all their services are worth; the surgeon who treats these cases correctly does skilful surgery, and deserves and should demand higher compensation than is usually considered applicable to this class of cases. The laity should be instructed in the truths of these propositions.—*The Railway Surgeon.*

Endemic Amœbic Dysentery. Jesse S. Myer desires to call the attention of those who may meet with this disease to santonin as a rational internal treatment. The employment of this medication in but two cases permits, of course, of no general deduction, but the results of the first case, which was a very virulent type of the disease, were so prompt and satisfactory that it seems justifiable to recommend its use. In the second case its results were not so prompt, but still quite apparent. Santonin is one of the few parasiticides whose action is maintained throughout the entire intestinal tract, and this would seem, therefore, a most rational mode of medication in the treatment of amœbic dysentery. The writer gives the remedy in three-grain doses in capsules with bicarbonate of sodium three times daily.—*St. Louis Medical Review.*

An Epidemic of Streptococcal Grippe.—Raymond Bernard and Denis de Casabianca describe an epidemic which occurred in the fifty-second regiment of infantry at Lyons in 1898, either by the contamination of the barracks or from isolated imported cases. In the hot months the disease was almost nil, but it came on in aggravated form in the winter, manifesting itself chiefly in attacks of erysipelas and infections of the respiratory passages. This periodical activity may, of course, be secondary to various epidemic diseases, the eruptive fevers especially, but that it may also be spontaneous and independent of all other infections, is what the authors endeavor to demonstrate. They wish to make a distinction between ordinary grippe or catarrhal influenza, and this special form characterized by the presence of the streptococcus.—*Archives Générales de Médecine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 16, 1902:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, Los Angeles	July 26–Aug. 2	2	
San Francisco	July 27–Aug. 3	6	
Colorado, Denver	July 26–Aug. 2	1	
District of Columbia, Washington	Aug. 2–9	4	
Florida, Jacksonville	Aug. 2–9	2	
Illinois, Chicago	Aug. 2–9	3	
Indiana, Indianapolis	Aug. 2–9	2	
Iowa, Ottumwa	July 5–Aug. 2	8	
Kentucky, Covington	Aug. 2–9	[illegible]	
Maine, Portland	Aug. 2–9	1	
Massachusetts, Boston	Aug. 2–9	10	1
Everett	Aug. 2–9	2	1
Lowell	Aug. 2–9	1	1
Somerville	Aug. 2–9	6	
Michigan, Detroit	Aug. 2–9	2	
Missouri, St. Joseph	July 26–Aug. 2	17	
St. Louis	Aug. 3–10	4	
Montana, Butte	July 27–Aug. 3	1	
Nebraska, Omaha	Aug. 2–9	[illegible]	
New Hampshire, Nashua	Aug. 1–8	1	
New Jersey, Elizabeth	July 5–Aug. 9	1	
Hudson County, Jersey City included	Aug. 3–10	1	[illegible]
Newark	Aug. 2–9	6	
New York, New York	Aug. 2–9	5	[illegible]
Ohio, Cincinnati	Aug. 1–8	4	
Cleveland	Aug. 2–9	42	[illegible]
Toledo	July 26–Aug. 2	1	
Pennsylvania, Altoona	Aug. 2–9	3	
Johnstown	Aug. 4–11	5	
McKeesport	Aug. 2–9	3	
Philadelphia	Aug. 2–9	4	[illegible]
Pittsburgh	Aug. 2–9	18	[illegible]
Utah, Salt Lake City	July 26–Aug. 2	2	
SMALLPOX—INSULAR.			
Philippine Islands, Manila	June 11–21	2	
SMALLPOX—FOREIGN.			
Argentina, Buenos Ayres	May 1–31	10	
Austria, Prague	July 19–26	1	
Belgium, Antwerp	July 19–26	4	[illegible]
Brazil, Pernambuco	June 1–30		[illegible]
Ceylon, Colombo	June 28–July 5		[illegible]
China, Hongkong	June 14–July 5	[illegible]	[illegible]
Great Britain, Dundee	July 12–19	1	
Liverpool	July 26–Aug. 2	6	
London	July 12–19	48	[illegible]
"	July 19–26	23	4
India, Bombay	July 8–15		[illegible]
Calcutta	July 5–12		[illegible]
Madras	July 5–11		[illegible]
Italy, Naples	July 12–26	2	
Palermo	July 12–26	11	
Netherlands, Rotterdam	July 26–Aug. 2	1	
Mexico, City of Mexico	July 19–Aug. 3	4	
Russia, Moscow	July 12–19	[illegible]	
Odessa	July 19–26	1	
St. Petersburg	July 12–19	9	
Warsaw	July 12–19		
Spain, Corunna	July 1–31		
" Valencia	July 16–31		[illegible]
Uruguay, Montevidio	June 30–July 7	21	
YELLOW FEVER.			
Brazil, Pernambuco	June 1–30		
Colombia, Panama	July 21–Aug. 4	10	
Mexico, Coatzacoalcos	July 26–Aug. 2	1	
Merida	To Aug. 5	7	[illegible]
Progreso	To Aug. 5	[illegible]	
Vicinity of Progreso	July 27		[illegible]
Vera Cruz	July 26–Aug. 9	33	[illegible]
CHOLERA—INSULAR.			
Philippine Islands, Manila	June 8–21	277	[illegible]
Provinces	Mar. 20–June 21	5,802	[illegible]
CHOLERA—FOREIGN.			
China, Amoy	June 7–28	275 estimated.	
Hongkong	June 21–July 5	26	[illegible]
Tientsin	June 21–30	222	[illegible]
Egypt, Maucha	July 15–23	227	102
India, Bombay	July 8–15		2
Calcutta	July 5–12		[illegible]
Madras	July 5–11		[illegible]
Japan, Nagasaki	July 12–20	11	[illegible]
Java, Batavia	June 7–July 5	92	[illegible]
PLAGUE—INSULAR.			
Hawaiian Islands, Honolulu	July 28		1
Philippine Islands, Manila	June 8–21	1	1
PLAGUE—FOREIGN.			
China, Hongkong	June 14–July 5	125	124
India, Bombay	July 8–15		[illegible]
Calcutta	July 5–12		[illegible]
Madagascar, Majunga	June 8–22		[illegible]

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Original Articles.

PLACENTA PRÆVIA WITH STATISTICS FROM THE LAST ELEVEN THOUSAND TWO HUNDRED DELIVERIES OF THE SLOANE MATERNITY HOSPITAL.*

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No complication in obstetrics may come upon one more suddenly and with more appalling results than this dreaded condition. Nothing in midwifery demands such combination of ready judgment and prompt action as the hemorrhage from a bad case of placenta prævia. We may think of eclampsia, its fearful manifestations, and its often fatal outcome, but to the trained man the warning signs are evident, and there is always time for deliberation and careful judgment. In placenta prævia we are sometimes faced, with profuse hemorrhage, which may be rapidly fatal. In fact, the doctor may find, on his arrival, acute anæmia already so far advanced that the results of interference will be grave.

Placenta prævia means a low placental insertion. The placenta may be entirely out of reach of the finger and yet be attached to the lower third of the uterus, or to what is known as the danger zone. The margin of the placenta may be above the internal os, reach to the edge of the internal os, partly overlap it, or may completely obliterate it. Normally, the placenta is attached near one or the other cornu or at the fundus. This complication is found so rarely as to suggest that some prominent etiological factors could be discovered in a large series of cases.

The frequency of placenta prævia varies with localities and in the same localities at different times. Jewett gives the average ratio as one in 1,000 cases; Hirst as one in 1,200. I present, with the kind permission of Dr. Edwin B. Cragin and Dr. James W. McLane, from whose services these statistics have been drawn, a series of eighty-four cases in 11,200 deliveries, or one in $133\frac{1}{3}$ cases. This ratio simply shows the high proportion of operative cases in an emergency obstetrical hospital, and is of no value for purposes of comparison with a general outside service.

Any condition which would interfere with the fixation of the ovum as it comes from the Fallopian tube, and which would permit the ovum to descend until it found a favorable nidus near the internal os, is an etiological factor. As such, we recognize relaxation and subinvolution of the uterus, and chronic endometritis. As predisposing to endometritis and uterine relaxation we have age and multiparity; chronic congestion from renal disease or endocarditis; injuries from operative deliveries, especially lacerations of the cervix; and new growths, such as fibroids or cancer. Winkel estimates that in cases of placenta prævia multiparity is to primiparity as four to one. In this series the ratio was eight to one. Fifty-two per cent were four gravida or over. Of the multiparæ 35 per cent. gave a history of difficult instrumental labors previously. One-half of the patients were over thirty years old. Eight were ten gravida or more. Seven were over forty years of age. Five cases suffered from albuminuria, three of them complicated with eclampsia. One case was complicated by fibroids.

Schwartz has called attention to the fact that the uterus bicornis may be a cause, and one of this series had such a condition. Ingleby found that a low insertion of the Fallopian tubes was a cause for repeated placenta prævia. He reports two cases, in one of which the condition had recurred in three successive cases, and in the other in ten successive labors. In one of this series placenta prævia recurred in two succeeding labors. In another case the patient gave a history of two previous abortions due to placenta prævia.

The first evidence noted of placenta prævia may be severe sudden hemorrhage, which is apt to occur independent of any other exertion. This is most alarming, because of the abruptness of its onset, its large amount, and persistence. Bleeding is more often apt to be slight at first, recurring from time to time, and rarely appearing until after the sixth month. Exceptions were found to this rule, in three cases, in which there was a history of bleeding as early as the second month, in five in which bleeding was noted as early as the fifth month. In five cases bleeding was first observed during the sixth month. Occasionally there is a continuous slight bleeding. In those cases in which the hemorrhage is severe from the start, the placental implantation is more apt to be complete, and the patient near term. In comparatively few cases does the patient go into labor with no signs of previous bleeding.

In the cases which I report, the bleeding at the onset was moderate and gradually increasing and independent of labor pains in 50 per cent.; in 10 per per cent. it began moderately after the beginning of labor; in 40 per cent. there was sudden profuse flooding; although in one-third of these cases slight preceding attacks of bleeding had given warning signs. The bleeding in the cases of complete placenta prævia, as has been already suggested, was more severe, and almost without exception came on suddenly. Over half of the women in this class went on to full term. Most appropriately has this type of hemorrhage been called "unavoidable." In very few cases was a history of over-exertion as an etilogical factor secured.

Two women bled suddenly while straining at stool; one on rising in the morning. Severe hemorrhage occurred first in two cases after a vaginal examination. Five presented themselves at the sixth month, nineteen at the seventh month, twenty at the eighth month, and forty at the ninth month.

The hemorrhage comes from the exposed ends of the uterine vessels at the place where the placenta has been torn away. Ordinarily, the contraction of the uterine fibers around the exposed blood vessels at the placental site prevents bleeding; but in the case of placenta prævia, uterine contraction is manifestly impossible. Unless there is some control of the hemorrhage by the descent of the fetal part or by an artificial tampon, the bleeding must continue until syncope appears or a firm clot forms.

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*Read before the Society of the Alumni of the Post-Graduate Hospital.

The result of the condition is, therefore, without interference, rapidly fatal, except in those cases in which the placenta is fairly high, or in which the bleeding has not commenced until the cervix was well dilated. Cases of a favorable outcome even in central placenta prævia, by a spontaneous delivery with the placenta in advance, have been reported.

Part of the hemorrhage may come from the placenta from the maternal circulation, and possibly, if the placenta be extensively lacerated, from the fetal circulation. The bleeding of the patient in labor is apt to diminish during uterine contractions.

For *diagnosis* we must depend upon the history of the case and the results of vaginal examination. By abdominal palpation, it is very exceptional to be able to feel the placenta. Vaginally, if the placenta is between the fetal parts and the cervix, the difficulty in feeling the presenting part is noted. The fact that the head is riding high, or that there is a malposition, should arouse suspicion.

If the cervix admits the finger, the placenta, with its variously-described stringy, gritty, or boggy feeling, may be made out. Examination should be made with excessive care. I have seen, even in cases of a careful examination, severe and well-nigh fatal hemorrhage started up. Oftentimes a thickening and softening of the cervix, due to its increased blood supply, may be observed. I do not attach any importance to the detection of pulsation in the cervix or to a placental bruit heard over the lower uterine segment.

Finally, there are probably many cases of placenta prævia which do not overlap the os, which as they give no symptoms, are entirely overlooked and can only be diagnosed by the location of a marginal rupture in the bag of membranes.

As for the *prognosis*, the placenta prævia, clinically, *i.e.* with symptoms, must be acknowledged as a most dangerous complication. The maternal mortality is estimated by Churchill to be from 25 to 30 per cent.; by Müller as 23 per cent. Winkel believes that, with the best care, it should be from 5 to 10 per cent. Hirst says 10 per cent. Our own statistics show a mortality of 12 per cent.

Of the ten deaths four of the women were moribund on admission and died the same day shortly after delivery, from loss of blood and shock. In three others death was caused by a rupture of the lower uterine segment, and the shock, together with the hemorrhage, was the cause. One case was complicated with eclampsia. Two patients died of sepsis—one after rupture of the uterus.

The fetal mortality is very high. A certain number of abortions occur. About half of the children are premature. The separation of the placenta cuts off so much breathing space that asphyxia is the cause of death in the majority. There is undoubtedly in some of the cases bleeding from the fetal circulation. The complex, transverse, or breech presentations cause added danger to the child. The low placenta, often with a marginal or velamentous insertion of the cord and the malpresentations, predispose to prolapse of the cord. To these above dangers is added the necessity for an operative delivery by version, forceps, or breech extraction, in the interest of the mother. It is therefore not surprising that the statistics for the child are poor. Hirst estimates the infant mortality at 50 per cent., Müller at 64 per cent. Our statistics show 45 per cent. still-born and 12 per cent. dying within the obstetrical two weeks. If we except those cases in which the child was dead in utero on the admission of the patient, the mortality is 43 per cent.

The complications of placenta prævia are numerous. *Malpresentations* and *malpositions* are so frequent that one should be on the lookout for them. In eighty-four cases fifty-six were vertex, ten were breech, eighteen tranverse, and one face. The low placenta forcing the head away from the pelvic brim is always the cause of this complication.

Prolapse of the cord has been mentioned. It occurred in 26 per cent. of these cases. Anomalies in the shape of the placenta are common. As a result of a previous endometritis, the placenta is sometimes adherent. This condition existed in 13 per cent.

Postpartum hemorrhage is often seen, but prompt action should prevent much loss of blood in this way. The hemorrhage is usually from the uterine atony, due to the extreme anæmia, but is sometimes from the extensive cervical lacerations, and even from rupture of the lower uterine segment.

Sepsis is a very frequent sequence of placenta prævia. The patient's power of resistance is diminished by her anæmia. The placental wound is at the cervix and therefore relatively nearer infection. The poor contraction of the uterus and the slow involution in the puerperium predispose to sepsis. The operative delivery causes a greater liability to infection.

There was a temperature above 100.5° in 52 per cent. of the cases, but 15 per cent. of these had been examined and treated first by doctors outside the hospital. There were two deaths from sepsis. One case was complicated by phlebitis. Two cases showed hydramnios. Two were twin labors. The eclampsia cases have been mentioned. One case developed puerperal insanity.

The treatment must vary widely with different cases, as very different indications for treatment are presented. In those cases in which prompt interference is not, on account of active bleeding, imperative, labor should be induced and the patient constantly watched by the physician until the delivery is completed.

Expectant treatment is permissible only before the seventh month. If there is little loss of blood, one may wait until the time of complete viability of the child, *i. e.* until after the seventh month. Fatal cases before that period are practically unheard of.

The induction of labor may be by a tight vaginal tampon, or if the placenta is not completely covering the os, by the introduction of a bougie. Best of all is the introduction of the Champetier de Ribes' balloon; a very excellent American modification of which has been devised by Dr. James D. Voorhees of the visiting staff of this hospital. With it in the cervix we have a good uterine stimulant and a perfect tampon.

One rule must absolutely be observed, and that is not to leave the patient until she is delivered; and never to allow a patient with placenta prævia to go on in pregnancy beyond the seventh month, remembering that at any time hemorrhage so profuse may come on that the patient may die before the doctor can be secured.

If the cervix is partly dilated, a podalic or pelvic version may be performed by the external or bipolar method, and a foot secured and brought down until the half breech tightly fills the cervix. The external version in many of these cases ought to be possible, because of the mobility of the head above the pelvic brim. When the breech has been brought to present, then, by a quick rupture of the membranes or boring through the placenta, the foot can be secured and brought down with a minimum loss of blood. The external version should more often be employed in cases of this sort.

If the cervix is fairly dilated or dilatable, the hand should be carried into the uterus and the fœtus turned by podalic version. The completion of the dilatation is then left to the uterine pains, or, in the interest of the mother or child, may be effected by breech extraction by intermittent tractions on the leg.

The chief consideration in our treatment of these cases is control or prevention of the hemorrhage; which is accomplished by the methods above enumerated. The second consideration in advanced cases is the combating of shock. This condition may be so marked that for a time we must delay delivery until the patient is in better shape.

The regular treatment for hemorrhage and shock is employed, but most energetically. The intravenous infusion is invaluable. I have seen it save many lives on the obstetrical table.

Should the placenta be partial or marginal, we may sometimes, if there be fair cervical dilatation, succeed in stopping the flow by rupturing the membranes and thus permit the head to descend and exert pressure. The use of forceps in such cases as th[illegible] justifiable.

The statistics which I have gathered show, in eighty-four cases, induction of labor performed thirty-one times; accouchement force, thirty times; dilatation of the cervix, thirty times; tampon of vagina, three times; internal podalic version, fifty-three times; Braxton Hicks' version, eight times; partial podalic version, three times, and external version, two times (a total of sixty-six versions); the low forceps were employed once, medium four times, and the high, once. Breech extraction was employed in sixty cases.

The prevention of postpartum hemorrhage is possible by use of the hot intrauterine douche, which should always be in readiness; or prompt tamponade if the uterus does not quickly react to the douche. After delivery it is sometimes necessary to employ vigorous methods to combat shock—free stimulation, heat externally, elevation of the foot of the table or bed, saline enemata, hypodermoclysis, or the saline intravenous infusion.

The treatment of the subsequent anæmia is important. Saline enemata of a pint each may be given every two hours until the fluid bulk of the blood is restored. Small doses of morphine may be needed for the extreme restlessness. As soon as the stomach will tolerate it, fluid diet should be given, and a liberal nourishing diet in a short time. Some easily digestible form of iron should be exhibited early.

From our statistics the following conclusions may be formed: firstly, that uterine relaxation and endometritis as important etiological factors are well shown; secondly, that the immense variation in the types of bleeding should warn us to look upon every bleeding at any time in pregnancy with suspicion; thirdly, that the very great possibility of sepsis should cause us to employ every precaution in asepsis. The necessity for exceptional care during the breech extraction, where the cervix is not completely dilated, is apparent. The cervix in this condition is unusually vascular and soft, and tears with fatal readiness.

The chances are so great against the child that any eagerness to save it should not lead us [illegible] risk to the mother's life. The four cases of uterine rupture were accomplished in this way, and by men who were experts in their work and knew the danger which they were facing.

In connection with postpartum hemorrhage, a danger may exist from too great dilution of the blood by intravenous infusion. The blood loses its power of clotting and the watery fluid will ooze through the tightest tampon. Moderation, therefore, should be used in the amount of the infusion. Repeated infusions of smaller amounts are preferable to one or two large ones of one to two liters each.

As some operators now show a mortality of practically nil in the Cæsarian section, the question arises whether there might not be some application of this operation in the placenta prævia. In those rare cases in which the placenta is central or nearly so, the cervix rigid and undilated, the patient in good condition, and everything in the surroundings is favorable for a laparotomy, I believe the operation would be justifiable. This combination of conditions is very exceptionally found.

These records show in their perusal, as mere reading of statistics cannot, a very inspiring series of struggles of the physician for the lives of patients; of numerous cases in which the woman has been saved by the greatest effort from what seemed, at the time, quickly impending death. From these we may learn that the fight must never be given up while the spark of life remains.

THE OPINIONS OF DIFFERENT SURGEONS AND PATHOLOGISTS AS TO THE ORIGIN AND CAUSE OF FIBROID TUMORS.

By MARY A. DIXON JONES, M.D., F.R.M.S.,
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After giving the results of my own observations as to the origin and mode of formation of myofibroma, I was interested to know what the many eminent surgeons and standard authors may have said on the subject. So far as I had seen, there were apparently no positive views. Many admitted that their theories were mere suppositions.

Henry T. Green of Charing Cross Hospital says:[1] "Of the etiology of tumors as a class, nothing certain is known."

Ziegler, professor of pathology in the University of Freiburg, says:[2] "The etiology of tumors is not uniform, and often cannot be determined with certainty."

William M. L. Coplin, professor of Jefferson College:[3] "The causes of tumors are largely theoretic."

Alfred Stengel, professor in the University of Pennsylvania:[4] "The causes of fibroma are as obscure as those of tumors in general."

Dr. E. E. Montgomery, professor of Gynecology in Jefferson College:[5] "The causes of fibroid tumors are unknown."

Henry D. Ingraham, professor in the University of Buffalo, says:[6] "The cause seems to be as unsettled as at any previous time. As to the exciting cause, nothing whatever is known."

Cohnheim, professor of general pathology in the University of Leipsic:[7] "There is no chapter in our science so deeply involved in obscurity as is the etiology of tumors. Hypotheses, indeed, abound, and on consulting the textbooks you will find an ample list of tumor formations. But of what value are they?"

Pozzi, professeur à la Faculté de Médicine, Paris, says:[8] "In spite of the patient researches which have been made on this subject, we still know nothing positive about the exciting causes of uterine fibroma. We can only give certain predisposing conditions, among which are race (the negro being more subject to such tumors than the white) and advanced age; in the white races the most susceptible age is from thirty to forty. Sterility is not so much a cause as a consequence."

Probably we would find that the same cause that produced the sterility caused the growth of the tumors. Cohnheim asserts that the factors usually given, such as age, sex, social position, etc.—a direct casual relationship between them and the new formation—cannot by any possibility exist.

Pozzi himself declares: "All the local existing causes which have been advanced are without proof. On the other hand, it has been supposed that a celibate life disposed to their formation, but Gusserow's statistics disprove the idea. Fehling has attributed great importance to incomplete involution after labor and abortion. Prochownic thinks that the specific irritations due to syphilis, malaria, and typhoidal infections may have a pathogenic action in the devélopment of fibroids."

Pozzi further says: "Klebs asserts that these fibrous tumors have their origin in a proliferation of the connective tissue and the muscular layers of certain vessels; the different nodules thus formed become agglutinated to make one tumor. Klimwachter describes the evolution of fibromata as due to a round cell, which is found along the capillaries and produces a partial obliteration of them; these cells then become fusiform and produce the nodules. Gettschalk thinks that all fibromata originate by an endarterial proliferation, rapidly followed by an increase of the cellular elements surrounding the artery. Local irritation and circulatory disturbances would be the principal agents in this pathological process."

Pozzi declares, "Our knowledge of this subject is very limited." Adding: "These neoplasms are very frequent; according to Bayle, who describes certain anatomical features of them in 1813, a fifth of all women over thirty-five years old have fibromata."

We turn to the excellent work of Professor Senn.[9] He says, on page one: "When we realize the amount of suffering and the number of deaths resulting from tumors, it appears somewhat strange that this vast department of pathology has received so little attention on the part of modern investigators. Recently a good deal of work has been done to establish the microbic origin of malignant tumors, but no positive results have been obtained so far, and we must confess that but little additional light has been shed on the etiology and pathology of tumors since Virchow and Cohnheim."

Professor Senn further remarks: "Chronic inflammation was regarded for a long time as the essential etiological factor. These and many other vague theories advanced in regard to the origin and nature of tumors, prior to the time they were recognized as a part of the body they inhabited, the result of proliferation of pre-existing cells, do not merit an extended discussion in a modern textbook."

Fibroid tumors do not originate from chronic inflammation, nor are they the proliferation of preexisting cells. *Pre-existing cells cannot create and make tumors.*

Dr. Senn says: "Cohnheim imparted a new stimulus to the study of tumors, advancing a novel theory in reference to their origin. It appears recently that Durante of Rome was the real originator of the theory of embryonic origin of tumors, as his publication on the subject antidates that of Cohnheim by one year."

Dr. Senn tells us "Cohnheim referred every tumor to its proper embryonic layer, and claimed that a tumor never had its origin from mature tissue, but always developed from the matrix of embryonic tissue. This essential tumor-matrix he traced back to its embryological source. He believed that during the process of cell differentiation in the embryo, groups of cells not utilized in the growth of the embryo, or displaced, were arrested in their further development, and remained in a latent condition until the activity was awakened later, when the product of their proliferation resulted in the formation of a tumor."

We certainly admit that tumors are developed from embryonic material; but that there are "groups of cells not utilized" and that they are "arrested in their further development"—would not this indicate some defect in our organization; and "that the product of their proliferation should result in the formation of a tumor?"—would not this argue some most serious mismanagement?

The human body was made in perfect wisdom. There were no defects, no arrested development, no tissues remaining in a latent condition, certainly no arrangement beforehand for the formation of abnormal growths or fibroid tumors. All tumor formations come from some changing pathological state, and can only be formed by the tissues being diseased and thereby reduced to a medullary condition.

Professor Senn says that "Cohnheim's theory found many supporters, but at the present time only a few authors uphold it in its entirety. As we shall see farther on, it has much to recommend it, but it does not satisfactorily explain the origin of all tumors." Yet Dr. Senn declares: "In the absence of better proof of the origin of tumors, the writer will adhere to the doctrine advanced by Cohnheim, and in addition to it will claim that *the essential tumor-matrix may be composed of embryonic cells, the offspring of mature cells, which for some reason have failed to undergo transformation into tissue of a higher type, and which may remain in a latent, immature state for an indefinite period of time, to become,* under the influence of either hereditary or acquired existing causes, the essential starting point of a tumor."

So this great surgeon and pathologist, in a measure, adopts these uncertain and contradictory views. That there are embryonic cells, that remain in a latent immature state, and then become the essential starting point of a tumor.

If this principle is true, who can tell what special embryonic cells may fail to undergo transformation into tissue of a higher type? For instance, the group of cells that are to form the eye, the ear, or any other organ, why may not these fail, remain in a latent, immature state for an indefinite period to become themselves the essential starting point of a tumor? And thus, in this sad uncertainty we might have a tumor instead of an eye or an ear or some other organ. Have we any security that any group of cells may not fail to undergo transformation into tissue of a higher grade, and remain in a latent, immature state till they become the essential starting-point in the formation of a tumor, which is thus formed, instead of the normal structure. If such principles rule, what may we not expect, and where will be the end of chance and change?

Again, if fibroid tumors are the offspring of "mature cells," why may we not call them normal structures? This certainly must be the conclusion. But again comes the question, how can mature cells—

we understand what they are—unless they are rminal material or protoplasm, produce other owths? One tissue cannot produce another. Then ere are in the human system "mature cells that il to undergo transformation into tissues of a gher type?" This would surely indicate some fect in our organization? How can we suppose at any structure or group of cells fails to undergo rmal transformation, and that it remains in a tent, immature state for an indefinite period and en becomes the essential starting-point of a tumor?

Professor Senn well says (page 19): "So long as ir ideas in reference to the origin and nature of mors rest exclusively on a theoretical basis, it is ident that no satisfactory definition can be given. he definition of each author must necessarily vary cording to his views on the subject. A few definitions will be given to corroborate the correctness this statement. John Hunter thus defines a mor: 'A tumor is a circumscribed substance pro- iced by disease, and different in its nature and nsistence from the surrounding parts.' Bär re- rds the characteristic feature of a tumor as 'an tive multiplication of cells, which takes place dependently of inflammatory processes.' The ocess which leads to the formation he 'calls a mon- rosity in the development of cells.' Lücke: 'An crease of volume by the production of new tissue, ithout a corresponding physiologic function.' rom these definitions, says Professor Senn, it be- mes apparent how difficult it is to give even an proximately correct definition of tumor."

Among the definitions quoted above by Professor nn, that of Dr. John Hunter is the most correct d the nearest to truth, reason, and the highest achings of physiological principles. Bär's definion would strike one as an impossibility. Dr. Senn ys (page 720): "One of the greatest difficulties in e way of a proper appreciation of what is meant by tumor is a failure on the part of authors and achers to draw a dividing line between tumors and lammatory swellings."

On page 20 Dr. Senn declares: "*A tumor is a calized increase of tissue, the product of tissue- oliferation of embryonic cells of congenital or p st- ital origin, produced independently of microbic uses.*"

On page 656 the author says: "All true tumors e composed of new tissue produced from matrices embryonic cells. All inflammatory swellings are mposed of or are derived from pre-existing tissue." n page 26 he emphasizes, "*We regard the matrix of nbryonic cells as the essential cause of tumor forma- n, without which all intrinsic or external exciting uses are inadequate to produce a tumor.*" On page 4. "A myoma is a tumor composed of muscle ssue produced from a matrix of myoblasts."

I hold that both tumors and inflammatory swell- gs are derived from pre-existing tissues; and I have own that a fibroid tumor of the uterus, or a myo- broma, is a new growth, resulting from the tissues the uterus being, by some infection or microbic use, reduced to inflammatory or medullary tissue.

Cohnheim,[10] in his work "Lectures on General athology, 1889," seems to consider it necessary, as ustrative or explanatory of his principles, to give rst: "*Laws regulating the growth of the genitals, and particular of the gravid uterus;*" "*Monatra par cessum.*" He then gives "*Etiology of Tumors;*" *Refutation of the traumatic and infective theories of usation,*" "*Relation of the congenital rudiment to e development and growth of the tumors, etc.*"

This distinguished author startles us with many nexpected theories. He says, page 747: "For only consequence of organization—that is, of the original disposition of the germ—does the growth of the genitals during childhood simply keep pace with or even lag behind that of the remainder of the body, and then suddenly become greatly accelerated and increased. Here," says he, "you have a growth determined by the disposition of the germ, and yet one which is beyond doubt *abnormal*, and only escapes being pathological for the reason that the growth of the child is, according to the type of our organization, normal but for a definite period."

Are we justified on technical or scientific grounds, in pronouncing any function of the body or the time of its appearance abnormal? Infinite Wisdom has made the human body and there are no imperfections. To each organ is given certain times and periods for action. A specified time the brain can act, so of sight, hearing, digestion, or any function. They must all have their periods of rest. These functions have been going on for centuries, and always by fixed rules, and without the least flaw, except from pathological conditions.

Cohnheim continues: "But the history of the genitals offers a still more striking example of abnormal growth, depending on inherent disposition in the *enlargement of the uterus during pregnancy.*"

This also abnormal? This most important and frequent function of one-half of the human race? If abnormal, would there not be continued departures, irregularities, and unexpected variations, and even, at times, grotesque presentations? Instead of that, there is not a departure from the exact standard except from acquired disease, or some recognized pathological condition. It is always the same, the same remarkable powers of development, the same functions, and the times of their performance. Six thousand years ago, we are told, "Her days to be delivered were fulfilled."[11] This was a fixed period, and in all the nations of the earth it is the same to this day. No uncertainties or irregularities.

The author says: "The pregnant uterus, whose office is anything rather than contraction, nevertheless acquires, in a comparatively short time, dimensions many times greater than the original."

The uterus is a powerful muscular organization, and in every respect this organ shows a wonderful adaptability to its offices of contraction. It is equally adapted to its other functions, which are equally normal, namely, of carrying, nourishing, and supporting for nine months the young fœtus, the growing human being. How, we do not know; but we do know that these functions are not pathological.

Cohnheim gives us to understand that this abnormality as to the enlargement of the uterus depends on "the original disposition of the germ, which is, at any rate, exceptional, and which we term normal merely because it is established in the type of our organization."

Who fixes the standard of what is normal, and decides the abnormality? Pregnancy is one of the functions of the human body, and long years ago its conditions and processes were arranged and established by Infinite Wisdom, and there is nothing abnormal, nor are there any defects. No one organ in the body is more frequently mentioned in sacred writ than is the womb, and not once is there an intimation of any abnormality or any uncertainty in its processes. Nor do I believe we can find any abnormality in its structure or functions except from disease. We do not begin to understand all its processes, or physiological changes, or powers, or functions. In the sacred volume we read: "Thou art He who took me out of the womb."[12] So Infinite Wisdom has fixed the plans and established the processes. "Thou knowest not how the bones do grow in the womb of her that is with child. Even so, thou knowest not the works of God who maketh all."[13] All is beyond our comprehension. Yet here comes one in the latter part of the nineteenth century of the Christian era and tells us that all these wonderful arrangements are abnormal!

On page 752 the author says: "I have not now in mind the clinical significance of the word tumor, which, as you know, is applied to every possible increase of volume recognizable by the sight or touch. In this sense the gravid uterus is a tumor." Cohnheim also asserts (page 749): "By morbid embryology the entire class of *monstra par excessum* is explained by supposing abnormality of the embryonic germinal material."

Have we any right to suppose "abnormality" of the germinal material? The author adds: "That these are really examples of abnormal growth depending on the original disposition of the germ, will at any rate not be disputed."

Who can prove that abnormal growths depend upon "the original disposition of the germ"? If so, we are to understand that these germs were arranged from the beginning to produce abnormal growths? A sad, sad conclusion. I doubt the whole theory. I do not believe there is any irregularity, or anything abnormal, in the germinal material. Cohnheim himself says, on page 749: "We know too little of the details of growth of the different tissues to enable us to state in what consists the abnormality of the germinal matter in these cases." Yet this author says (page 750): "I think you will not doubt for a moment that the abnormal growth is here caused solely by irregularity in the germinal material." The author adds: "Nor can I imagine any more plausible explanation for all the forms of duplicity."

Should scientists present what they "imagine" as proof of a theory, or as an illustration, or even as a "plausible explanation?"

Cohnheim assures us on page 750: "There is nothing mystical in the view that the disposition of the germ is one of the causes of excessive growth; that it is so both of the physiological growth of the genitals at puberty and of the uterus during pregnancy, as well as in the pathological development of the *monstra par excessum*, and it must be made to embrace a much more extensive and therefore important domain, that of true *tumors*."

So tumors not only come from the original disposition of the germ, but, from the beginning, arrangements were made for these growths!

I would say that the whole of the "extensive and important domain of true tumors," and all "irregularities," as *monstra par excessum*, etc., *come solely from pathological conditions in the individual, or in his or her ancestors.*

In regard to tumors, Cohnheim says: "We here enter a field which from the earliest times has been the arena of multifarious speculations," and he even declares, on page 752, that "to attempt a general description of a tumor would be a foolish undertaking"; and that, "among the supposed or direct causes, none play a more important rôle than the so-called local irritants or traumata." "But," says Cohnheim, "How little support the assumption of such a connection receives. Investigation directed expressly to this point failed in almost 86 per cent. to establish the previous occurrence of any kind of trauma"; adding, "how extremely frequent are contusions and other injuries of the shin-bone, and how very rare the special tumor formation. How fearfully common would mammary tumors be if it were true that traumata led easily to tumor formation."

That traumata cause the formation of tumors is Virchow's theory, but Cohnheim asserts that "we know of cogent reasons for rejecting the notion of casual connection between injury and true tumor;" and that, "in support of the statement that any kind of cells increase or commence to proliferate as a direct result of an external traumatic impulse, there exists no shadow of truth, so far at least as the normal human organism is concerned;" and "he would infer therefrom that an inflammation which usually leads simply to the formation of connective tissue may suddenly, on some occasion, result in the production of muscle fibers, etc., deprives himself at starting of every chance of understanding the inner relationship of pathological processes."

The learned author here admits that "inflammation leads to the formation of connective tissue." This is a great fact, and everywhere acknowledged. *In the same way, and on the same principle, from inflammation, muscle fibers may be evolved.* Thus we have the formation myofibroma of the uterus, as the result of inflammation or disease of the organ.[13] There is first infection, then inflammation, which reduces the tissues to a medullary condition, and from this medullary tissue is formed the myofibroma. This is the principle; this is nature's law In the same manner, when tissues are reduced to inflammatory or a medullary condition, carcinoma may be developed. This I proved in 1892, and again stated the fact in a short address before the New York State Medical Society in Albany, January, 1901.[14]

From medullary tissue may grow or be developed any abnormal growth. No one can set bounds as to the action of life elements; but all these secondary formations are pathological structures.

The above facts that I have mentioned give us a clear explanation of the origin of fibromyoma and of other abnormal growths.

Cohnheim's theory involves us in many mysteries Cohnheim declares: "The simplest view appears to me undoubtedly to be, that in the early stage o embryonic development more cells are produced than are required for the building up of the part concerned, so that there remains unappropriated a quantity of cells, which, owing to their embryonic character, are endowed with marked capacity for proliferation." Then he says: "The only point on which I lay any stress is that the real cause of the subsequent tumor is to be sought in a fault or irregularity of the embryonic rudiment." Adding (page 760): "If you ask me wherein the abnormality of the disposition of the embryo that becomes the starting-point and cause of a tumor consists, I can only answer with hypothesis; convincing positive evidence cannot, in the nature of the case, be produced." So there is no positive or certain evidence! Cohnheim says: "We assume, in accordance with the view formulated by us, the existence of the excessive cells, out of which excess a tumo ultimately develops."

Is it proof of a point to say, "We assume, in accordance *with the view formulated by us?*" Can that be considered a proof of a statement? The author says, further (page 764): "The new-born infant brings with it into the world, not the tumor, but the superabundant cell material out of which if circumstances be favorable a tumor may grow later on."

Then, the arrangements for these tumors are no only made before birth, but the material is born with us! Hence it follows that these pathologica formations are not the results of disease, but are Divine institutions.

Cohnheim tells us (page 768) "that the existence of these predisposed localities has been regarded by Virchow and others as strong proof that mechanical irritation is of essential importance for the etiology of tumors. Yet, on reflecting, how rarely tumors—and especially cancerous tumors—are met with on the *hands* and *feet*, the parts which more commonly suffer violence, one finds it difficult to accept such a connection."

He continues (page 769): "Everyone knows that a great majority of smooth myomas have their seat in the uterus. Why," said he, "should a form of tumor rare elsewhere develop with such extreme frequency precisely in the uterus?" His reason is, as given on page 770: "The germinal material is present in every uterus, and only awaits a physiological stimulus to actually grow."

As I see it, fibroid growths are diseased structures, and result from diseased conditions; and they are the cause of great suffering, of much ill health, and frequently of death. But from the above theories we are rather given to understand that they are *Divine gifts*—that the Infinitely Wise One, at the great Creation, after saying, "Let there be lights in the firmaments of the heaven," may have added, "and let there be placed in the womb of women germinal material to develop into tumors; and then all things can be pronounced very good."

The author speaks of these tumors being incapable of doing any work, and of their immense detrimental effects; yet we are given to understand that before birth arrangements were made for their existence—for the existence of these abnormal growths, and diseased structures!

I assert that the reason why the uterus is so frequently the seat of these growths or tumors is not because any germinal material may be there, but because the uterus, most unfortunately, is the frequent seat of infection; and why the tumor that is developed is most frequently a myofibroma is because the wall of the uterus, from which the tumor is evolved, is composed of muscle fibers and connective tissue; and the reason why these tumors do not develop until after puberty is because septic conditions are not so apt to occur till that period.

When we see how frequently sepsis is produced from various causes we may conclude that the number of fibroid growths will go on increasing—growths capable of producing the most fearful consequences—and may produce the most intense suffering. Fibroid tumors are the results of disease; they are always accompanied by inflammation, which inflammation results from some infection, which infection more or less pervades and affects the whole organ. This proves that *fibroid tumors, like every other disease or ailment, result directly or indirectly from violations of the laws of health.*

Cohnheim, on page 761, admits that, "owing to our imperfect knowledge of the details of the process of growth, we are unfortunately still compelled to have recourse to guesses;" adding, "I put no value on the formulation itself, but am ready at any moment to exchange for a better."

Probably, if this great and learned scholar were now here, he would be willing to exchange his complex and impossible theories for the clear and simple ones of truth which appeal at once to reason, and which are according to Nature's recognized processes and the great laws of our being. He would, too, see the beauty and simplicity of the theory, and would recognize the inextricable difficulties and contradictions connected with his impossible suppositions.

This great pathologist was many times trembling on the verge of light. The germs of truth pressed forward, but somehow he pushed them back. For instance, he says, on page 766: "It is possible that the constant wearing of heavy earrings by an individual predisposed to cutaneous fibroma may lead to the appearance of true fibromas in the lobe of the ear." If he had only looked a little more he might have seen the explanation—that the earrings may produce some irritation or break in the fine tissues, infection gets in, and inflammation results; and from the primal elements come the fibroid growths.

Professors Delafield and Prudden, in their excellent work, "*Handbook of Pathological Anatomy and Histology*, 1901," on page 262, say: "The reason why we cannot more accurately characterize tumors in distinction from other new tissue formations, is chiefly because we do not yet know what are their immediate excitants." On page 263, "Tumors are composed of the same types of tissue as those normally existing in the body, and from the latter they are derived by a proliferation of pre-existing cells." On page 267 the authors say: "The etiology of tumors is one of the most complex and in many ways difficult subjects in general pathology;" adding "it is rather a matter of surprise that ever-changing, self-regenerating, living tissue does not oftener go astray in its activities than that it should only now and then do so."

"In regard to the causation of tumors," the authors say, in the edition of 1898," our actual knowledge is still very meagre. In a certain number of cases mechanical influences are undoubtedly sufficient inciting causes. In other instances heredity is an important factor. But to both of these influences too much importance has been attributed in former times."

On page 269, last edition, they say: "Cohnheim has framed an hypothesis to the effect that all true tumors are due to faulty embryonic development. In accordance with this hypothesis, cells which in the course of development of the body may be displaced or become superfluous, or do not undergo the usual changes, may remain for long periods unaltered, but liable in later life, from whatever reason, to commence growing with all the potencies of lowly-organized cells in the midst of the mature tissues. . . . Cohnheim's hypothesis still lacks a morphological basis, since no one has seen the postulated, strayed, or dormant embryonic cells. This hypothesis is not, in any event, of universal application. . . . While the hypothesis of the embryonal origin of tumors is quite fascinating, and for certain forms quite satisfactory, we may well demand a more definite basis of fact before accepting it as of universal application."

Henry T. Green (Charing Cross Hospital), in his book, "*Pathology and Morbid Anatomy*"[15] says: "It is impossible to give an accurate definition of the meaning of a tumor, because its real nature is not understood. It is generally described as a formation of new tissue which is abnormal to the part, which performs no physiological function, which tends to continuous growth, and is more or less independent of the general nutrition of the body, and which has not arisen from the causes or in the course of inflammation."

"That tumors are formations of new tissue, necessitates the rejection of all swellings due solely to retention of secretions (retention cysts), or to extravasation of blood (hæmatomata)."

The author makes the assertion (page 192): "*A tumor is an atypical new formation, not the result of inflammation.*" "The histological processes which give rise to the formation are doubtful in the extreme. It is uncertain whether a tumor grows from a portion of the mature tissues or from a kind of 'resting-spore' of embryonic tissue, as suggested by Cohnheim."

On page 204, edition of 1898, Professor Green says: "Against Cohnheim's view it may be said that nothing is really known of such embryonic remains."

In the edition of 1900, page 88, Green says: "Several objections may be raised to Cohnheim's theory. The 'rests' or isolated cell growths, upon which it is based, are not actually found with any frequency within the body. . . . No transition stages are found between the masses of cells and actual tumors."

Professor Green says of the "theory of chronic irritation," page 89, edition of 1900): "The frequency with which instances of chronic irritation occur, and the relative rarity of the appearance of tumors in connection with them, render it certain that irritation alone is not sufficient to cause tumor formation."

Of the "etiology of tumors" (page 201, edition 1898), Professor Green declares "little is really known on this point;" adding, "in our present state of ignorance, no satisfactory classification of tumors is possible."

Professr Ziegler of the University of Freiburg gives, in his work, "*General Pathology*, 1899" (page 298), the following definition: "A neoplasm or spontaneous new growth—or tumor, in the narrower sense—is a new formation of tissue, not produced by infection, which has an atypical structure, serves no useful purpose in the organism, and to whose growth there is no definite characteristic termination." He says: "Tumors arise from a proliferation of the fixed cells of the part, and with the process is associated the formation of new blood vessels."

Can the fixed cells of any portion of the body proliferate any structure or form new blood vessels? As I read Nature's book, there is only one way, by the special-tissue being reduced to medullary or embryonal material.

Professor Ziegler further states (page 301): "The exact determination of what should be included under the term of tumor is scarcely a possible thing, and consequently the word is used by different authors differently;" adding, "that the etiology of tumors is by no means uniform, and often cannot be determined with certainty. That the etiology of tumors is not always the same, is shown by the variety of conditions under which they arise. It is hard to say what is the nature of the influence which causes the cells to produce an *atypical* form of tissue."

Of Cohnheim's theory Prof. Ziegler says: "This view receives no support either from the results of clinical observation or from those of anatomical investigation of the tissues."

Walter S. Lazarus-Barlow, demonstrator of pathology in the University of Cambridge, says: in his "Manual of General Pathology, 1898": "Though it is impossible to frame a definition of the new growths which shall be above criticism, a definition of some kind is convenient. We shall adopt that of Ziegler.

The author then presents, on page 555, six distinct hypothesis to explain the pathogenesis of new growths:

First. The theory of spermatic influence. By this theory it was assumed that the normal tissue of the part in which a growth occurs has become directly converted into the tissue of the tumor.

Second. The theory of traumatic causation. To this Virchow gives the greatest measure of his support.

Third. The theory of embryonic remnants (Cohnheim).

Fourth. The parasitic of infective theory.

Fifth. The theory of anaplasia (Hansemann).

Sixth. The theory of growth-liberation (Ribbert).

The author says of Cohnheim's theory: "There is no more fascinating chapter in Cohnheim's 'Lectures on General Pathology' than that in which he unfolds his doctrine of embryonic remnants for the explanation of new growths."

Alfred Stengel, University of Pennsylvania ("A Text-book of Pathology, 1899"), says: "Cohnheim's theory is not by any means universally applicable."

Cornil and Ranvier, in their "Manual of Pathological Histology, 1880," page 697, say: "Lesions of the uterine wall mostly consist in a new formation of smooth muscular and fibrous tissue, which occasions either a general or a local hypertrophy of the wall. A local hypertrophy, when sharply limited, may be regarded as a myoma."

The authors state that West regards the formation of myomata as a result of activity of the uterus while the organ is deprived of its physiological function, which is gestation—for example, when married women do not have children. "Yet," say the authors Cornil and Ranvier, "local and general hyperæmia of the uterus are also seen in women who do not have children."

Dr. B. W. R. Williams ("Uterine Tumors, Their Pathology and Treatment, 1901") says (page 49): "The outcome of recent researches as to the genesis of these tumors indicates that in a large proportion of cases they are intimately associated with developmental irregularities; and conditions of this kind are probably the chief morphological factors in their development. The author further states: "When Cohnheim first announced his theory of the origin of tumors from sequestrated fragments of the generating tissues, very few facts could be adduced in support of it. No one then believed in the possibility of such an amount of developmental irregularity as it presupposed. The light of modern science has, however, effectually dissipated this misconception, and our eyes have been opened to the hidden defects of normality. Sequestrated fragments of the various tissues and organs have now been found to exist in every part of the body that has been especially examined for them."

This last paragraph the author not only gives in his book, but presents in the *British Gynæcological Journal* (May, 1901, page 50): Still we are not quite ready to admit that there are "developmental irregularities" in the system, or that there are "hidden defects of normality." He repeats that "the origin of these tumors is more closely associated with embryology than with bacteriology;" adding, "if the foregoing views as to the origin of myomata be correct, it follows that local irritation and chronic inflammation play but a secondary part in their causation; and the altered condition of the endometrium that accompanies uterine myomata is a consequence rather than a cause of disease."

From what I have studied, I cannot see but it is disease of the endometrium, and of other tissues of the wall of the uterus, that causes the formation of the tumor.

Dr. Williams calls attention, on page 51, to the frequency with which "myoma are complicated with ovarian cystomata." It is the same infection that causes disease of the ovaries and the tubes, that causes the formation of fibroid tumors. So far as I have examined, *in every case where there was a fibroma of the uterus, the tubes and the ovaries were found to be diseased.*

The author still further emphasizes this idea by quoting, on page 52, the names of several surgeons who have found "multiple uterine myoma associated with cystic disease of the ovary;" and saying, on page 104, under "Complications of Myoma:" "The ovaries are always more or less diseased. They are congested and enlarged, the blood vessels are thickened, and small cysts are frequent."

This is all very true; but, so far as I know, I was the first one who called attention to this important fact. I said in the *New York Medical Journal*, August 25, 1888, page 202: "There must be some connection in the way of cause and effect, between diseases of the uterine appendages and a fibroid tumor or a uterine myoma; and that when there was a fibroid tumor of the uterus, the tubes and ovaries were always found diseased."

In the same article I made a yet more important announcement. "In removing the uterine appendages or diseased conditions I have frequently been surprised to find in every instance the uterus enlarged more or less, either from hyperplasia, or an incipient fibroid growth, more likely the latter condition—they are similar in nature—and the removal of the diseased appendages not only prevented the evil which their diseased condition would do to health, constitution and general system, but also the injury they would do to the uterus itself, in changing its structure or developing fibroid growths."

The last paragraph I had scarcely noticed or read since the article was published, but now, since studying the subject for a dozen years, I marvel at the clear intuitions therein contained. It was almost an inspiration. It really gives an intimation of the origin of fibroid tumors. I could not then see it.

But before this I had said, in the MEDICAL RECORD, August 25, 1886, when removing the uterine appendages for fibroma of the uterus, "It seems almost a question whether we were operating for cystic ovaries or for a fibroma."

As to diseased blood vessels, which Dr. Williams also emphasizes, if he will look in the *American Journal of Obstetrics*, February, 1888, pages 164–6–7, he will see where I speak of diseased blood vessels. So far as I know, I was the first one who called attention to the various diseased states of the blood vessels in diseased ovaries. I repeatedly spoke of "endarteritis obliterans," and how the closed blood vessels were often reduced to waxy and colloid masses.

Dr. Williams, as if sustaining his first theory, further remarks: "The frequency with which uterine myomata are multiple might of itself lead us to suspect the association of developmental irregularity with the origin of these tumors."

When disease is extensive there may be a number of tumors produced. When there is one tumor in the uterus we shall invariably find the beginning formation of others. As in the case I mentioned in "Annals of Gynæcology," April, 1901, when the uterus was first removed it weighed not quite one pound (15 oz. 5 drams), and from the outside were projecting eight growing fibroids. When subsequently, in further studying this uterus, I made sections of the same, I found in the stroma or in the walls a number of groups of growing fibroids. (MEDICAL RECORD, September 14, 1901, page 402.)

Whatever may be the seeming difficulties, or however varying the different views presented, I believe there can be a clear exposition of the causes and the origin of fibroid tumors without resorting to Cohnheim's theory.

On some points Dr. Williams seems to go further than Cohnheim. He says: "Lacerations of the cervix are of embryological origin," and that there are indications or intimations of defect in the first formation.

In the best developed uterus there may be a laceration of the cervix. The cause of lacerations is that the cervix is the seat of an inflammation, and after inflammation the muscle tissue changes to fibrous connective tissue, and during parturition fibrous connective tissue cannot dilate or expand, as muscle fibers do, so there is a rupture, "a laceration of the cervix."

Dr. Williams says, page 126: "I think there can be no doubt that the suppression of maternity and diminution of natural fertility are among the most important factors in the genesis of these tumors."

The same sepsis that causes the growth of the tumors destroys more or less and in time will destroy the entire capability of conception.

Dr. Williams says: "Myomata increase in size just before and during menstruation, and decrease afterward."

How can menstruation change the size of these solid tumors?

Dr. Williams further states: "There are good reasons for believing that the liability to myomata increases with advancing years."

Myomata develops only when there is disease, no matter what the age may be.

Page 123: "The menstrual history of myomatous patients shows that, prior to the onset of the disease, they have almost invariably enjoyed excellent health in this respect, being, in fact, far freer from irregularity and pain and other catamenial derangements than the majority of women."

In every case of a fibroid tumor of the uterus that I have ever studied I have found that the patient had for a long time suffered from various causes of ill health, or from abnormal conditions. This would seem natural, for there must be considerable disease before a fibroid tumor can grow or be developed.

On page 137 Williams remarks: "An enormous amount of literature has lately been published on the surgical treatment of myomatous tumors; but it appears to me that hardly any of those who have written on the subject have grasped the fundamental factors essential for arriving at a proper conclusion. Hence large numbers of women have been mutilated to no purpose, and many valuable lives have been unnecessarily sacrificed."

Here again, I think, Dr. Williams is greatly mistaken. The work of surgeons is everywhere most excellent. They do not proceed without due consideration; they do their work thoughtfully and carefully, and save many lives. I am glad to quote here from the brilliant address of Dr. W. D. Haggard at the first meeting of the Southern Surgical and Gynæcological Society. He says of the medical profession: "A body of men whose lives are devoted to mitigating human suffering and preserving human life—a profession glowing with benignant aims and illustrated by heroic self-sacrifice."[15]

Dr. Williams says his above remarks especially apply to those who have advocated and practised extirpation of the uterus for small myomata.

The smallest myomatous tumor I ever saw removed weighed, as above stated, less than one pound; but it was the greatest blessing to the patient that the tumor was removed as early as it was. Its early removal saved her a sad history of suffering. The operation was performed by one of the most eminent surgeons in New York City. I see occasion only to commend again and again the work of various surgeons. I only see cause for questioning imaginary theories and suppositions.

The smallest fibromyoma I ever removed weighed six pounds, and most assuredly it would have been infinitely better for the patient had it been removed a half dozen years sooner. The next smallest fibromyoma I ever removed weighed from seven to nine pounds, and if it had been removed a dozen years before, it would have saved the patient years of suffering. The largest myofibroma that I ever removed weighed about seventeen pounds, and it would have saved the patient years of misery and of suffering and immense possible dangers if it had been removed when it weighed one pound.

Joseph Price of Philadelphia says: "The safety is in early operating." Lawson Tate wrote me in 1886: "The whole gist of modern abdominal surgery lies in earnest and continuous plea for early interference. An excellent work lately published in London by Stanmore Bishop on "Tumors," says (page 313): "The only certain remedy is by surgical interference; that delay in resorting to this unnecessarily imports into the case its most dangerous complications." The author further remarks: "So much has been said in the past as to the responsibility under which any one labors who advises resort to such operations as that of hysterectomy that there is danger that we may forget the far greater responsibility which rests upon those who counsel delay until an operation, which earlier might have been a simple and safe affair, has become in consequence of their advice a most dangerous proceeding."

I now come to quote one who was my teacher, in whose laboratory I worked for many years—Dr. Charles Heitzman, a great pathologist and a profoundly learned man. By none of the authors referred to above have I seen a quotation from or the least reference to his writings, or his large work on "Microscopical Morphology of the Animal Body, 1883." In fact, I myself had never read a half dozen pages in his book and never read his chapter on "tumors" till after May 2, 1901. On page 468 Dr. Heitzman says: "Tumors are morbid outgrowths of living tissues. An exact definition is impossible, and Virchow himself has said: 'If we were to torture a person to the last degree of endurance, he would still be unable to tell what tumors are.' "

Dr. Heitzman further states: "We shall confine the idea of tumors to these formations only which by pathologists are termed 'neoplasma' or 'pseudoplasma," which originate without marked inflammatory symptoms and terminate without a typical end; while the inflammatory process is completed by the production of a cicatrix."

In this paragraph the author affirms "that these neoplasm as fibroid tumors originate without marked inflammatory symptoms." Here he at once and beforehand disclaims the idea that I am attempting to prove, and which I think is the fundamental fact. *I hold that fibroid tumors result and are developed only from tissues which by inflammatory action have been reduced to medullary material.* They can result in no other way. They are from medullary tissue which is the outcome of infection and inflammation.

Dr. C. Heitzman adds: "The best definition is undoubtedly that of A. Lucke, who says a tumor is a growth produced by new formation of tissue without a physiological termination."

On page 469 Dr. Heitzman makes the statement: "All tumors originate from indifferent or medullary elements, in nearly the same manner as that by which physiological tissues are produced."

Physiological tissues are not produced as the results of inflammation; they come or are developed by the life forces from the life material of the system; while fibroid tumors of the uterus, which are pathological products, originate from tissues which by some infection or microbic influence have been reduced to inflammation or to a medullary condition; and from this medullary or embryonal material is evolved the tumor or abnormal growth.

Dr. C. Heitzman says: "The reason why a tissue sometimes produces a tumor is not understood."

I say positively, the reason why a tissue produces a tumor is from some infection, in consequence of which the tissues are reduced to an inflammation, and from this inflammatory material the tumor is developed.

Dr. Heitzman says: "In some instances it appears to be due to long-continued irritation or to an injury; but in many instances no such cause can be traced."

Cohnheim asserted this in 1880, and many have since repeated it. I believe the reason why a tissue produces a fibroid tumor is that the tissues, from a previously inflamed condition, are reduced to medullary tissue or protoplasm; and from tissues so reduced any new growth may be developed.

Here the learned author of "Microscopical Morphology" does not give an intimation that a fibromyoma of the uterus comes from a diseased condition of the organ, that the tissues of the uterus are first necessarily in a diseased condition. When I removed a large myofibroma—the first total hysterectomy for fibroid ever done in this country—I studied the tubes and ovaries which were most profoundly diseased, in Dr. Heitzman's laboratory. The master of the laboratory never once remarked or intimated that the fibroid tumor came from a diseased condition of the uterus. Nothing was ever mentioned about the uterus being diseased, nor an intimation of it, nor did I hear him in any way give or refer to such a thought; nor have I ever heard it expressed by anyone till I stated it before the New York State Medical Society in Albany, January, 1901.[18] This great truth was forced on me by what I saw under the microscope."

Dr. C. Heitzman, apparently referring again to Cohnheim (page 482): "But in many instances no such cause can be traced; neither are we able to explain why the reaction following the irritation is in some individuals an acute or chronic inflammation only, and in others the production of a tumor in addition."

If the inflammation or infection is enough to reduce the tissues to their primal elements, it is in a condition to produce fibroid tumors or any abnormal growth. There will certainly result some changes of tissue. It may be only fibrous connective tissue will be formed. I hold that the only reason why a tissue sometimes produces a tumor is because the tissue is reduced to a medullary substance, and these life elements may develop into any formation, new growth, or tumor.

As I have repeatedly said and proved, a tumor can be developed only where there is an inflammation; and the tumor is the outgrowth of this inflammatory material that by inflammation has been reduced to an embryonal or medullary condition.

Dr. Charles Heitzman says in his work: "It is easy to explain the cause and formation of a tumor by the terms general diathesis, or general local disposition, but is there anything satisfactory in such an assumption? Is it not more correct to honorably admit that we do not know the real etiology of the tumor?"

Thus this great pathologist admits he does not know the real etiology of tumors. One of Dr. Heitzman's pupils who studied a long time in his laboratory has lately given me Dr. Chas. Heitzman's express views as to the origin of fibroid tumors. The following is the exact copy as written by the pupil of Dr. Chas. Heitzman, and as he repeated it in an article of his, published in a German medical journal:

"The origin of the myoma has to be looked for in the small arteries—a small vessel with thickened walls, especially in the muscular elements, with a decided thickening of the media, so much so that the lumen of the vessel is harder to be recognized from the starting point to myoma. Gradually a welding of the parts occurs, a small particle forms itself around this muscular knob, connective tissue is located with capillaries and small arteries, the latter undergoing the same metamorphoses; later new knobs are formed thereby, and lay themselves continually to the original knob. In one word, it is proliferation of the small uterine arteries, and next hypertrophy of the uterus, that forms the myoma." Is not this Kleb's theory?

I have in this article tried to present the views and theories of different eminent surgeons and pathologists as to the origin and formation of fibroid tumors of the uterus. It is a beautiful study, and demands our careful thought and consideration.

I have also ventured to present a theory. Studying the tissues of a number of cases of myomatous uteri, I found each one profoundly diseased; but these were all from my own patients. Naturally, I wanted to see the cases of some other physicians, and what would be the testimony of other uteri; but in no laboratory could I find prepared specimens of the tissues of the human uterus in proximity with fibroid growths. The great question with all seemed to be "the tumor"—not a word said of the condition of the tissues around the tumor, or of the condition of the uterus that contained the tumor. Even when attempting to speak of it to one or two eminent and learned pathologists, they did not seem to realize the point, but went on amplifying in regard to the tumors, the myofibroma, etc. Books have been written on tumors, telling their nature, form, growth, numbers, degenerations, etc., but nothing, so far as I have seen, said of the pathological conditions of the immediate or surrounding tissues, and not the least reference to the condition of the uterus where the tumors grew and were developed. This seemed to me the question of supreme importance. As I could find nothing on the subject, I commenced from the beginning, got various specimens, prepared and mounted them.[19] It has taken months to go over the whole ground; and while I have seen repeatedly new proofs, every specimen of the tissues of a myomatous uterus which I examined showed clearly long-existing disease, and indications that this disease may have caused the development and growth of the tumors. Yet, after seeing all these most impressive and marked demonstrations, I confess that I am not now more convinced of this great truth, the origin of fibroid tumors, than I was last October. I believed it then; I believe it now. I believe that this theory is in accordance with Nature's simple and beautiful laws, and that it will be still more confirmed by further investigation. I can only present the theory, with the proofs, for approval or condemnation. I shall be glad of more light.

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19. Most of the specimens I secured through the kindness of Professor W. M. Polk and Professor James Ewing from the laboratory of Cornell University and the Loomis Memorial Laboratory. I had also the privilege of examining specimens in Professor Gill Wylie's private laboratory.

SOME PRACTICAL PROBLEMS IN SOCIOLOGY SHOWN BY A STUDY OF THE SOUTHERN NEGRO.*

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ACCORDING to the census of 1900, the total population of the United States is something over seventy-six millions. Of this number there are 8,840,789 persons of negro descent, over 90 per cent. of whom are residents of the Southern States. To come closer home, there are in Georgia 1,034,813 negroes out of a total population of about two and one-quarter millions. These figures show the important rôle which the negro must necessarily play in our social system, especially here in the South, and to what extent society at large may be influenced by the degree of his development. That the writers and students of sociology throughout the country have been awake to the importance of this subject is shown by the amount of literature which has appeared within the last decade treating of the "negro question." Much of this literature, however, either has had a political aspect or has dealt with the social status of the negro race as compared with the white race. I do not propose to touch upon either of these subjects. It is the object of this paper to present for your consideration certain conditions existing in the Southern negro which have a profound influence upon their development as a race, and thus upon society at large. These conditions are well known to the medical profession, but the laity should, I think, have a better knowledge of them.

First, I will call your attention to the prevalence of venereal diseases. The negro is notoriously lax in his morals. There is in his makeup a large endowment of animal passion, while judgment and the proper consideration of consequences are usually deficient. Having these natural proclivities, let him be placed in an environment where restraint is light and social caste does not depend upon virtue and chastity (and we know that this is the custom among the negroes in many sections) and what is the result? It can only lead to widespread and promiscuous sexual indulgence. Under such circumstances venereal diseases are always prevalent. That venereal diseases do exist to an alarming degree among the negroes in the cities and larger towns, is a fact that can be attested by any physician. It is true also that this condition has developed in comparatively recent years, certainly since the days of slavery.

There are two diseases, viz., gonorrhœa and syphilis, which deserve some special attention. They deserve special consideration because both of these loathsome maladies may be, and are at times, communicated to innocent individuals through the ignorance or carelessness of the person afflicted with them. Let a servant who, in the discharge of his or her duties, is thrown daily in contact with the members of a household, or a nurse who has the care of innocent and defenseless children, be afflicted with either gonorrhœa or syphilis, and there hangs constantly over that family a blight, like the sword of Damocles, ready to fall at any time upon some unsuspecting member. I know of no more distressing sight than to see a pure and guileless child suffering with a loathsome venereal disease. And yet such cases now and again come to the knowledge of the physician. This is a question which must necessarily appeal to us here, in this section of the South, where we have to depend almost entirely upon the negro race for our domestic servants.

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*Read before the Georgia State Sociological Society at the annual meeting in Atlanta June 24-26, 1902.

The sociological influence of gonorrhœa is limited almost entirely to this question of its communication; but it is not so with syphilis. Here we have to deal with a disease which is insidious in its onset, obstinate in its course, persistent in its attacks upon its victim, and whose influence, like the iniquities of which we read in Holy Writ, may be visited upon the children unto the third and fourth generation. Syphilis at the present time is making inroads upon the negroes of the South, and its influence will be far-reaching in its effects upon the race. This is due, primarily, to the fact that the negroes rarely become cured of the disease. As a usual thing they apply for relief from certain disagreeable symptoms, and as soon as this is obtained they give up treatment. Some years since, while serving as interne in a hospital in a Southern city, I had abundant opportunity to note this fact. I remember but one patient who continued treatment for any length of time after the annoying symptoms had disappeared. Thus the negro who is afflicted with syphilis goes about for years, it may be, infecting others and procreating children weakened by inherited disease and unfit to assume their place in society.

Tuberculosis is another disease which has, in recent years, become so prevalent among the negroes as to justify the belief that it may soon be a veritable scourge to the race. The susceptibility of negroes to consumption has apparently undergone a most remarkable change within the last thirty of forty years. During the days of slavery the disease was so seldom found among them that they were considered almost immune to it. In fact, some of the older writers took that stand squarely, and asserted that consumption was unknown in the race. From being thus so rare as to be almost unknown, it has, in a single generation, become so prevalent and so fatal that now more negroes in the South are dying of tuberculosis than of any other disease. While it exists among all classes, it is in the densely-populated quarters of towns and cities, where they live in overcrowded and poorly-ventilated houses, that it is found to be most frequent. In institutions, where large numbers are more or less closely confined, the ravages of this disease are becoming truly alarming. In this connection it may be of interest to state that of the cases coming to autopsy in the negro department of the Géorgia State Sanitarium last year 50 per cent. showed some tuberculous involvement, and from observation and study of the subject for a period of three years, in that institution, I am of the opinion that this percentage may be considered a fair index of the existence of this disease in all our negro patients at the time of death. This high percentage is, of course, not applicable to the race in general, but it is a fact beyond question that tuberculosis exists widespread among the negroes of this section and, at the present time, is on the increase.

From the consideration of this state of affairs, two questions of great importance, from a sociological point of view, present themselves. They are first, what is its influence upon society, and second, what will be the effect upon the race? When we reflect upon the fact that tuberculosis is infectious and, under favorable circumstances, may be communicacated from one individual to another, and that its spread can be checked only by careful attention to personal hygiene, the answer to the first question must be apparent to all. We may safely say that nine-tenths of all the negroes afflicted with consumption are utterly ignorant of its communicability, and also, of the hygienic precautions necessary for its restriction. The influence upon society of a constantly increasing number of individuals, each of whom is a source of infection of one of the most dreaded and fatal diseases known to mankind, must necessarily be baneful.

The effect upon the race of such wholesale infection must also be bad. It has long been recognized in medicine that the descendents of tuberculous parents are below the normal standard in their resistance to disease. As this taint becomes more pronounced in the race. their physical development will suffer. Indeed, such a change has, apparently, already begun. The older writers upon the subject emphasize the fact that prior to 1860 the negro was a splendid specimen physically. The following quotation from a paper on the "Future of the Colored Race in the United States," published some years ago, by Dr. Eugene Corson, is interesting in this connection. He says, "All the information which I have been able to obtain has satisfied me that the race was a healthy one, even healthier in the main than the whites. Since the war things have been reversed; the colored race as a race is not a healthy and robust one; their vitality is in a state of unstable equilibrium, liable from any undue strain to give way." Statistics from institutions, having both white and colored patients, will show that the latter is less able to resist the onslaught of disease Dr. Mitchell, the superintendent of the Mississippi State Insane Hospital, in his last report says: "There is one great difference between the races as regards mortality, and although our treatment, both dietetic and medicinal, is the same our loss from deaths among the colored far exceeds that sustained by the whites." Let us see what the records of the State Sanitarium of Georgia show. From the report for the year ending September 1, 1900, we find that the death rate, based upon the total number under treatment, was 5.8 per cent. in the white department and 11.5 per cent. in the colored department. From the last report, being for the year ending September 1, 1901, we find a death rate among the whites of 6.7 per cent., while in the negro department it reached 17.1 per cent. During present year the ratio up to this time has been even greater, and this. despite the fact that their care and treatment is the same. These are facts not theories. They show that under similar conditions the negro at the present time offers less resistance to disease than does the white man, and, therefore, is a less stable specimen physically. To just what extent syphilis and tuberculosis are responsible for this weakened vitality in the negro it is, of course, impossible to say definitely. I believe, however, that the facts will warrant the assumption that their rôle has been a major one.

Turning from the physical condition of the negro, let us now investigate the mental stability of the race. Statistics, which are always more important and reliable than mere theories and opinions, show us here a most extraordinary state of affairs. They show us that since 1860 the negroes in this section, and the same is true of the South generally, have undergone such a change in their tendency to the development of mental diseases as is shown by no other people in a similarly short period of time in the whole history of mankind. I will take the statistics of our own State, Georgia, a typical Southern State, as they will probably be of more interest to this society than would those of the whole United States.

According to the census of 1860, there were in the State of Georgia forty-four insane negroes. The negro population at that time was 465,698. The ration of insane to the total population was thus 1 to 10,584. In 1870 there were 129 insane negroes in this State out of a total colored population of 545,142, or 1 to 4,225. In 1880 the census shows that there were in the State 411 colored insane out of a total of 725,133, or 1 to 1,764. In 1890, according to the census, there were in Georgia 560 insane negroes out of a population of 858,815, or 1 to 1,533. The census of 1900 gives the negro population of Georgia as 1,034,813. The bulletin giving the insane population has not yet been issued, but we can approximate very closely to what it will be. There were in the State Sanitarium on September 1, 1900, 799 colored patients, and from the number of applications for admission at that time we may safely estimate that there were, at least, 100 more insane in the State. Reckoning on this basis of 900, we find the ratio of insane to the total colored population in 1900 to be 1 to 1,149.

Thus in forty years the total negro population in the State has been a little more than doubled, while the number of insane has increased twenty-fold. No other such rapid and radical change in the mental stability of a race is recorded in history. Can anyone doubt but that the race has been weakened by it! This outburst of insanity becomes still more remarkable when we consider that for generations prior to 1860 the colored people had been free from mental disease. It has developed, therefore, without the slightest hereditary taint. What their condition will be at the end of the next forty years can only be conjectured, but considering the fact that the rising generation will have to contend with a marked hereditary predisposition from which their fathers were free, the outlook in this direction is certainly not encouraging. Even now the brain of the negro does not appear to be able to sustain a mental strain as well as that of a white man. This is shown by the fact, well recognized in asylum practice, that the colored insane tend to pass through the primary insanities and become demented more quickly than do the whites. A word or two upon the comparative brain capacity of the two races may be of interest here. I know of no statistics giving comparative brain weights in the sane, but I have taken for comparison the brains of 100 patients of each race dying insane. The following table gives the average brain weight in these cases, together with the average normal weight:

Average weight of normal brain in human male, 1,403 gms.; female, 1,247 gms.

Average brain weight in 100 white patients dying insane, male, 1,353 gms.; female, 1,197 gms.

Average weight in 100 colored patients dying insane, male, 1,229 gms.; female, 1,092 gms.

The average weight of the brain of the negro is thus seen to fall below that of the white man by something more than 100 gms, or about 3½ oz. It is true that the degree of intelligence is indicated more by the development than by the weight of the brain, but, other things being equal, the average brain weight of a race may be taken as an index of its mental capacity.

From the foregoing we see that within the past few decades there has been a decided tendency toward the lowering of the status of the colored race, both as regards physical condition and mental stability. Let us see if we can correlate these conditions and find what has been the cause of this radical alteration in the racial temperament. We have seen that they were remarkably free from that most important of all predisposing factors in the production of disease, viz., hereditary taint. They have been by nature likewise freed from cares and the harassing burdens of responsibility incident to business and public life. The mixing of the races has by some been offered as a probable factor in the weakening of the colored race. This is untenable, however, for among the insane, where such effect would be most likely to show, we find the full bloods far outnumbering the mulattoes. There is only one influence to which we can attribute their altered condition; that is, environment, which is applicable to both the physical and mental temperament. The sudden removal of those healthy restraints which for generations past had surrounded them during the days of slavery, was followed by the taking up of vicious habits of indulgence. The tendency to flock to the cities and towns, which has been and still is so pronounced with the negroes, has had a deleterious effect upon them. There they readily fall into idle habits, which are the breeders of vice and crime. It is in these overcrowded districts that syphilis and tuberculosis are found in greatest profusion. The laws of health and hygiene, which in the olden days were strictly enforced, are now too often neglected. Unless something can be done either by education or legal enactment to improve this unwholesome and pernicious environment, which to-day surrounds a large element of the negro race in the South, I can only believe that they will go on from bad to worse.

I cannot leave this subject without calling attention to one more danger which is threatening the negro at this time; that is, the drug habit. We are all of us more or less familiar with its bad effect upon the whites, but, believe me, if the colored people, with their strong natural bent toward the indulgence of the appetites, become the victim of drugs and yield to the subtle and delusive enchantment of opium and cocaine the result will be disastrous. There is nothing which has such a benumbing and perverting action upon the moral nature of an individual, to say nothing of the physical and mental effect, as the chronic poisoning by the use of these drugs. I am reliably informed that in some sections of the South their habitual use is already becoming prevalent. So far as I can learn, it has made little headway as yet in Georgia, but a start has been made. In Atlanta, until a few months ago, I am informed by good authority, the habit was decidedly upon the increase, and it had reached such proportions among the lower classes, to whom it seemed to be chiefly limited, that 75 per cent. of the women and 20 per cent. of the men coming to the station-house were addicted to the use of cocaine. Since the passage of a law prohibiting the sale of cocaine except upon prescription, the habit appears to be decreasing. This suggests the remedy, and it is our bounden duty, as the governing and controlling race, to protect these people by the enactment and strict enforcement of such laws in every State.

In conclusion, let me say that I do not wish to appear as an alarmist or a confirmed pessimist. I have merely presented some facts as they exist. If they are such as to warrant a pessimistic view upon the subject, then the quicker we realize it the better, that we may look about us for some remedy to apply.

Nor do I wish this article to in any way be misconstrued into an attack upon the Southern negro.

Far be it from me to cast any reflection upon those honest and honorable negroes who are living right and endeavoring to raise their race to a higher level. It is the erring and afflicted to whom this article refers, and it has been written only in the hope that through a wider knowledge of the facts some good might come to the negro race and to society at large.

DUST, DIRT, DAMPNESS, AND DARKNESS AS ETIOLOGICAL FACTORS IN TUBERCULOSIS.

By CHARLES R. UPSON, M.D.,
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Notwithstanding that much has already been written upon this subject, I feel that its importance warrants reiteration, even though I present but little that is new.

According to Jaccoud, "the tubercle bacillus belongs to a class of pathogenic microbes called etiological dualisms, because they exist in healthy organisms indefinitely without injury to the latter, and become noxious only in consequence of changes in the organism itself from other causes."

A susceptibility to the action of the tubercle bacillus on the organism may be engendered by any cause which lowers its resisting power.

In this article I shall consider only the influence of dust, dirt, dampness, and darkness—the four D's of tuberculous propagation—in creating under certain conditions a predisposition to tuberculosis.

The dust from our city streets consists largely of finely-powdered animal excrement, minute particles of pulverized stone and vegetable matter, carbon soot, and other dirt—furnishing a means of transportation for millions of bacteria,among which the tubercle bacillus occupies a prominent place.

In large manufacturing centers, especially where large quantities of soft coal is consumed, we have less light and sunshine and a large excess of carbon dioxide in the air—two potent factors in the causation of tuberculosis.

This bacilli-laden dust and dirt is constantly in the air, especially in the cities and large towns, and the inhabitants of such localities are taking it by inhalation into their systems. While it is true that in nose-breathers but a comparatively small amount of dust may reach the lungs, in mouth-breathers the reverse is true.

As stated, the healthy organism presents an unfavorable soil for the nourishment of these germs, hence their involuntary hosts are and remain immune until from some cause the organism becomes less resistant to their action.

The inhalation of dust and dirt is harmful not only in its direct irritant action on the mucosa of the respiratory tract, but also by the introduction of living bacilli.

The irritant effect of inhaled dust is largely spent upon the mucosa of the upper-air passages. This irritation first causes a hyperæmic condition of the nasal mucous membrane, which sooner or later, if unrelieved, causes hypertrophy of the turbinates, with more or less nasal stenosis.

A careful study of this subject warrants the assertion that turbinate hypertrophy is more prevalent in cities than in the country towns and, furthermore, these cases occur most frequently in cities having the largest mileage of macadam paving, which supplies a large amount of exceedingly irritating and infectious dust. Individuals thus affected become shallow breathers, and in some cases the elasticity of the lungs is considerably diminished, thus inducing a condition favorable to tuberculous infection.

Investigation of a large number of cases of latent tuberculosis* has convinced me that nasal irritation and obstruction often cause a predisposition to tuberculosis—in which statement I feel assured that most rhinologists will concur. Early treatment, therefore, especially in children, is a necessity. In some cases of nasal obstruction the mucous membrane becomes eroded by the inhaled gritty particles, by which channel the tubercle bacillus may gain entrance to the system. I have seen in my practice a number of cases of tuberculosis, in which the initial lesion, situated on the nasal septum, was caused as above mentioned.

The inhalation of street dust is also a prolific source of bronchial irritation and catarrh, which increases the susceptibility of the mucous membrane to the action of the tubercle bacillus.

Every physician located in a city or large town, especially where the streets are macadamized. has doubtless noticed the large number of patients seeking relief after a dust storm for coughs and sore throats, and he must also have observed that his tuberculous patients, even if confined within doors, are not progressing as favorably as before the storm. The irritation from inhaled dust and dirt is particularly distressing to the sufferers from laryngeal tuberculosis. It is often remarkable how great the improvement is in some of these cases after the removal of the patient to a cleaner locality.

The penetrability of dust, of even greater density than that of dried tubercle bacilli, into the air cells of the lungs is no longer a mooted question. I have repeatedly demonstrated such to be the case—dust particles having been found to have penetrated even to the air cells of the apices, where the air does not enter as freely as in other portions of the lungs. To illustrate:

1. A tuberculous patient, whose work had formerly been coal screening, brought to me, three weeks after ceasing work in the coal yard, the sputa from a recently-opened cavity—situated just below the left clavicle—from which I obtained, by washing, an appreciable quantity of coal dust.

2. I confined a large water-rat for two days in a well-ventilated tin box, through which at frequent intervals I forced a cloud of coal-ash dust, of about the same density as that which may be encountered in the street on a windy day. In the air cells of its lungs was found a considerable quantity of the ash dust.

Another case, showing how readily a rather heavy dust can be taken into the bronchi, may prove of interest.

A patient suffering from bronchial catarrh, who was at the time engaged in shoveling sand, at my request, furnished me with his sputa—accumulated between the hours of 10 P.M. Saturday (ten hours after leaving his work) and 10 P.M. Sunday. From this quantity (five ounces) I washed out ten grains of sand.

I have already referred to the insanitary macadam pavement as a place of lodgement and a means of distribution of the tubercle bacillus. In my judgment the macadam pavement should be abolished from our city streets. In its place should be laid, wherever practicable, the more cleanly and esthetic asphalt pavement, which can be kept thoroughly cleansed by frequent flushing from the street hydrant. If for any reason this kind of pavement cannot be adopted, the authorities should keep its principal streets well sprinkled.

Mr. Richardson says: "The best evidence of the desirability of asphalt surfaces, from a hygienic point of view, is offered by the death rate in various cities as compared with the class of pavements which are in use in them and the degree of cleanliness practised.**

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*Upson, "Latent Tuberculosis." Medical Record, July 20, 1901, p. 94.

The following list of cities furnished some interesting data:

Berlin:	Almost all asphalt pavements; death rate per 1,000 inhabitants per year	19.6
Amsterdam:	Stone and asphalt; streets washed	20.
Rome:	Streets nicely cleaned; hard climate	21.2
Vienna:	Little asphalt; much stone and macadam	24.3
Dublin:	Granite, cobble, and macadam; fairly cleaned	29.3
St. Petersburg:	Cobble and macadam—notwithstanding cold climate, which kills germs	30.
New York:	1892; with little asphalt	38.37
New York:	1894; more asphalt	30.
	1896; more asphalt and cleaner streets, because easily cleaned	26.

In addition to the above data it is of interest to note that the death rate from bowel complaint in New York City decreased from 11.5 per 1,000 in 1892, to 6. per 1,000 in 1896. This increase is directly connected with the paving of the tenement-house district on the east side of New York with asphalt, and also to the increased cleanliness of the streets, which was possible with this form of pavement."

By the use of proper appliances for street cleaning much discomfort and danger from infection would be averted. There is a large field open in this direction to inventive genius.

Peter Green, a former street inspector of Chicago, has invented what he claims to be a dustless street-sweeper. It is run by a gasoline engine, which also operates a system of fans and suction-tubes by which the dust is gathered into proper receptacles. If his claim is substantiated, the name of Peter Green should be placed upon the list of public benefactors.

Dampness of the soil is another important factor in the causation of tuberculosis. The occupants of damp, mouldy buildings are particularly liable to contract the disease; hence, proper prophylaxis in these cases should embrace thorough drainage of the subsoil, the removal from the cellar of rotting wood and decaying organic matter, together with proper cleansing and the free admission to all portions of the building—especially the cellar—of air and sunlight.

That darkness should be a potent agent in causing a predisposition to tuberculosis can be readily understood, and therefore needs but brief mention. We know that while dampness and darkness are prejudicial to man the same conditions are favorable to the tubercle bacillus.

In the Eleventh and Thirteenth Assembly Districts in New York out of 50,640 rooms in apartments there are 17,015 having no outside windows. The inference is clear. Think of it—one-third of these rooms with no means for the admission of either air or sunshine, nature's germicides.

It may not be amiss to refer here to the old superstition, especially in vogue in the country, that air and sunlight should be excluded from the sick-room. This belief should be done away with. There is certainly no place where the cheering and vitalizing effects of air and sunlight, not to mention its valuable germicide qualities, are more needed than in the sick-room. By all means give the sick—protected, if need be, by a screen—an abundance of pure air and sunlight.

Sanitary measures for the prevention of tuberculosis should embrace the suppression of the spitting and dust nuisances, the adoption by the authorities of regulations providing for the sanitation of tenement-houses, especially with reference to the size of the rooms and the free admission to them of air and sunlight.

Squires believes that laws should be enforced regulating the width of streets, the amount of open space around the houses, and the size of windows; also that efficient inspection should be carried out before they are allowed to be occupied.

If these suggestions could be effectively carried out in all cities and towns it would result in a material reduction of the mortality from infectious diseases. The homely adage that "an ounce of prevention is worth a pound of cure" is strikingly true in its application to the prevention of disease.

In many cities the sanitary authorities are already caring for the sanitation of the tenement-houses, which has been productive of much good. The editor of the MEDICAL RECORD, in an editorial on an interesting article—"Sanitary Motes and Beams," by Dr. Gihon§—says: "No city can be accounted clean until its ordinances require every cellar-door to be widely opened to sun and air—that royal pair of germicides; every cellar to be emptied of its refuse; every cellar wall and ceiling to be scraped and whitewashed; every cellar floor to be taken up, if rotted, and sprinkled with lime if uncovered—a tedious and expensive process; but efficient sanitation, costly as it must be, is cheap compared with the outlay of a single epidemic. There are underground foulnesses in all our great (and many of our smaller) cities, of which they should be rid at any cost, as where rag-pickers and bone-gatherers collect their filthy stores, and Italian street-corner fruit dealers keep their decomposing bananas, grapes, and oranges till, rubbed off by dirty handkerchiefs, they are exposed for sale, glistening after their repulsive polish with impure saliva."

The number of deaths from tuberculosis—a preventable disease—would seem an indictment of the people, the authorities, and, might I not say, of the medical profession as well.

In a paper—"The Prevention of Phthisis,"§§ read by Dr. Squires before the London Epidemological Society—reviewed by the editor of the MEDICAL RECORD, the author says: "As the effects of phthisis in the individual are not confined to a single generation, but are handed down by hereditary transmission from parent to child, any cause which tends to increase tuberculosis among the adult population must be regarded as tending to produce a progressive deterioration of race. It is, therefore, to the interest of the community to allow no time to be lost in commencing a systematic attack against preventable causes of phthisis."

In conclusion, let me express the hope that I have at least briefly indicated the primary cause in many cases of tuberculosis.

**Richardson: "Asphalt Pavements; Their Nature and Desirability." *Boston Medical and Surgical Journal*. August 2, 1900, p. 101.

§Gihon, MEDICAL RECORD, January 20, 1894, p. 82.

§§Squires, MEDICAL RECORD, April 13, 1889, p. 409.

Intravenous Injections of Bichloride of Mercury and Other Salts.—Nicola Cerri, considering the Baccelli method of the intravenous injection of corrosive sublimate in apparently hopeless syphilitic cases, says that it has finally triumphed over skepticism and bitter objections and may be considered one of the great achievements of modern therapy. Baccelli has recently suggested its use as a remedy for *aphtha epizootica*, as he considers aphtha to be a true septicæmia of 141 bovines affected by aphtha and cured by the Baccelli method in the Grand Duchy of Hesse, not one manifested symptoms of mercurialism, and of 177 treated in Bavaria only three showed any such symptoms. Injections begun in the prodromal stage when the chief symptom is elevation of temperature are the most efficacious.—*Cleveland Medical Journal*.

OUT-OF-DOOR TREATMENT.

ITS SPECIAL RELATION TO THE PREPARATION FOR AND CONVALESCENCE FROM OPERATIONS.

By N. B. ALDRICH, M.D.,
FALL RIVER, MASS.

Realizing the necessity of thoroughly knowing the condition of a patient that is about to be operated upon and the value of preparation for operations, I feel that the time is ripe to consider one great fault in the methods, as usually practised, to better the condition of patients before and after operations.

It often happens that the patient is one accustomed to lead an active life. He enters the hospital and is put to bed to be prepared for a given operation. If I wanted to grow vigorous and become prepared for any extra tax on my system, I would never think of remaining in bed any length of time. I should try and live an out-of-door life that would be conducive to robust health, taking proper hours for sleep and rest. Too often in the preparation of a patient for abdominal operations, for instance, all that is considered is the opening and emptying of the bowels and the investigation of the conditions of the other organs. Patients are too often put to bed and kept there for one or more weeks before the operation is performed. Is this patient becoming more resistant or less resistant? Cannot the same careful preparation of the viscera, etc., be obtained and the patient still have a reasonable amount of out-of-door exercise and fresh air? Would a prize-fighter make better resistance to an attack in the ring after lying in bed a few weeks?

I do not believe it necessary or wise to confine the usual patient in bed for more than one day, and in certain cases I confine him for only part of a day. Do not misunderstand me, I do prepare my patients by regulating their habits for a week or more before an operation, but do not believe in long bed rest. If the surgeon knows his patient's condition to be excellent, one day's preparation is better than two weeks in bed. I remember well a machinist who was a sufferer from recurrent appendicitis. I operated on him between the attacks with only one night's preparation. I found a large abscess of the mesoappendix well walled off by adhesions, removed the appendix and mesoappendix, including the abscess cavity, closed the abdominal wound without drainage, and in just two weeks discharged this patient not only well, but very well. I ask the reader of this article if this patient's condition would have been better if he had had two weeks bed-rest before the operation? This is but one instance: I could cite many others.

I insist that fresh air, out-of-door exercise, and proper hours for rest are of as much importance in preparing the patient as enemas, cathartics, baths, etc. So much then as to fresh air in the preparation of the patient.

In convalescence it is of equal importance. I have had patients up in six days after operations for appendicitis. , Five out of the last seven patients I operated upon for this disease were out of doors walking around in from nine to fourteen days after the operations, and I believe their rapid return to good health was helped by this out-of-door treatment.

How often have I seen a poor fellow lying in bed after an amputation of an arm or leg, kept there four or more weeks even when the flaps were healing by rapid union. Will any one tell me why, if such a patient is doing well, if his temperature is normal, his pulse good, and union is taking place by first intention, he should be kept in bed more than three days? I recently amputated a forearm (emergency case) at my hospital, sent the patient home in my carriage, immediately after the operation, and had him return on the fourth day and every two or three days thereafter. This patient did not put on that pinched look that the bed-ridden patient does, and I believe regained his strength in one-half the time he would have had he been placed in bed. It seems to me a good rule in most hospitals would be to learn the patient thoroughly, make the preparation of the patient of sufficient length, give the patient out-of-door exercise as long as it is possible before the operation, and as soon as it is possible after the operation. Bed-ridden patients make slow recoveries.

TREATMENT OF ULCERS OF THE LEG.

By CASS CHENOWETH, M.D.,
DECATUR, ILL.

The following is my treatment for ulcers of the leg. In ulcers not larger than a dollar I have the patient put the leg in hot water for an hour, then wash with soap and clean water, dry the leg, then wash with a weak formaldehyde solution, dry thoroughly and dust ulcer with boracic-acid powder. Now I take strips of rubber adhesive plaster one-half inch wide, commence back of the toes, and apply tight, overlapping each lower strip, up to the knee, then apply an ordinary roller bandage. I allow this dressing to remain until the discharge shows through, which it will do in from five to seven days, and then the whole dressing is taken off and the ulcer cleansed as before, and a clean dressing applied. This will usually remain for about two weeks, when it is removed and the wound is dressed as before. These ulcers are generally well in six weeks' time. In cases in which the ulcers are larger than a dollar, I send the patient to bed for two weeks with instructions not to get up except to empty the bowels and bladder. While in bed I have the patient use a moist dressing of one ounce of boracic acid to one quart of water.

Unless the ulcer is very large, the two weeks' rest will reduce it so that it can then be treated as a small ulcer, but if two weeks is not long enough I I keep the patient in bed two weeks longer, although this is very rarely required. As soon as the plasters are applied I allow the patient to follow his usual occupation. After the ulcer has entirely healed I have the patient wear an elastic stocking.

Kataphraxis.—A Catterina applies this term to a method he has devised for the treatment of ectopic organs, and which consists in fixing the displaced viscus in a metallic frame work or cage. As first described and practised, the operation was applied to the kidney, but the author has since used it for prolapse and retrodisplacements of the uterus with equally good results. Th usual incision for ventral suspensions is made somewha to the left of the middle line, and the uterus is drawn forward and out of the wound. A wire of gold or silver is then passed about the organ at the level of its lower third by perforating the broad ligaments on either side. The tw ends of the wire are carried through the entire thickness of the abdominal wall, with the exception of the skin on either side of the incision. A similar suture is carried behind the uterus, just below the point of attachment of the round ligaments These sutures are then tightene to the degree necessary to bring the uterus up into position, and their ends joined on either side of the abdomina incision, the right upper wire being twisted with the right lower one, and the left upper with the left lowe one, so that the midline of the body is not crossed. In some cases a single wire suture may be used, and then it ends are united over the line of stitches closing the abdominal wound.—*Centralblatt für Gynäkologie*

MEDICAL RECORD:

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THE QUESTION OF INFECTION IN TUBERCULOSIS.

Since Koch made his statement that animal tuberculosis was not transmissible to man numerous experimenters have taken issue with him. It was certainly a shock to the many who had so gladly adopted the convenient theory that the contrary was true, but more especially were they chagrined that their theory should be combated by one who was popularly supposed to be the highest living authority on the subject. The health authorities who had formulated rules on other premises were likewise concerned lest their laboratories should have less work and their cattle inspectors be reduced in number. It was not so much the principle that diseased milk as such should not be used for food, as that bacteriological research for the public good should come under the ban of disparagement, and the motives of political scientists be open to suspicion.

So far, the theory which Koch promulgated appears to have held its own. This is in part due to the great difficulty in disproving his claim by any direct and conclusive experiments on the human animal. This was quite recently exemplified in the case of a young woman whom a physician was said to have inoculated with tuberculous matter from a cow, and who subsequently became infected with the disease. The daily papers gave the freest possible account of the exploit, and for a time the disputatious innovator was in the high light of public recognition. It was found, however, that neither the cow nor the girl had tuberculosis. The apparent aim of the experimenter was to advertise his special remedy for the cure of the disease.

The latest reports are to the effect that a French medical man has injected tuberculous material into his body, and is confident in his belief that he will triumphantly disprove the Koch view. It is to be hoped that the mortification of eventually failing to establish his point will be effectually offset by saving what may eventually prove, even against heavy odds, to be a valuable life. There is no great likelihood that his example will be generally followed, inasmuch as it is death to win and disgrace to lose. Thus the question is destined to be an open one for a long while to come. In the meantime there is no special reason why tuberculous meat or tuberculous milk should be used as food, as esthetic, if not scientific, arguments are sufficiently strong to guard us against even the faintest probability of infection from such a source.

In fact, in the study of the question of communicability of tuberculosis, in its broader aspects, it is quite evident there is much to be learned. The bacillus is not everything. The clinician must needs view its importance from a standpoint different from that of the bacteriologist. The latter studies the microbe; the former studies his patient. With one the bacillus is the prime factor in disease causation, but with the other it is an incident. The physician knows that the bacillus cannot of itself induce tuberculosis. If the patient does not give the soil, the seed can never take root.

When the microorganism was first discovered, it was at once declared that phthisis must be contagious, in spite of overwhelming facts to the contrary. It was the hue and cry of health boards over the entire country, and all sorts of promises were made to the public to stamp out the disease by killing the dreadful germ—as if that was the only thing to do. Here was an entirely new field in which the bacteriologist could work independently of the ordinary doctor, and for a time he was much in the fore. When a reaction came, contagion suddenly changed its name to infection, and in order to reconcile facts with theories, it was admitted that a person to become infected must be necessarily receptive. It was merely explaining the natural spread of the disease in a different way from that observed from time immemorial. It was the old-fashioned consumption plus the bacillus. As it was formerly, those predisposed to the disease take it and those not receptive escape. The bacillus seems to be necessary only when the patient is ready to receive it. From this point of view, the bacillus, as such, loses much of its former importance as a distinctly causative factor in an otherwise very complex process. In fact, the leading authorities on tuberculosis of to-day lay the greatest possible stress on increasing the resistance of the patient rather than in futile efforts to kill all the microbes. All this, it is true, is a slight to the bacillus, but it is about time for the practitioner to begin to think for himself, and explain in a rational way why one patient under like conditions gets tuberculosis and the other escapes, infected sputum, bad air, and bad food to the contrary notwithstanding.

If we go a step farther, we may be almost ready, in a certain sense, to take sides with those who maintain that the bacillus is rather the result of a primary predisposition to tuberculosis than the initiative cause of it. Certain it is that the microbe is inert unless the patient prepares the way for its invasion. Logically, then, it may be safe to say that the patient is the primary factor in the equation of chances. By killing the bacillus outside the body, we thus tackle the weaker side of the argument, in that all persons are not susceptible to its influences; and in many cases we are forced to assume a negative proposition of preventing an infection that may never happen, in any given case.

The case is entirely different when we strive to destroy or dislodge the invading microbe. Here, alas! no definite progress has yet been made—along those lines, for instance, that have been followed so successfully in the antitoxin treatment of diphtheria. With regret must it be said that there is yet no specific medication for the destruction of the bacillus or of its toxins. The old-fashioned methods are still in vogue. We give the patient fresh air, an outdoor life, sunshine, good food, and tonic treatment, and say that consumption is as curable as ever by such means.

THE VALUE OF NOTE-TAKING.

When it is acknowledged that nothing is more valuable in the practice of medicine than experience, it is strange, indeed, that note-taking of cases is not more a habit among all classes of practitioners. The opportunities are abundant enough, if they are only seized and utilized.

Facts of themselves are always of value, no matter what their interpretation may be. Aside from making them a matter of permanent record for ready reference, there is the training of accurate observation of detail which cannot be gained in any other way. Their systematic arrangement makes the accumulation of trustworthy statistics possible, and helps to establish many of those fundamental principles upon which the pathology and treatment of disease must necessarily depend.

To trust to mere memory under the circumstances is to foster a disposition for loose generalizations and unreliable data. Especially is this the case with those ordinary details that in the end are the essential points of difference when they are presented in sufficient numbers for general comparison. Take for instance the pulse and temperature curve in certain epidemics of typhoid, and in different cases of appendicitis. It is only by attention to such details that exceptional cases can be recognized and the physician or surgeon can be on his guard against a fatal error in diagnosis.

Then, too, each clinical picture should be worked out in all its details, whether particular symptoms may seem to have any special significance or not. Even in the rarer diseases their associaations become fixed in certain relations that necessarily in time force themselves upon the attention of the student.

From such a point of view each symptom becomes a sign for something that calls for explanation. Such a training makes the study of any case, however common, most interesting and instructive.

It is the reason why that appeals to the careful observer. Nothing is too trivial for his attention. John Hunter, who was a champion note-taker in his day, followed this practice, as did Sir James Paget, Sir Benjamin Brodie, George Bright, Peyer, Addison, Graves, and others, who have created new names for diseases and formulated new rules for their diagnosis. If Hippocrates had neglected to give his classical description of the moribund face, his name would not have been associated for centuries with a well-recognized phenomena of dissolution. It was the accuracy of description that left nothing more to be desired.

No matter what may be said of the value of mere book learning, there is nothing in the whole compass of human knowledge that equals the application of given principles to individual needs. Thus the observer must work out his own problem in his own way. There is certainly no better method than in studying the cases that are before him and in making accurate details of what he sees and needs to know. It is often the note on the spot that settl all after-doubt.

Those who are devoted to special study unde stand the true value of recorded phenomena. It the getting of all out of a case that is possible. Th method of study tends also to give the widest rang for observation, and prevents the riding of hobbi which more limited observation engenders. stimulates the search after the whole truth irr spective of theory and makes the student impartia critical, logical, and liberal. When these conditior fulfilled the accuracy of the picture can alway be recognized by workers in the same line.

The difference between the superficial and tl accurate man is always recognized on those line whether he recites his case before the Society publishes it in the journal.

A distinguished medical teacher has said th "the profitable study of individual cases is rightl based on the appreciation of exceptions to gener rules." In the textbooks we have the stereotype phenomena of disease presented, but in the study disease by the bedside we must note what we fin rather than vainly search for what we may expec Thus Paget wrote a very interesting book treatin solely of the curious and rare forms of disease man festation which he had studied, and, best of all, h knew they were unique in their way. Until he ha his attention drawn to the frequency with whic eczema of the nipple preceded cancer of the breas no one had thought of such a relation of cause an effect.

The question that must present itself to ever busy man with his many opportunities is wheth the thing is worth the trouble. To this questior however, there is but one answer.

Medical Trusts.

The formation of a Witch Hazel Trust wit $4,000,000 capital is one of the signs of the time that will appeal to the medical profession.

Omnibus articles of incorporation authorize th company to engage in any line of business. Th articles state specifically, however, that the con pany will manufacture, distil, and sell extracts witch hazel and other products of the distillatio of any kind of wood, and deal in soap, lotions, lin ments, and other articles manufactured in the whol or part from the by-products, distillation, or th manufacture of the same.

Thus all minor wounds, bruises, mosquito bite and the like can be treated in job lots to suit th demands of the public for free medication. Ne we may hear of an antitoxin trust, cod-liver o combine, and quinine monopoly, which may do fo the retail prescriber what the larger corporatior have done for the retail dealer. But have we no been approaching this condition of affairs in othe directions by cheap and wholesale prescribing o the part of hospital dispensaries with a dollar pe month fees, with free treatment in the numerou dispensaries and clinics, with million-dollar as lums for indiscriminate obstetric practice and fre care of tuberculosis cases by State and municipa authorities. Fortunately, as there is enoug sharp rivalry of individual interests to stimulat active competition between the different philar thropic bodies for serving the public, there is sti some hope for the poor medical man without polit cal, social, or college pull to keep his place and b content with the crumbs that accidentally fall from the various tables. But then the medical man nowadays has no business to be poor or without influence.

A Disputed Professorship.

Dr. Schweninger, who treated Prince Bismarck to reduce that statesman's flesh, has been appointed Professor of the History of Medicine at Berlin University. Prince Bismarck was so grateful that he tried to have Dr. Schweninger appointed nearly twenty years ago, but university circles raised a protest. Dr. Schweninger was Bismarck's physician up to the time of the Prince's death, living at Friedrichsruhe. Medical professors of a number of universities are circulating a protest to the government against the appointment, asserting that Dr. Schweninger has never written on or taught the subject of medical history.

If similar tests were applied in this country, how many professional chairs in some of the closely-corporated colleges might be vacant? One reason, perhaps, for the opposition in the case of the distinguished obesity expert is that the title of Professor in Germany is a much more restrictive and significant one than it is here. At all events, Dr. Schweninger before he gets through with his fight may have opportunities of reducing his own weight other than by his own methods.

Sanitary Matters in Cuba.

Officials and others returning from Cuba bring very contradictory reports as to the sanitary condition of the island since the inauguration of the new government. Some say that the natives are rapidly lapsing into their old ways of throwing slops and refuse into the streets, and predict that it will not be long before conditions will be as bad as under the old Spanish régime. Others say there has been no deterioration. The sanitary report of Havana for June is very satisfactory, although there was a slight increase in typhoid fever and in intestinal troubles among young children. Dr. Finlay can, of course, be depended upon to maintain a satisfactory sanitary condition in Havana if his hands are not tied. It is reported, however, that the authorities have abolished the Stegomyia and Anopheles brigades organized by Major Gorgas, and if this is the case it is merely a question of time before yellow fever comes back to stay.

Liver Abscess and Malaria.—James A. Hislop states that, in his experience in Assam, where dysentery is so common, cases of liver abscess are extremely rare. In three years, working among nearly 9,000 people, he has known only two cases of liver abscess. These patients had not suffered from dysentery within the three years preceding the development of the abscess, and the latter could not thus have been a sequel to dysentery. Hislop thinks that the dysentery of Assam does not tend to the formation of abscess formation, as it appears to do in other localities. Assam has a reputedly malarious climate, and in the two cases already mentioned the writer thinks that malaria was the sole cause of the abscess, while the predisposing factor was a drinking bout. He agrees with Sen, who says in his "Thesis on Tropical Abscess of the Liver": "Of all the cases of liver abscess in Bengal, by far the majority are traceable ultimately to malaria. Cases of liver abscess from pure malaria are generally associated with enlargement of the spleen. In this country drinking, combined with malaria, is the main cause of suppuration in about 80 per cent. of liver abscess cases."—*Indian Medical Record.*

News of the Week.

The President's Physician.—The announcement is made that Dr. George Augustus Lung, Surgeon, United States Navy, has been ordered to duty as Surgeon to the President to succeed Dr. John F. Urie, who was made Assistant Chief of the Bureau of Medicine and Surgery. Dr. Lung was born in New York and entered the naval service in 1888. He has been on waiting orders in this city, having been detached from active service last December.

New Public Baths.—Plans have been filed at the Bureau of Buildings, Manhattan, for three two-story brick public baths to be erected near One Hundred and Ninth street and Second avenue, on Allen and Rivington streets, and Forty-first street and Ninth avenue. They are to be constructed as follows: On the first floor there will be separate waiting rooms for men and women and separate baths for both. The men's bath will have thirty-four showers and two tubs, the women's twenty-nine showers and six tubs. The second floor will be given over to the men for baths with thirty-eight showers and two tubs. The building will be constructed with brick, terra cotta, stone, marble, and copper. The front will be of ornamental iron work, brick, white Italian marble and granite, with two entrances, one for men and one for women. The three baths will cost $225,000.

Insanitary Condition of the Subway Works.—The Board of Health has called the attention of the Rapid Transit Commission to the insanitary conditions prevailing along the line of excavations for the underground road. It is said that in many places sewers have been disconnected and are leaking, stagnant water is allowed to remain, and much refuse is dumped into the excavation. The communication is based upon a report of Sanitary Superintendent Roberts, which was made to the Board after an inspection of the excavations at various points. One, and not the least of the nuisances created by the carelessness of the contractors and their workmen, is a plague of mosquitos, the pools of stagnant water affording ideal breeding-places for these pests.

An International Congress on the Care of the Insane will be held in Antwerp September 1 to 7. The discussions will have special reference to the system of boarding out lunatics in families. The Belgian Minister of Justice is the Honorary President of the Congress, and the Acting-President is Dr. Peters of Gheel. Visitors will have opportunities of seeing the boarding-out system in operation both at Gheel and at Lierneux.

The Licensing of Prostitution.—Dr. E. Benjamin Andrews, Chancellor of the University of Nebraska, in the course of a lecture recently delivered at the University of Chicago, advocated a system of surveillance and licensing of prostitutes. He defended the method followed in Paris and elsewhere on the ground that the State is under obligation to take measures to protect innocent women and children and future generations. He dissented from the assertion as generally made that in granting a license to a person engaged in a business or practice which is looked down upon or scorned by people generally the authorities are entering into collusion with the persons licensed. There are many times he believed, when a license is the best and most effective method of suppressing or regulating a vice.

A Contortionist and His Medical Purchasers.—A man in Massachusetts, who was famous in his day as a contortionist of remarkable flexibility, several years ago sold his body (the goods to be deliverable after death) to a Detroit physician, who was anxious to study his skeletal formation; but after paying the money the physician died, and the heirs threw away that part of the estate as of no value to them. Another deal in futures was then made with a New York physician, but he also died. The contortionist, who is now nearly eighty years old and in excellent health, is said to be looking around for another purchaser.

Dr. Eduardo Porro, Professor of Obstetrics at Pavia and Milan died the latter part of July, at the age of fifty-nine years, after a long illness. It was he who first gained acceptance for amputation of the uterus in Cæsarean section, an operation that had considerable popularity a score of years ago and which was called by his name.

Remodelling the Old Bellevue Medical College Building.—Plans have been filed with the Building Bureau for the reconstruction of the old Bellevue Medical College building in the Bellevue Hospital grounds on Twenty-sixth street, east of First avenue. New fireproof floors and partitions are to be built and the building changed into a dormitory and dispensary for the hospital.

Dr. Henry D. McCormick, house physician in the Branch Hospital for the Insane at Overbrook, N. J., has tendered his resignation to the Committee on County Hospitals of the Board of Freeholders. It is thought that Dr. Robert Bolton, who for several years has been on the staff of the County Hospital for the Insane in Newark, will be appointed to fill the vacancy.

A Naval Medical School.—Surgeon-General Rixey has under consideration plans for the establishment of a school for the special training of newly-appointed assistant surgeons in the Navy, similar to the Army medical school, which has been for several years in successful operation. It will be established in connection with a new naval hospital to be located on the site of the Naval Observatory in Georgetown. The medical school will really be an adjunct of the hospital, though no new buildings will be needed for that purpose. The instruction will be in case-taking and the keeping of the medical log, and much attention will be paid to practical laboratory and bacteriological work, the course occupying several months.

Smallpox in Barbados.—It is reported in cable despatches that smallpox is epidemic on the Island of Barbados, and is spreading rapidly in spite of the efforts of the health authorities to check it. Vaccination is being urged, but many of the negroes oppose it, and a panicky feeling is growing among them. Most of the neighboring islands have declared quarantine against Barbados.

Wholesale Importation of Trachoma.—Eighty-five cases of trachoma were found among the steerage passengers of the French line steamship *La Gascogne* and the Red Star liner *Zeeland*, which arrived at the port of New York this week. There were sixty-five cases on the former and twenty on the latter. The persons affected are mostly Syrians, Roumanians, and Austrians. The only penalty for such attempted importation at present is deportation at the expense of the lines, but under the proposed new immigration act, which has not yet become a law, a large fine may be imposed upon any steamship company bringing diseased passengers to this port.

The American Dermatological Association.—The twenty-sixth annual meeting of this association will be held in Boston on September 18, 19, and 20, under the presidency of Dr. George Thomas Jackson of New York. The secretary is Dr. Frank Hugh Montgomery of Chicago. A general discussion on "Acne Vulgaris" will take place at the second day's session.

The Gynecological Service at the Johns Hopkins.—Dr. Howard A. Kelly of Baltimore has donated $10,000 toward an addition to the gynecological ward of Johns Hopkins Hospital.

Enforcing the Mosquito Law.—Winchester, Va., has an ordinance looking toward the repression of the mosquito nuisance, and the officials seem to be determined that it shall not be a dead letter. One of the prominent residents of the place, a brother of the Mayor, was recently arrested for failure to comply with the provisions of the law in not covering the water in his rain-collecting barrels with kerosene oil.

The Doctors' Protective Association of Kentucky recently filed articles of incorporation at Frankfort. The object of the association, the incorporators of which are not themselves medical men, is to collect accounts for physicians or to purchase them outright, and to furnish information to practitioners regarding the ability or willingness of patients to pay for medical attendance.

Dr. Samuel Patterson Stafford, a colored physician of St. Louis, has been appointed the government physician at the Yakima Indian Agency, in the State of Washington.

A Tuberculosis Sanatorium Closed.—The proprietor of a private sanatorium for consumptives, which was running for a few weeks in a New Jersey suburb, suddenly closed the doors of the institution one day last week, and forced all the patients to find new quarters as best they could with the briefest possible notice. The place is said to have been conducted with absolute disregard of modern scientific teaching, and the Board of Health interfered for the protection of the community.

Unveiling of a Statue of Pasteur.—On August 3 a statue of Louis Pasteur was unveiled at Dôle. M. Trouillot, the Minister of Commerce, presided, and among those present were the Rector of the Academy of Besançon, representing the Minister of Public Instruction; M. Thureau-Dangin, representing the Académie Française, and Dr. Roux, the Pasteur Institute. The speakers were M. Rufier, the late, and M. Renaud the present, Mayor of Dôle, M. Thureau-Dangin, Dr. Roux, and M. Mollard, a former member of the Chamber of Deputies. The latter compared Pasteur to Victor Hugo, "those two powerful brains united by mysterious affinities," which leads the *British Medical Journal* to remark that "surely there was never a more inept comparison. It would certainly require almost preternatural ingenuity to discover any affinity between the humble-minded seeker after truth, the patient investigator of facts, and the megalomaniac wordmonger, whom his own countryman Baudelaire described as '*un âne de genie.*' "

Marine-Hospital Surgeons Back from Cuba.—Dr. Gregorio M. Guitéras has been ordered from Matanzas to Philadelphia, and Dr. Arthur H. Glennan, for several years in charge of the service in Havana, has also been relieved and ordered to Washington.

The "Woman's Medical Journal."—At the recent annual meeting of the Iowa State Society of Medical Women this live and interesting journal was chosen as the official organ of the society. The July number was the "special Iowa number," and contained the address of the president, Dr. Margaret E. Colby, and other papers read before the society.

A Beaumont Memorial Lecture.—Dr. William Osler of Johns Hopkins University, Baltimore, will deliver a memorial address on "William Beaumont, the First and Greatest American Physiologist," at the Odeon, St. Louis, on Saturday, October 4, at 8 o'clock P.M. The address will be delivered under the auspices of the St. Louis Medical Society of Missouri.

Dr. Harold N. Moyer has been elected to the Chair of Neurology in the Chicago Eye, Ear, Nose, and Throat College. His work in the school will be on the lines of the "Clinical Aspect of Neurology in Ophthalmology."

Obituary Notes.—Dr. W. F. Hendrickson, instructor in Pathology in the University of Pennsylvania, died August 21 at the Union Protestant Infirmary, Baltimore, of meningitis. Dr. Hendrickson was born in Baltimore and was twenty-six years old. He was graduated at the Johns Hopkins University in 1896, taking high honors. Then he took up medicine in the medical school of the university, and obtained his degree in 1900. He went to the University of Pennsylvania soon afterward.

Dr. John Henry Longnecker, a retired physician, died on Tuesday in his home, in Islip, L. I., aged eighty years. He was a native of Lancaster, Pa., and was graduated from the Jefferson Medical College, Philadelphia. He practised his profession in Hudson, Mass., in New York, and later in Brooklyn. During the war he was assistant surgeon at Annapolis Hospital. For a time he was connected with a Pennsylvania regiment as surgeon.

Dr. William J. Larmer of this city was drowned in the North River on August 18. He had been ill and was recuperating in the country, but returned to the city a few days before his death. He was a graduate of the College of Physicians and Surgeons in this city in the class of 1878.

The Rev. Dr. Thomas Gallaudet died at his home in this city on August 27 of cardiac trouble. He was born in Hartford on June 3, 1822, and was graduated from Trinity College in 1842. His life was devoted to the instruction of the deaf and dumb. His father, Dr. Thomas H. Gallaudet, founded the first permanent school for deaf mutes at Hartford in 1817, and this work the son continued. The latter also founded St. Ann's Church for Deaf Mutes in this city in 1851, and in 1872 he founded the Church Mission to Deaf Mutes. The founding of the Gallaudet Home for Aged and Infirm Deaf Mutes near Poughkeepsie was a later work of Dr. Gallaudet's. The mother of Dr. Gallaudet was a deaf mute, and he himself married a lady who was deaf and dumb.

Dr. Aaron Friedenwald of Baltimore died on August 26, aged sixty-five years. He underwent an operation for cancer a few days ago. He was a graduate of the University of Maryland School of Medicine in the class of 1860, and subsequently studied abroad. Since 1873 he had been a member of the faculty of the College of Physicians and Surgeons. He was a member of the Medical and Chirurgical faculty of Maryland, of which he was president. He was the first president of the Maryland Ophthalmological Society, and was a member of the American Medical Association. Dr. Friedenwald took an active interest in Jewish affairs, and held many offices in the various organizations. As a medical teacher he was widely known, and contributed frequently to the medical journals and proceedings of medical societies.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING—THE MANCHESTER MEETING—NATURE STUDY.

London, August 8, 1902.

The King looked in splendid health on his arrival in London on Wednesday in readiness for the ceremony of the coronation to-morrow. On Thursday morning a bulletin was issued to say he bore the journey without the least fatigue, had had a good night, and the wound was practically healed. To-day the King has issued a message to his people expressing heartfelt appreciation of their sympathy during his illness and deepest thanks to Divine Providence for preserving his life and giving him strength to fulfil his duties. It is understood that the message is written entirely and spontaneously by His Majesty. Another bulletin will be issued on Sunday, and that is to be the last of this historic series. The only object of this final announcement will be to assure the people that the King has not suffered from the fatigue and excitement incident to the coronation.

By a happy coincidence, the award of the King's prizes for essays in connection with his sanatorium is announced to-day—just on the eve of the coronation. You will remember that Sir E. Cassell's gift of £200,000 was devoted by the King to the establishment of a sanatorium for consumptives. Eight hundred pounds was apportioned to three prizes of £500, £200, and £100 for these essays. Competition was open to the whole world, and an architect could be associated with each author. No less than 180 essays were sent in, and the results are: First prize, Dr. Arthur Latham; Second prize, Dr. F. J. Wethered; Third prize, Dr. E. C. Morland. Four other essays are awarded honorable mention. They are by Dr. P. S. Hichens, Dr. Turban, Dr. Jane Walker, and Dr. J. P. Wills.

The Manchester meeting is over and the crowds who attended it have dispersed. Estimates of it by returned members vary a good deal—no doubt much influenced by the point of view. No one could get through the program of either the science or the amusement provided, so only scraps can be obtained through conversation, and they do not piece together properly. Your special reporters will have given you an account of much, though much must remain.

Some think it is almost an absurdity to divide into seventeen sections; others with narrower interests defend the scheme. To nearly all the set addresses appeal.

Mr. Walter Whitehead never fails to interest, and his address as President was looked forward to as a certain success and such it proved. His sketches of Manchester medical worthies, though of special interest on the spot, may be read anywhere with pleasure and prove a wholesome stimulus.

Mr. Whitehead is a great lover of art and a munificent patron. His liberality has made possible the issue of a volume commemorating the Manchester meeting, which has been written by Prof. Stirling and privately printed; but it may be hoped that it may be reproduced in a more accessible form. The book is entitled "Some Apostles of Physiology," and consists of brief biographies of the great masters of the science from Vesalius to Huxley. There are portraits of sixty-three of them in thirty-two plates, some of them photogravures and collotypes by Waterlows. Numerous engravings of prints and medallions are interspersed in the text. These have been obtained from various public and private collections.

The title of this magnificent work is, perhaps, scarcely exact enough for a scientific professor. The word "apostle" means someone sent, but these physiologists cannot be so described with accuracy. It is true the word has been loosely applied on many occasions, and perhaps the statement quoted by Mr. Whitehead in his address from Angus Smith that "Manchester was then the great center of sanitary knowledge and Percival the true apostle" may have influenced him and Prof. Stirling in the choice of their title.

The address in medicine this year may claim to be the most important scientific feature, for in all directions it is being praised and would increase Sir Thomas Barlow's reputation, if that were possible. The thesis which he said he endeavored "to drive home" is that advances in treatment are real only so far as they are harmonious with knowledge of the natural history of disease.

Professor Sinclair's address in obstetrics is also receiving unstinted praise for its straightforward criticisms and its appreciation of the importance of exact scientific clinical methods.

One member has called my attention to what he pronounces a "delightful sentence" in this address, viz., "Christendom, which now includes America." That little word "now" is very comprehensive. The professor also said he would not quote the learned German and speak of "a promised Land," but content himself with urging accurate clinical observation to see if the cause and remedy for cancer in women can be discovered.

For some years the National Temperance League has given a breakfast to the Association, and the "Temperance breakfast" has now become an interesting function and attracts a considerable number of acceptances.

This year Sir Victor Horsley presided and Professor Sims Woodhead was one of the speakers, so you may be sure the audience was larger than sometimes and very attentive. I hope those who also went to the annual dinner set a temperance example to the other *convives*, who, I am told, were convivial enough. So I hope they carried their example to the garden parties. A member tells me that for one of these the hospitable host laid in £200 worth of champagne, and when a friend, to whom he confided this fact, rather remonstrated with him, exclaimed "but I mean to do these doctors fine."

Our Manchester friends should remember the arsenical poisoning—a subject which again came up in the public health section when Dr. Reynold's pointed out that such poisoning was going on at least twenty years before it was discovered. Nor are spirits beyond suspicion. Wine may yet be indicted. At any rate, it is as well let alone in the afternoon—even by doctors on a scientific picnic.

We have been holding a "Nature Study" exhibition here, and last week, Professor Bickmore gave a brief account of the system of "visual instruction" carried on in your natural history museum. Mr. Choate introduced the professor as his distinguished friend and praised his work. Next day Professor Bickmore gave an address illustrated with lantern slides, on the Martinique disaster. The Ambassador and Professor were heartily thanked for their support in these conferences.

Progress of Medical Science.

Boston Medical and Surgical Journal, August 21, 1902.

Polyhydramnios: Its Differential Diagnosis and Treatment.—Edward P. Davis reports five cases, and states that by polyhydramnios is meant more than two pints of amniotic liquid at full term. As much as seven gallons has been seen in the human species. The pathology of the condition is obscure. Any fetal condition causing venous engorgement tends to produce it. Irritating substances formed in lymphatics may cause it, and excessive secretion from the cerebrospinal canal of the fœtus may contribute to it. Polyhydramnios is normal at the fourth month, but its persistence is due to failure in normal development. Bacteriology gives no information on this subject, but cryoscopy may increase our knowledge by teaching us more regarding the osmotic properties of maternal and fetal blood and the liquor amnii. The diagnosis is made by first diagnosing pregnancy, then by observing that in polyhydramnios we can usually obtain evidence of faint uterine contraction, and can often insert the finger through the cervix and detect a presenting part. Ectopic gestation must be borne in mind, as polyhydramnios may complicate it. In ovarian cyst the illness is longer and the swelling at first unilateral. In ascites the dulness changes when the position of the patient is altered. While twin pregnancy can generally be recognized, it may sometimes be mistaken for polyhydramnios. In rare cases ovarian cyst complicating pregnancy may be difficult to diagnose and exploratory incision may be necessary. The treatment of this condition by drugs is useless. When the polyhydramnios is slight and the health of the patient good, pregnancy should not be interrupted. When distention increases rapidly and health is impaired, the membranes should be ruptured, and the fluid allowed to escape very gradually until the presenting part descends firmly against the cervix. Polyhydramnios is dangerous to the mother from over-distention, relaxation, hemorrhage, and increased liability to sepsis.

Journal of American Medical Association, August 23, 1902.

An Operation for Establishing a Cul-de-sac for the Wearing of an Artificial Eye; Report of Cases.—John E. Weeks says that all of the procedures heretofore devised have resulted in frequent failure. These failures result not from the sloughing of the transplanted flap, as even the heterogeneous flaps usually "take," but from subsequent shrinking, which results in complete loss of the primary favorable result. Heterogeneous flaps in the great majority of cases disappear almost entirely. He gives a description of the operation he has performed in five cases with unvarying success. One cul-de-sac only is restored at one operation, for the reason that if sloughing should occur the work of restoring one sac only would be destroyed; also because the time required to perform two operations would necessitate an excessively prolonged anæsthesia.

The Relative Indications for Enucleation and the Mules' Operation.—N. J. Hepburn states that enucleation may be performed for cosmetic purposes for wounds of the globe of considerable extent and for intraocular disease with destruction of vision and glaucoma absolutum. It must be performed in cases of sympathetic irritation, glaucoma absolutum with much thinning of the ciliary sclerotic in malignant growths of the eyeball and destructive ophthalmitis. The Mules' operation is adapted to cases where only a cosmetic result is required, where range of motility is desirable, in blind eyes without extensive ciliary involvement, and when it is desirable to prevent shrinkage of the orbital tissues. The main advantages of the operation seem to be the apparently increased rotation of the artificial eye, the greater plumpness given to the appearance of the upper lid, and the possible prevention of the filling up of the orbital pocket by connective tissue, which sometimes results in the final crowding out of the artificial eye.

Neuralgia of the Bladder.—G. Frank Lydston considers that, in the light of the newer pathology of diseases of the genitourinary apparatus, involving, as it does, mainly infection of the urinary way, the neuropathic elementin vesical disease is quite likely to be forgotten. It is, however, a very important point for consideration, because of (1) the relative importance of pain, *per se*, in diseases of the bladder; (2) the fact that very often no lesions are discoverable which explain the pain, or, at least, such lesions as are found appear too trivial to explain the severity of the pain experienced by the patient; (3) the tendency to too radical treatment in the endeavor to relieve pain, by compelling a cure of lesions which are so slight that topical applications are likely to do harm rather than good. Cystalgia may occur with lesions of the genitourinary apparatus, *i. e.* lesions affecting the urethra, bladder, kidneys, testis, and spermatic cord; with lesions of neighboring organs, such as the prostate, rectum, and anus. It may be incidental to ataxia or general paralysis, and be associated with gout, rheumatism, lead poisoning and malarial infection. There exists also an essential cystalgia. In the diagnosis the surgeon should be guided largely by the character and severity of any primary pathological condition that may be present, of an inflammatory or infectious character. He should also take into consideration the patient's general state. Care should be taken not to treat too radically lesions of the urinary way, the mildness of which is out of all proportion to the severity of the neuralgic manifestation. Narcotics, peros, hypodermically or per rectum; hot applications to the hypogastrium, instillations of very weak cocaine or menthol solutions into the deep urethra or vesical neck are generally useful, but the constitutional treatment is by far the most important.

Medical News, August 23, 1902.

The Symptomatology and Diagnosis of Acute Articular Rheumatism.—Leonard Weber believes that by the combined holding of the germ and nervous (*i. e.* trophoneurotic) theories he has generally been pretty well able to arrive at an understanding of the etiology of a given case. An acute attack generally comes on abruptly after exposure; the temperature rises quickly, the urine is scanty, highly colored, and in the majority of cases there are profuse acid sweats. Delirium is always present in the rarer cases in which there is hyperpyrex. The monarticular form of acute rheumatic arthritis is rare. The joint effusions are not often large, but pain and tenderness are almost always severe. Albuminuria is not uncommon, and endocarditis is of so frequent occurrence in acute rheumatism that we are justified in calling it one of its features rather than a complication. It is almost always "endocarditis verrucosa benigna" the ulcerative form being very rare, and concerns the mitral valve most frequently. The salicyl preparations are specific in their action for overcoming an attack, but they are not specifics in the sense of effecting a cure. The differential diagnosis has to be made from acute gonorrhœal arthritis, septic arthritis, the secondary multiple arthritis of acute infectious diseases, multiple neuritis, acute osteomyelitis and necrosis of bone, and multiple uric arthritis.

On the Pathogenesis of Acute Articular Rheumatism.—Heinrich Stern propounds a theory concerning the origin and nature of the rheumatic process, by the aid of which he attempts an explanation of (1) The hereditary transmission of the affection; (2) The proclivity to occur during a certain period of life; (3) The inclination to recurrence; (4) The abrupt onset; (5) The fluctuating pyrexia; (6) The synchronous and successive invasion of structures in different parts of the organism; (7) The self-limitedness. According to his theory, the rheumatic process is possible only on the basis of increased permeability of white fibrous tissue contained in the habitually-engaged parts of the motor apparatus, particularly in that of the serous and synovial membranes. The altered permeability, or a predisposition to the same, may antedate the rheumatic involvement, or it may be of synchronous or almost synchronous occurrence with the latter. The augmented permeability of this tissue is effected by the calcium salts of the blood which extract the cementing substance from the fibrous texture. Calcic bodies occurring in loose proteid combination in the blood are thrown out, deposited and temporarily retained in the articular tissues where their reactivity is displayed. The precipitation of the calcium salts from the circulating blood must be due to its altered composition, which latter may have arisen through any physical or metabolic disturbance. The increased permeability may permit the passage of such bodies which diffundate not at all, or with difficulty, only through the unaltered membrane. Among the permeating subtances we find fibrin, in which occurrence is dependent upon the presence of calcium salts. The hematic calcium salts aiding in the formation of fibrin very likely are identical with those which effect extraction of the cementing substance. The passage through the texture and into the synovial tubes, or their analogues, and the temporary retention therein, of abnormal quantities of fluid and salts and voluminous bodies like fibrin—practically a state of disturbed osmotic equilibrium for the time being—is speedily followed by all the usual manifestations of acute articular rheumatism.

New York Medical Journal, August 23, 1902.

Gastric Acidity.—L. H. Watson reviews the various attempts that have been made by physiological chemists to explain the chemical method by which the hydrochloric acid is separated from the serum by the gastric glands, and mentions the most frequent forms of gastric activity. In ulcer, neurasthenia gastrica, some forms of albuminuria, like interstitial nephritis, and in mitral stenosis and mitral insufficiency we often have hyperchlorhydria. In cholecystitis, cholelithiasis, cholangeitis, and hypertrophic cirrhosis of the liver, also, the acidity is usually high. It is especially in these cases of gall-bladder and liver troubles that he has found a high percentage of HCl. Of all forms of oversecretion gastrosuccorrhœa continua periodica, or Reichmann's disease is the most interesting.

Report of a Case of Successful Removal of a Kidney for Intermittent Hydronephrosis.—J. B. Boucher reports the case of a married woman, thirty-three years of age, who for thirteen years had attacks, at intervals, of from two weeks to two or three months, of severe pain in the right lumbar region, nausea and vomiting, with chilly sensations, followed by fever and restlessness. A tense tumor would suddenly develop, varying from the size of an orange to that of an adult's head; it extended into the abdomen to the right of the navel line, but its upper end was rather undefined, and could not be traced to the kidney. During the presence of the tumor the urine was frequently, though not always, diminished in quantity. A noticeable feature of the attacks was obstinate constipation. The affected kidney was removed extraperitoneally.

A Consultation with Professor Dieulafoy on Appendicitis.—Edmund L. Gros gives an account of the views held by Professor Dieulafoy on the treatment of appendicitis. Professor Dieulafoy believes in operating without delay in all cases in which there is high fever, a tendency to localized peritonitis and abscess. Appendicitis should no longer be considered as a local disease, but as an acute toxæmia. The canal through the appendix becomes obstructed by mucus, a foreign body, or fecal matter, and is thus converted into a closed cavity. The microbes imprisoned therein become highly virulent and secrete most powerful toxins. These germs may produce an ulceration, with perforation and localized or general peritonitis. The microbes may traverse the wall in the absence of any perforation, and thus start a contiguous inflammation. They may remain in the appendix and yet elaborate toxins so virulent that, if they are absorbed, they will poison the whole system. From the diagnostic point of view, Dieulafoy attaches great importance to the exact localization of the pain, to the hyperæsthesia of the abdominal wall over the appendix, and to the muscle spasm. Vomiting of blood in appendicitis is nearly always a forerunner of a fatal termination.

American Medicine, August 23, 1902.

Angina Pectoris.—Jay Perkins reports five cases of this disease, which he characterizes as one of the most interesting and fascinating to be found in the whole list of human ills. After a general discussion as to diagnosis, symptoms, differentiation, and so forth, he sums up the question of treatment as follows: The important thing in treatment is to search out the cause of the disease and the exciting causes of the attacks, and, so far as possible, to remove them. Of drugs, the one which seems to be of the greatest value is potassium iodide, given in moderate doses, not more than ten or fifteen grains, three times a day for a long time. During the attack, nitroglycerin is the best in many cases. Frequently, however, the only drug that will give relief is morphine, and sometimes a good deal of it is needed. The cause of the pain is not known, but it has been compared to that occurring in other hollow organs, as in renal and biliary colic; and it would seem that the same precautions should be used in the administration of morphine, for here and there the paroxysms may end suddenly, and then the poisonous symptoms due to the morphine will prevail, Therefore, if the pain is not controlled soon by morphine, chloroform or ether should be used.

Are Not Some Deaths During Operation in the Region Supplied by the Trifacial Nerve Due to Reflex Inhibition of Respiration and of the Heart?—William Harmar Good says it is a well-known fact that the peripheral sensory nerves all stand in a reflex relation to the cardio-inhibitory center, and also that the respiratory center is readily excited through reflex action, as instanced by the effect of cold water suddenly dashed upon the body, or by the accidental inhalation of strong ammonia. In etherizing rabbits it is noticed that as soon as the ether is applied to the nose the animal stops breathing for a more or less prolonged period. At the same time the heart is markedly inhibited; in fact, almost stopped. The recognition of these facts gave rise to the following questions: (1) is the inhibition due to the effect of the ether directly on the respiratory and cardio-inhibitory centers? (2) Is it due to irritation of the vagi endings in the lungs? (3) Is it due to irritation of trifacial fibers in the nasal mucosa, and if so, would other irritants act similarly? The writer answers these questions by pointing out that in the etherization of rabbits the reaction is so rapid as to preclude the possibility of the absorption and transmission of the ether through the blood of the medulla. Also that the application of ammonia or pinching the tip of the nose has the same effect. And further that from experiments on rabbits it can readily be proved that the respiratory and cardiac movements can be reflexly inhibited by irritation—either mechanical or chemical—of trifacial nerve endings. This raises the question whether during general anæsthesia in man, irritation of the trifacial nerve may not cause a reflex inhibition of respiration and of the heart, and death ensue? This result would occur most likely during partial or incomplete anæsthesia. After citing a few cases tending to prove the theory advanced, the author suggests methods of prevention and of overcoming the reflex after it has taken place. He points out that granting reflex inhibitions, it follows that the stape of primary anæsthesia is a dangerous time to perform any operation. It should not be commenced until anæsthesia is complete and the conjunctival reflex has been abolished. Moreover, the patient should not be allowed to come partially from under the influence of the anæsthetic during the operation. Finally, he emphasizes the treatment advanced theoretically by Ott and practically proved by Jackson. It consists simply of distension of the lungs by forced inspiration, by mouth-to-mouth insufflation, or even by means of the bellows, as is done in experimental work on animals.

Philadelphia Medical Journal, August 23, 1902.

Yellow Fever.—Frank H. Hancock gives a review of the contentions of those who have respectively advanced the claims of a specific agent of their own discovery, naming Freire, Carmona, Lacerda, Finlay, Gibier, Geverd, Sternberg, and Sanarelli. He also discusses the insecticidal methods of fumigation, and the passing of quarantine, citing figures to show that while general sanitation has lowered the mortality from tuberculosis, enteritis, and typhoid fever, it is not directly the agent in the stamping out of yellow fever, as infection and not condition has been responsible for this disease. As soon as its special mode of infection was demonstrated in 1899, Major Gorgas, with the ample authority of an autocratic government, proceeded with military exactness to execute the new ideas in the city of Havana. He divided the city into districts, organized a stegomyia brigade and an anopheles brigade, had houses inspected, wells made mosquito-proof, and the larvæ of mosquitos destroyed. The results were most effective. Yellow-fever cases began to diminish, and have ever since been under the control of those in charge. It is thus proved that there is no occasion for quarantine. The restraints upon commerce, the detention of ships with valuable cargoes and impatient passengers, seem to be at an end, so far as American ports are concerned, and in the nature of things it cannot be long before American methods will prevail in every yellow-fever center in the tropics, and this *bête noir* of humanity will be entirely stampedout.

Unusual Complications Supervening in a Simple Extirpation of a Multilocular Cyst of the Ovary.—Burdett Atkinson Terrett reports this case as one presenting several unique and interesting features, which he enumerates as follows: (1.) A multilocular cyst of the left ovary gave off a smaller pedunculated cyst, long enough to occupy the right inguinal region, which became sufficiently attached to the parietal peritoneum to hold it *in situ*, and thus simulate a second and entirely independent growth. (2) An abrupt rise of temperature occurred ten days after operation, and a pelvic abscess subsequently found without apparent cause, which abscess after evacuation resulted in the development of a urinary fistula, which closed spontaneously one week after discovery, the abscess itself becoming obliterated without apparent damage to adjacent structures. (3) An abscess developed later in the abdomen over the site of the cut omentum, which abscess formed a fecal fistula, which ultimately closed of itself, the abscess proper undergoing final obliteration. (4) The presence of streptococci in the pus of both abscesses demonstrated the common origin of the dual pus formation. (5) Two extra-abdominal incisions, one lumbar and one yaginal, became requisite, compelling a stay of over two months in bed, when every indication of an early and absolute recovery from the primary operation seemed assured. The writer concludes by saying that this patient is now in excellent health, having gained fifteen or twenty pounds, and resumed her household duties.

The Etiology and Diagnosis of Fractures in the Newborn.—W. Reynolds Wilson divides fractures in the newborn into those occurring before birth and those dependent upon delivery. Intrauterine fractures may be spontaneous or traumatic. In either case a pathological tendency in bony formation, coincident with faulty embryonic development, exists to a greater or less degree. Fractures occurring *sub partu* may be the result of a spontaneous process in delivery, or may be dependent upon obstetrical manipulation. He gives the common fractures of traumatic origin in the following order: (1) of the humerus; (2) of the clavicle; (3) of the femur. Fractures occurring at birth are usually the result—often inevitable—of the abnormal conditions present. Considering the question of diagnosis, the writer says that the first requisite in the study of these cases is the careful examination of the child after birth. The delivery may have been effected without force, the occurrence of fracture being therefore naturally overlooked, and yet the possibility of intrauterine fracture may determine the lesion irrespective of labor, or the fragility of the skeleton may predispose to fracture. In considering intrauterine fracture, the history of former deliveries, the course of pregnancy, and the condition of the mother must be taken into account. Tuberculosis and syphilis may be responsible. Two points are important in the study of such fractures: First, the fact that the lesions are generally multiple; second, the tendency to distinct loss in bony continuity. The writer concludes by saying that there are generally certain positive signs which should lead to diagnosis, such as a cry denoting pain, disability as to motion, dimpling of the overlying tissues, swelling of the soft parts, and undue mobility. Diagnosis by the radiograph is, of course, conclusive. The diagnosis may be obscured by the presence of fat in overgrown children.

The Lancet, August 16, 1902.

"Fourth Disease."—R. W. Marsden discusses the differential diagnosis of this disease, the definite existence of which, distinct from measles, scarlet fever, and rubella, was first advocated by Dr. Clement Dukes. From a consideration of the evidence upon which the differentiation of a "fourth disease" has been based, he is led to think that more conclusive details must be brought forward before we can feel satisfied that its definite nature has been distinguished. He does not deny, however, the possibility of its existence.

A Case of Nasal Vertigo Simulating Epilepsy.—Edward Woakes describes the case of a middle-aged man suffering from epileptiform seizures. Nasal examination showed enlargement of both middle turbinated bones; the left to a slight extent only, while the right presented a firm nodulated tumor, occupying the anterior ethmoid region of the nostril from its outer wall to the septum. It was removed with the author's cutting ring forceps; the sections showed expansion of the intertrabecular spaces, but no considerable cyst or cavity. For four and a half years the patient had no further attacks, but after the lapse of that time they recurred. The recrudescence of the symptoms was attributed to a morbid development of the left turbinal, which was found on examination. Ablation of the entire left middle turbinal bone, as well as the stump on the right side, brought about a definite cessation of the fits. The case may be regarded as an extreme type of a class of which there are many examples—that is to say, of vertigo of nasal origin. Though constituting a group of disease which is *sui generis* and quite distinct from epilepsy, it sometimes simulates one or other of the forms embraced by this latter term. It has, however, these advantages over true epilepsy, the existence of a recognizable *causa causans*, viz., ethmoidal disease and its almost certain cessation when this disease is radically dealt with.

A Case of Acute Mental Disorder, Probably Toxic in Origin, Secondary to Influenza: Result of the Necropsy Practically Negative, Except that the Bacillus Diphtheriæ Was Found in the Blood.—Alice N. V. Johnson and Edwin Goodall report the case of a middle-aged married woman, whose condition, clinically considered, was that of an confusional insanity. The necropsy negatived dementia paralytica and acute delirious mania. The patient appears to have been the subject of toxæmia, although the precise nature is obscure. The record of the mental disorder dates from a supposed attack of influenza, although it is rather remarkable that there should have been marked exacerbation of mental symptoms, without any recrudescence of the disease, from two to three months after their appearance. The negative result of the necropsy, beyond the slightly increased vascularity of the brain substance and some cardiac changes, was very remarkable. There was nothing in the respiratory tract to raise the suspicion of diphtheria, although certain parts were much congested. As regards the presence of the bacillus diphtheriæ in the blood, observers have pointed out that this is sometimes found in the organs (lung, liver, etc.) postmortem, and it is conjectured that the bacillus has, in such cases, passed into the blood stream after death. The patient may have had diphtheria, and this disease may have been the cause of her later mental symptoms. Microscopical examination of some sections from the parietal region of the brain showed that the tangential fibers and the superradiary were scanty and degenerate.

Remarks on the Life-History of Filaria Bancrofti and Filaria Immitis.—Louis W. Sambon, in a lengthy paper, takes exception to the statement of Dr. Giovanni Noè ("Remarks on the Life-cycle of Filaria Bancrofti, Cobbold, and Filaria Immitis, Leidy") that the mosquito propagation of filariasis has been discovered by Professor Grassi and the latter, and that Professor Grassi is entitled to claim the merit of having established a scientific basis for the prophylaxis of filaria Bancrofti. He also refutes Noè's assertion that Professor Grassi discovered the mosquito propagation of the malarial parasites of man, and that the researches of Major R. Ross on the transmission of the hæmamœba relicta did not preclude the propagation of the parasites by means of air and water. Touching Noè's reference to a visit which Dr. Manson and himself paid to Professor Grassi in 1900, he says that the purport of that visit is misrepresented both in Dr. Noè's paper and in the previous publication by Professor Grassi and Dr. Noè. Firstly, Dr. Nanson went to Rome to investigate on the possibility of carrying out a double experiment on the etiology and prophylaxis of malaria in the Roman Campagna; the experiment was successfully carried out by Sambon and Dr. G. C. Low in the following epidemic season. Secondly, Professor Grassi did not discover in Dr. Nanson's specimens a filaria at its maximum stage of development within the head section of a mosquito, and did not formulate thereat the hypothesis of the possible transmission of filariæ by means of mosquito-bites, for the reason that Dr. Nansen purposely brought his specimens from London to show Professor Grassi and others that filaria Bancrofti, after having reached a certain stage of development, migrated from the thoracic muscles of its intermediate host, most probably to reach the mouth parts of the insect, and to be inoculated into the human definitive host during puncture, as is the case with the malaria parasites.

The British Medical Journal, August 16, 1902.

Laparotomy Twice on the Same Patient within Eighteen Months for Different Varieties of Volvulus.—C. L. Williams reports this case as showing the tolerance of certain natives of India for severe operations, and their recuperative power. He operated on November 18, 1900, on a native woman, about fifty-three years old, and deaf and dumb, for an ordinary volvulus of the sigmoid flexure of three or four days' duration, and with enormous distention of the large gut, by incision below the umbilicus and untwisting of the gut. This was followed by an uneventful recovery. The same patient returned on March 19, 1902, with a twist of the mesentery from right to left through 180°, high up, and again with enormous distention of the small gut in the epigastrium, above the band formed by the twisted mesentery; this time the incision was made above the umbilicus, and the pedicle of the grape-like mass of small intestine with mesentery was untwisted; and again, after seventy-two hours' obstruction, the patient made an uneventful recovery.

The After-Treatment of Dislocation of the Shoulder. John A. Francis describes the method by which he treated three subcoracoid dislocations of the humerus. After reduction he bandaged lightly to give the joint one night's rest and the next day used passive movements, hand on opposite shoulder, arm over head and behind back, etc. Passive movements were continued for ten days, after which time gentle exercise for the arm was encouraged. The clothes were allowed to be put on the third day after reduction, care being taken only that the injured arm was the first in the sleeve and the last out in putting on and off the coat and greatcoat, with assistance from another person. A handkerchief sling was used for a week, and then the arm was allowed to hang loose. The patients all went to work at the end of six weeks, with a caution to be careful for a week or two in lifting weights, etc. At the present time, eight months after dislocation, they are all three engaged in hard work, with perfect shoulders, and no trace of want of power or limited action. The writer suggests that the long periods of inactivity recommended in many textbooks lead to flabbiness and degeneration in muscles and ligaments, which are likely to give rise to relaxation on resuming work. Massage also will not have so great an effect as voluntary effort in keeping the tissues in condition.

Plague as a Soil Infection.—In this paper Reginald Farrar disclaims any attempt to produce a novel theory of plague, but intends merely to summarize evidence available in the report of the Indian Plague Commission and other published documents, to the effect that outbreaks of bubonic plague are dependent on the infection with a specific microbe of soil contaminated with the excreta of rats or other animals that have suffered with the disease. This evidence further shows that, except in pneumonic cases, infection is ordinarily the result of direct inoculation from the soil, the element of personal communication being a factor of small importance He adduces as one most significant proof of this the fact that when the prompt evacuation of villages or infected areas is properly carried out the disease is completely arrested. The great susceptibility of the natives of India to plague lies largely in the fact that they are a barefooted race. To well-shod and well-clad Europeans plague is but slightly dangerous, the few cases that do occur being generally of the pneumonic type or the result of accidental inoculation, one of the few English children who died having contracted the disease from the bite of a plague-stricken squirrel. The writer ends by saying that if plague is to be excluded we must devote our energies not merely to the exclusion of plague-smitten persons and plague-infected articles, but especially to the exclusion of rats. To this end he warmly advocates the policy of rat-free ships.

Peripheral Neuritis of Tuberculous Origin.—This case is reported by J. Geddes Scott as being of interest from its unusual character. The patient on landing in Madeira after a three-weeks' voyage from London, *via* the Morocco Coast and the Canary Islands, complained of almost complete loss of power in both legs, which he first noticed on the second or third day of his journey. He was also suffering from extensive tuberculous disease of both lungs, although he considered himself practically cured of this trouble, and complained only of the condition of his legs. He showed every symptom of peripheral neuritis, being just able to stand on his feet, but quite unable to place one leg before the other. He complained of pain, especially in the calves, and numbness and tingling in the extremities; sensation was considerably altered, and there was much wasting of both limbs, especially the anterior tibial muscles, and both feet were markedly œdematous. There was no sign of neuritis elsewhere. He was put under a regimen of complete rest and tonic medicines, with massage and electricity to the affected limbs, but in spite of this, went rapidly down hill, developing profuse diarrhœa, probably due to tuberculous ulceration of the intestinal tract, and died of exhaustion a fortnight after coming under observation. The writer can see no cause for the neuritis except tubercle, as there were no spinal symptoms and alcohol was out of the question as a factor, as were all the other causes to which neuritis is commonly due.

Deutsche medicinische Wochenschrift, July 31, 1902.

A Symptom of Aneurysm Which Has Been Seldom Described.—Dorendorf calls attention to a symptom of aneurysm of the arch of the aorta which has hitherto received but little consideration. It consists in an obliteration of the left supraclavicular fossa. In many cases not only is the fossa obliterated, but a moderate-sized tumor takes its place. In all cases the left externa jugular vein is markedly congested and prominent. The deformity present in the supraclavicular fossæ may be temporarily made to disappear by pressure applied thereto from abode downward. In eight cases of aortic aneurysm recently examined this symptom was present in every instance, while it has never been observed by the author in other conditions. It is thought that the deformity is caused by the pressure of the aneurysm upon the left innominate vein.

Leucocytosis in Pregnancy, Labor, and the Puerperium.—W. Zangemeister and M. Wagner report the following observations: (1) The total leucocyte count in forty-seven non-pregnant women varied from 7,500 to 21,330. (2) A similar count in fifty-seven pregnant women gave practically the same figures. (3) Counts made upon sixty-three women during labor showed that in this condition a hyperleucocytosis was present, and that this reached its maximum about the time of the termination of the labor. The highest counts were approximately 30,000, and were obtained in those women who had shown the greatest number of leucocytes during pregnancy. (4) Counts made upon seventy-five women during the puerperium, show that, under normal conditions, the number of leucocytes rapidly diminishes after labor, so that there usual figures are reached within three or four days. In pathological puerperal conditions there seems to be no definite rule with respect to the degree of hyperleucocytosis present. A complicating mastitis, as a rule, gives high counts. Simple fetor is generally accompanied by low counts. In general, it may be said that the grade of the hyperleucocytosis during the puerperium corresponds with the amount of absorption taking place. In connection with these observations it is interesting to note that during labor, which is regarded as a physiological process, there occurs a hyperleucocytosis which is indistinguishable from that encountered in severe infectious conditions.

Berliner klinische Wochenschrift, August 4, 1902.

Fatty Degeneration.—P. Wulff reports a peculiar case of fatty degeneration of the tissues. The patient had just recovered from a severe attack of pneumonia when he was seized with symptoms of a perityphlitic nature. Upon operation the appendix was found to be sound, but above this and posteriorly there was found a large abscess, embedded in fatty tissue, a considerable portion of which was undergoing degeneration. This abscess was evacuated and packed with gauze. Several days thereafter profuse hemorrhage took place from the abscess cavity and death shortly supervened. Upon autopsy the abdominal fat was found to be greatly increased in amount, a large portion of which was undergoing a typical fatty necrosis. The chief location of this necrosis was the cæcal region. The chief interest of the case lies in the fact that the pancreas was found entirely normal and in no way involved in the fatty metamorphosis. It has been generally supposed that in fatty necrosis the primary seat of the lesion is invariably located in the pancreas, and that changes in this organ stand in a direct etiological relation to the disease. This case demonstrates, however, that such is not always the case, and that fatty necrosis may occur and the pancreas be in no way involved.

How Often in Appendicitis Is Typical Dulness in the Right Iliac Fossa Absent?—Riedel discusses the value of dulness in the right iliac fossa as a sign in the diagnosis and treatment of appendicitis. The decision of the question hinges upon the frequency of dulness and the time of its appearance in this condition. The experience of the author shows that in about 30 per cent. of all cases dulness is either entirely absent or can only be elicited late in the disease, when operative measures are of little or no avail. The chief reasons therefor are (1) The situation of the appendix; (2) The absence of infiltration. In no case is dulness elicited unless a sufficient amount of infiltration is present to give rise thereto. If the appendix is situated behind the cæcum, this amount is not produced until late in the attack, and dulness is, therefore, rarely available for either diagnostic or therapeutic indications. In the majority of instances in which the appendix is situated anteriorly the infiltration is sufficient to give rise to early dulness, but even here, when the appendix is deep-seated, this may not be the case. Because of these considerations, it is evident that he who relies on the absence of dulness in the right iliac fossa as a valuable sign in the diagnosis or treatment of appendicitis is on dangerous ground.

Hysteria Combined with Organic Lesions of the Nervous System Following Traumatism.—Ernst Meyer's patient was a male, forty-nine years of age, who, in December, 1900, suffered a slight traumatism of the left elbow. Shortly thereafter pronounced hysterical symptoms appeared. These consisted of paræsthesias, pains, weakness of the limbs, dyspeptic symptoms, and certain ill-defined psychical disturbances. After about four months there was added to these appearances tremors, muscular spasms, and disturbances of locomotion and speech. An examination at this time showed an absence of the patellar reflexes and a failure of the pupils to react to light. The disturbances of speech and psychical phenomena increased in severity, and the condition of the patient became markedly apathetic. Notwithstanding the development of these symptoms, denoting organic lesions of the nervous system, the hysterical appearances continued, especially the paræsthesias, which were intermittent and frequently changed their location. Throughout the entire course the intensity of the symptoms has been very varied, although there has been a steady progression toward the worse. It is evident from the symptom-complex that in this case there is present a true combination of hysterical symptoms and those dependent upon organic lesions of the nervous system. The latter are with difficulty definitely defined, but it seems most probable that they are tabic in nature.

Münchener medisciniche Wochenschrift, August 5, 1902.

Widal's Reaction in Weil's Disease.—L. Zupnik calls attention to Eckhardt's article in No. 27 of the *Münchener medicinische Wochenschrift* relative to a case of Weil's disease which gave a positive Widal reaction. Zupnik, nearly a year since, reported the following cases in which a positive Widal reaction was obtained: Four out of six cases of Weil's disease, two cases of cholelithiasis, one case of cholangitis suppurativa, and one case of carcinoma of the liver. While from these observations the typhoid origin of Weil's disease might be suspected, it is evident that such cannot be positively affirmed, since many cases of this disease fail at any time to give a positive Widal reaction

A Ruminating Family.—L, R. Muller reports the instances of a father and two sons, all three of which had been ruminates since birth. About fifteen or thirty minutes after a meal the regurgitation of the food began, and continued from one-half to one hour, according to the quantity of food eaten. As the food was regurgitated, it was remasticated and again swallowed. The two sons are in the best of health, and have never suffered with dyspeptic or other digestive disturbances. The father likewise always enjoyed good health until about six months previous to his death, when he developed symptoms of carcinoma of the stomach. The symptoms increased in severity, and before death occurred the patient became markedly cachectic. Upon autopsy an hourglass stomach was found, a carcinoma being located between the two portions. The cardiac portion and the œsophagus were greatly dilated.

Carcinoma of the Cervix as a Complication of Labor.—Bamberger's patient had passed without incident through six pregnancies. From the middle half of the present pregnancy there had been present periodical uterine hemorrhages, and the diagnosis of placenta prævia had been made. The author was first called to the patient after she had been five days in labor without having made any material progress. A vaginal examination showed that the cervix was about one-fourth dilated, very rigid, and eroded upon a considerable portion of its surface. Bimanual examination revealed the presence of a tumor about the size of a hen's egg, located on the left side of the cervix near its junction with the body of the uterus. The child being alive, the cervix was incised and extraction accomplished through podalic version. The infant was found to be in good condition and of normal proportions. The mother died on the second day under all the appearances of a septic peritonitis. The chief interest in the case attaches to the healthy condition of the child and its successful delivery.

Etiology of Eczema.—Heubel reports a case which adds still further evidence in support of the non-parasitic nature of eczema. The primary attack occurred when the patient was seven months of age and was being fed exclusively on the milk from one cow. All treatment was without avail. The source of the food supply was investigated, and it was found that the animal was being fed with an excessive amount of salt. This was ordered to be rectified. All treatment was discontinued. Shortly thereafter the cutaneous lesions began to improve, and in a short time healed entirely. In about three months a recurrence took place. Upon investigation it was found that the milk supply had been changed and was being obtained from another cow. It was ascertained that this animal, similarly as the first, was receiving an excessive amount of salt. The same course was pursued as with the first cow, and the eczema of the child promptly disappeared. It is interesting to note that another child, who was receiving milk from the second cow, was also suffering from eczema. Upon withdrawing the excessive amount of salt from the diet of the cow the eczematous lesions upon this child also healed. It cannot be doubted that in both of these cases the nutritive supply was the sole cause of the eczema.

French and Italian Journals.

The Functional Power of the Heart.—Giovanni Galli holds that the present classification of reduplication of the heart sounds into physiological and pathological is not correct, and that it would be better to classify them as diastolic reduplications of the first, second and third grade. Diastolic division is always pathological, that of the third grade being the gravest, and the least amenable to treatment by repose. The condition is an indication of cardiac insufficiency, and is therefore of value in determining the functional power of the heart. Left diastolic reduplication must be carefully distinguished from that of the right side. Rest is the best method of overcoming diastolic reduplication, and thus of treating cardiac insufficiency.—*Il Policlinico, July*, 1902.

The Peripheral Equilibrium Maintained in Motor Disturbances and Its Influence on the Functions of the Nerve Centers.—A. Codivilla concludes from his researches that operative measures performed on the peripheric organs with a view of restoring equilibrium of the force distributed to the articulations, acts not only by modifying the articular mechanism, but also by exerting an influence on the nerve centres. Just as the altered functions which rendered operation necessary have an injurious influence on the nerve centers, so does the restored functional power act beneficially. In cases of anomalous functioning of the motor nerve centers, restored peripheric equilibrium may overcome these disturbances. (1) The action of the injured center is eliminated, and normal action substituted. (2) From the abnormal centre certain conditions apt to cause grave disturbance are removed, such as those which tend to increase the tone of the nerve-cells and thus cause strong reflex excitation. (3) The nerve centre is enabled to profit by the educational effects of exercise.—*Archivio di Ortopedia*, 1902, *Part* 1.

A Case of Aortic Aneurysm.—Bourdillon reports this case. The aneurysmal tumor was formed by an irregular dilatation of the entire aortic arch, the diameter of which was about 20 cm. The aneurysm burst into the left bronchus, which was found at autopsy to be joined to the aneurysm and partly destroyed for a length of 5 cm. The life of the patient had been prolonged for two years by injections of gelatinized serum. The arch was lined with voluminous clots. They were adherent to the wall of the ascending arch. The descending branch was filled with a thrombus, which was easily detached from the arterial wall. This thrombus weighed 280 grams and formed an exact mould of the cavity. It was perforated by a cylindrical canal through which the blood flowed. By this arrangement the normal function of this part of the aorta was almost re-established, for although the vessel was so enormously dilated, the lumen for the blood current was only about 5 cm. in diameter.—*Revue Médicale de la Suisse Romande*, July 20, 1902.

Paludic Cirrhosis.—According to Géraudel, the cirrhosis of paludism has been distinguished especially by the coexistence of a great abundance of blood pigment, rather than of biliary pigment, in the interior of the hepatic cells. Connective tissue proliferation is found in all parts of the organ, even in the interior of the lobules. Paludic cirrhosis most often is distinguished by an insidious onset, a slow and progressive increase in volume of the spleen, which is always larger, comparatively, than the liver; anæmia more or less marked, the more or less early appearance of jaundice of a bronze hue, absence of fever, of pain, and of peritoneal reaction, a very slow course, and death from hepatic insufficiency. In the terminal stage all of the symptoms are exaggerated. The termination is not, however, always necessarily fatal. The prognosis varies with the stage. The treatment should consist in the administration of iodide of potassium, carefully given, in small doses, and in hydrotherapy.—*Gazette des Hôpitaux*, July 22, 1902.

Adrenalin in Metrorrhagia of the Menopause.—Debrand makes this report. One of his patients was a woman of fifty years, a neuroarthritic. Ergotin did not stop the metrorrhagia from which she suffered, and the writer gave her ten drops of a 1 to 1,000 solution of adrenalin. By evening the flow had diminished one-half. On the following day fifteen drops were administered. The improvement continued. On the next day twenty drops were given, and that day the hemorrhage ceased. The dose was then decreased in inverse gradation. Since that time several catamenial periods have occurred regularly. From all of his experience with this remedy, the writer believes that adrenalin is a hæmostatic of the first order in the severe metrorrhagia of the menopause, and very probably in other varieties of this affection. It would be of advantage to employ this drug at the onset of severe uterine hemorrhages. Unless the case is urgent, however, t would be better not to begin with a large dose.—*La Tribune Médicale*, July 23, 1902.

The Microbe of Epidemic Dysentery.—A. Chantemesse declares that the terms catarrhal, epidemic, and diphheritic dysentery have no definite significance. Catarrh of the large intestine is an anatomical lesion, which can occur in dysentery and in many other intestinal maladies. Geographical boundaries do not determine the etiological character of dysentery. A classification of the microorganisms which cause the disease is the only way to throw any light on this subject. In fact, the dysenteries, epidemic or sporadic, which appear in one region and another, are due to two microorganisms which are totally different, an amœba and a bacillus. The amœba of dysentery was observed by Kartulis in Egypt. Osler reported its presence in a liver abscess in a patient who had been attacked by dysentery in Panama. Amœbic dysentery develops in a manner rather sporadic than epidemic. It occurs most often in adults and most often in men. It may carry off the victim in a few weeks, but ordinarily its course is chronic. The stools contain mucus, blood, pus, and amœbæ. Periods of constipation and diarrhœa alternate. The disease may be cured or it may terminate in intestinal perforation or in abscess of the liver. The blood of such patients does not agglutinate the dysenteric bacillus (Osler). Bacillary dysentery is especially epidemic, infectious. It may cause death quickly or its course may be chronic. It gives rise to intestinal ulcerations. It sometimes occurs in isolated cases. It is due to a special bacillus, which is agglutinated by the blood of patients who have been suffering from dysentery for a number of days. The specificity of this microbe has been well proved. The bacillus multiplies in the intestinal cavities, in the walls of the large intestine, in the mesenteric ganglia, in the spleen, and often in other organs. The mortality caused by this bacillus is considerable.—*La Presse Médicale*, July 23, 1902.

Archives of Pediatrics, August, 1902.

Typhoid Fever Complicated with Pneumonia and Followed by Laryngeal Diphtheria.—Edwin Rosenthal reports a case in which the interesting point to note was that the diphtheria followed the typhoid fever instead of preceding it. Pleurisy and empyæma followed closely on the diphtheria, so that the child was constantly ill for a period of nearly three months. Three thousand units of antitoxin with calomel overcame the diphtheria. For the empyæma puncture and evacuation of pus had to be performed. The child is in a good condition, which gives hope of a final perfect health. The case shows conspicuously the recuperative powers of a child.

A Case of Chondrodystrophy Fœtalis.—John Lovett Morse reports the case of an infant of two months which belonged to a class of cases described variously as fetal rickets, osteogenesis imperfecta, achondroplasia, and chondrodystrophy fœtalis. In a general way, in these cases the trunk is normal, the extremities short and deformed, the head large, and the bridge of the nose flattened. Although many cases have been worked up macroscopically and microscopically, by competent observers, no scientific classification on pathological lines is at present possible. While the pathological lesions in the different specimens resemble each other in a general way no two cases show exactly the same changes. The author gives in detail the points which appear to be pretty well established. Chondrodystrophy affects not only the osseous system, but also the general nutrition of the fœtus, and is often associated with other malformations. Hence in most cases the fœtus dies in utero. Milder cases may reach adult life. But few cases have been reported in this country.

Norsk Magazin for Laegevidenskaben, August, 1902.

The Teachings of Experience in Regard to Labor Complicated by a Narrow Pelvis.—Dr. Dreyer has had an experience of 196 cases of narrowed pelvis in which he was obliged to intervene. He used the forceps 112 times; version and extraction were resorted to twenty-six times; pelvic presentation extracted eleven times. As between forceps and version, the author decidedly prefers the former. He is absolutely opposed to version as a prophylactic measure. Cæsarean section he performed once. Premature delivery was induced twenty-two times Out of all the 'cases 126 of the children lived. Five per cent. of the mothers died.

An Epidemic of Dysentery at Aeseral.—M. Geirsvold describes a small but severe epidemic of dysentery which occurred in a remote valley in Southern Norway in the spring of 1902. There were eleven patients with ten deaths. The well water was certainly at fault, for as soon as it was closed and only boiled water used the epidemic ceased. In all the fatal cases there was gangrene of the intestines. From the water, contaminated by human and animal dejecta, were isolated coliform bacilli, which produced a general hemorrhagic infection in animals, with special localization in the intestines, and a typhoid bacillus, non-virulent in animals. The Striga-Kruse bacillus was not found.

Medical Gymnastics and Massage in the Treatment of Heart Disease.—P. E. Giertsen holds that these measures are often of value, and to be used as follows: (1) Exercises addressed to the circulation, or else pétrissage of the muscles of the extremities and of the abdomen, to exert pressure on the veins, and drive the blood onward to the heart. (2) Respiratory exercises, increasing the capacity of the thorax and its aspiratory action on the larger veins, facilitating the evacuation of the network of capillaries, increasing the intake of oxygen and diminishing the venosity of the mass of the blood. (3) Mechanical treatment addressed to the cardiac region, tractions, vibrations, and frictions reducing the frequency of the pulse, as shown by the result of 6,000 observations made by Levin of Stockholm. (4) Judiciously chosen muscular exercises to increase the filling of the arteries and the evacuation of the veins. Patients may derive benefit from these procedures in the winter season, and in the summer carry out the mountain treatment as prescribed by Oertel. The two methods are not opposed, but admirably supplement each other.

A Peculiar Abdominal Tumor.—John Stephen M'Arale describes the case of a young woman, aged twenty-three years, suffering from an abdominal tumor. For over a year she had been in the habit of eating hay. She complained of morning sickness, vomiting after solid food, particularly meat, and occasional headaches. The tumor extended about 1½ inches below the umbilicus, was hard, and when fixed dull, on percussion. It was readily movable upward. The author operated, opening into the stomach midway between the lesser and greater curvatures, at the junction of the middle and pyloric thirds of the stomach. A sour-smelling fluid exuded. The tumor was grasped and excised and the tumor removed. Some pain and restlessness followed operation, but the patient made a good recovery. The mass of hay was in two parts, which were connected; the tail of the smaller tumor extended into the duodenum. The larger tumor, was over 1½ lbs in weight, and the pyloric one nearly ½ a lb. They measured 16½ inches in length and 3½ inches in breadth. The circumference at the largest point was 10 inches. The fibers of the mass were very strong, were not masticated, and, owing to their rigidity, the pyloris resisted their passage.—*The Dublin Journal of Medical Science.*

Some Work on a Curative Serum for Typhoid Fever.—William Royal Stokes and John S. Fulton have performed a series of experiments to test the effect of a serum of high immunizing power in cases of typhoid fever. They sum up the animal experiments as follows: The subcutaneous injection of the serum in doses of from $\frac{1}{600}$ to $\frac{1}{800}$ of the body weight will protect guinea-pigs against four times the minimum fatal dose of intraperitoneal injection with the typhoid bacillus. The injection of $\frac{1}{3000}$ to $\frac{1}{4000}$ of the serum by weight into the abdominal cavity will protect against five times the minimum fatal dose, and a dose of $\frac{1}{600}$ to $\frac{1}{800}$ of the body weight will protect against seven times the minimum fatal dose of the typhoid bacillus. At the present time only five cases of typhoid fever have received this serum treatment, and although the number is too small to to deduce any definite conclusions, the writers state that it is not difficult to produce a serum of high agglutinative strength and immunizing power by injecting the hog with pure typhoid cultures. The use of this serum appeared to give slightly favorable results in three of the cases. The writers will soon extend their observations in this field.—*Maryland Medical Journal.*

Book Reviews.

The Roentgen Rays in Medicine and Surgery. By Francis H. Williams, M.D. (Harv.), Graduate of the Massachusetts Institute of Technology; Visiting Physician at the Boston City Hospital; Fellow of the Massachusetts Medical Society, etc. Second edition. New York: The Macmillan Company, 1902.

That there is a widespread interest in all that pertains to the Röntgen rays, and especially their influence upon current medical thought, is shown by the rapidity with which editions of *x*-ray treatises are exhausted.

The present work is especially designed for medical men, and still the therapeutic application of the ray has been known for so short a period that the portion treating upon this most important feature is at the present day even inadequate to the requirements. Only forty pages have been added to the original edition, much of which is taken up with descriptions of apparatus, etc. Too little time between editions and lack of time for preparing the second account for a certain disappointment in the quantity and quality of alteration and addition.

The work is praiseworthy and most readable, but it is hoped that the next edition may be fully revised.

La Fototerapia. By Dr. Antonino Sciascia. Roma: Società Editrice Dante Alighieri, 1902.

This is a small brochure of 125 pages, presenting the clinical experience of the author since 1890 in the therapy of light. There are numerous illustrations of cases, including malignant pustule, tuberculosis, epithelioma, lupus, etc.

International Clinics, a Quarterly of Illustrated Clinical Lectures and especially prepared articles. By leading men of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D. Philadelphia: J. B. Lippincott Company, 1902.

The subjects included in the June number are all of an interesting character. Surgery of the Abdomen, including Hernia, is from the pen of Wm. B. Coley; Gynecology, by John G. Clark; Diseases of the Blood and Ductless Glands, the Hemorrhagic Diseases and Metabolic Diseases, by Alfred Stengel; Ophthalmology, by Edward Jackson.

There are only a limited number of illustrations, and the various topics discussed in the 440 large pages bring out much that is new and important. The work is one much better suited for occasional reference than for deliberate reading. Facts and figures are at times abundant, but this summer volume is not in the nature of light summer literature.

An interesting feature of this issue is the department of biographical sketches of eminent living physicians. Dr. Guy Hinsdale writes the eventful life of S. Weir Mitchell and John A. Wyeth. Both are illustrated. To close the usual number of articles and department work there is an essay on the Eightieth Birthday of Rudolph Virchow and one on the death of President McKinley.

The volume is well illustrated, having several colored plates. The "Clinics" can be said to be more than maintaining promises.

The Neuroses of the Genitourinary System in the Male, with Sterility and Impotence. By Dr. R. Ultzmann, Professor of Genitourinary Diseases in the University of Vienna. Translated by Gerdner W. Allen, M.D., Surgeon in the Genitourinary Department of the Boston Dispensary; Instructor in Genitourinary Surgery in Tuft's Medical School. Philadelphia: F. A. Davis Company, 1902.

This is the second edition of the Ultzmann translation, and the chief addition consists in the lengthened and improved article on forms of nervous impotence. Minor changes here and there bring the various chapters well up to date. With the exception of matters pertaining to sexual disorders, little has been added to the work as originally put out by the well-known Vienna teacher.

Though brief, the chapters as originally prepared cover the subject admirably.

The Practical Medicine Series of Year Books. Edited by Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. VII. Materia Medica and Therapeutics; Preventive Medicine; Climatology; Forensic Medicine. Edited by Geo. F. Butler, Ph.G., M.D., Henry B. Favill, A.B., M.D., Norman Bridge, A.M., M.D., Harold N. Moyer, M.D., Chicago: The Year Book Publishers, June, 1902.

The first portion of the seventh volume of this series deals with the recent advances in therapeutics and materia medica. The uses of light, liquid air, massage, electricity, etc., are all considered along with the latest knowledge of drugs. The section on preventive medicine is short but pithy, while climatology claims a more extensive recognition, and includes some interesting tables of various health resorts. The book, as a whole, is both interesting and instructive.

Charaka-Samhitâ. Translated into English by Avinash Chandra Kaviratna, editor of Chikitsa-Sammilani (medical journal in Bengali); practitioner of the Hindu system of medicine, etc. Calcutta: Kaviratna Press, 1902.

The twenty-eighth fasciculus of the translation of this classical Hindu treatise on medicine and hygiene, by Avinash Chandra Kaviratna, has reached us. In this part the chapter on management of the lying-in woman and training of the young child is concluded, and that on the "Life-breaths," as indicated by the complexion and the voice, is begun. This deals with prognosis, or rather with the signs of approaching dissolution, which seem to be many and diverse. It is most interesting to glance through this work and so to come in touch with the medical thought of ancient India, although we cannot quite share the enthusiasm of the learned translator or follow him in his belief in the practical value of the work in modern medicine. It must be confessed, however, that many of the hygienic saws of the illustrious son of Atri are surprisingly like some of the recently-promulgated dicta of latter-day sanitarians.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Volume V. January, 1902. Edited by Andrew J. McCosh, M.D., and W. Gilman Thompson, M.D.

The report is an elaborate publication of selected cases from the various services. Among others are the report of a case of tumor of the brain, localized in the right posterior central convolution, removed by operation and followed by recovery, by M. Allen Starr and A. J. McCosh; a series of cases of duodenal ulcer by Francis P. Kinnicutt; a report of three cases of acute pancreatitis, preceded by general considerations upon this subject, by George Woolsey; and a report of twenty-two cases of abscess of the brain, by John W. Coe and Burton J. Lee, including a table of differential diagnosis and of localization. The volume contains also two papers relating to ureter catheterization by F. Tilden Brown, in which are enumerated the disadvantages of the Kelly method of ureteral catheterization and also of the Harris instrument. The second part of this article is devoted largely to a description of the writers composite ureter cystoscope, by means of which instrument both ureters are catheterized at the same time.

Footprint Records.—Bettman describes a method of making permanent records of footprint impressions that is free from the inconveniences of that commonly in use This is usually some modification of Volkmann's method, and requires the coating of the paper with lampblack and the subsequent fixation of the imprint with varnish. Such paper cannot well be kept in stock, owing to the tendency of the coating to rub off, and its preparation before each time of using is both troublesome and untidy, through the soiling of the hands, which it is sure to involve. In addition, although the coarser features are shown, many finer details of marking and conformation entirely escape record. A material that is open to none of these objections is the ordinary sensitized paper of photographers. To use it for this purpose the sole of the foot is dampened with soda solution, such as is employed for fixing, and is then applied to the paper in the usual way for several seconds. A few moments exposure to sunlight brings out an imprint of beautiful clearness, in which the finest details are plainly visible. The paper is toned like an ordinary print, and is then ready for preservation as a permanent record. Many other chemicals beside the soda solution may be used to decompose the silver salt on the paper—for example, in hyperidrosis the perspiration alone will accomplish the result. The cheaper ferrocyanide blue print paper gives somewhat inferior but still very satisfactory results, the foot being moistened with weak acetic acid solution, and is especially to be recommended for the use of orthopedic shoemakers.—*Centralblatt für Chirurgie.*

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventieth Annual Meeting, Held at Manchester July 29, 30' 31, *and August* 1, 1902

(Special Report to the MEDICAL RECORD.)

(*Continued from page* 314)

SECTION OF OBSTETRICS AND GYNECOLOGY.

Wednesday, July 30—*First Day.*

The Manchester School of Obstetrics and Gynecology. The President, Dr. LLOYD ROBERTS of Manchester, delivered an introductory address with this title:

The founder of the school was Charles White, born in Manchester on October 4, 1728. His father, Thomas White, also a doctor in Manchester, was the first to perform the cæsarian section in the neighborhood. Charles White was a fellow-pupil of John Hunter, and with him attended the lectures of Dr. William Hunter, and remained the friend of both through life. He was Surgeon to the Royal Infirmary for thirty-eight years, an institution he aided in founding, and to the Manchester and Salford Lying-in Hospital for twenty-one, in the foundation of which he also took part; he was the first man midwife extraordinary appointed to the hospital. He died in the eighty-sixth year of his age, on February 20, 1813. In the early part of the eighteenth century midwifery was not practised to the same extent by men as it is at the present time, and the treatment of lying-in women was crude and unsanitary. After labor women were kept in rooms heated to excess, the windows and doors being closed and covered with curtains, so as to prevent as far as possible the access of fresh air. White had the courage to revolutionize this most objectionable usage; he opened the closed windows and doors of the lying-in room and nailed them open. The consequence was that the most prevalent complications of labor—miliary fever and puerperal fever—became much less common. In 1784 White published a treatise on the nature and cause of the swelling in one or both legs, which sometimes happens in lying-in women; this was probably the first book on the subject written in England. Among other important advances in treatment advocated by White were: not tying the navel string before cessation of the circulation; removal of the placenta and the membranes by manual extraction, aided by pressure on the fundus; the recognition of the possible septicity of the lochia with the recommendation to inject antiseptic solutions into the uterus. The marvellous manner in which, by well nigh a century, he anticipated the doctrine of septicity and its prevention is clearly shown in the following quotation: "I must not omit to mention the good effects I have experienced from emollient and antiseptic injections into the uterus by means of a large ivory syringe, or an elastic vegetable bottle. In those cases where the lochia have become acrid and putrid, and by being absorbed into the circulation have served as a constant fomes to the disease, I have by this means known the fever much assuaged and in many cases wholly extinguished; for though, as I have before observed, the quantity of the lochia is not to much regarded, the quality of this discharge is a matter of infinite importance."

Next in eminence to Charles White was a contemporary and friend of his, John Hull, the son of a surgeon, born on September 30, 1761. In 1794 he went to Leyden and obtained the degree of Doctor of Medicine. Two years later he removed to Manchester, where he practised until 1838. He died at his native village of Poulton-le-Fylde in 1843, aged eighty-two years. In 1800 Hull published an essay on phlegmasia dolens, including an account of puerperal peritonitis. In 1801 he translated and published two memoirs on cæsarean section by M. Baudelocque, sen. In 1798 he wrote a defense of cæsarean section in the form of a letter answering some criticism indulged in by Simmons, one of his contemporaries, in relation to a case that had been operated on by Hull

At the time when White and Hull were about at the end of their careers came Kinder Wood, who was born in Oldham in 1785, died December 30, 1830, in Manchester, aged forty-five years. In 1826 he was appointed lecturer on midwifery at the Pine Street School of Medicine, being the first lecturer on this subject in the first complete school of medicine in the provinces. In 1822 Wood was the first to advise, in certain severe cases of placenta prævia, the entire detachment of the placenta from the os and cervix uteri, and then that the rest should be left to nature.

Also contemporary with Hull and Kinder Wood was Thomas Radford, a man of strong character, great individuality, and much ability. His name is perpetuated in the Radford Library, which he founded. He was born on November 2, 1793, and died on May 29, 1881, aged eighty-seven years. He was elected on the staff of the Lying-in Hospital in 1818. In 1854 he delivered the first address ever given on obstetrics before this association. Radford was one of the first in England to advise abdominal section for the removal of diseased ovaries, and he gave much assistance to Charles Clay in his early ovariotomies.

The next in order was John Roberton, a Scotchman, who was born in 1797 and died in 1876. He was surgeon to the Lying-in Hospital and lecturer on midwifery at the Marsden Street School of Medicine. He invented a pair of long forceps which has been the model of many instruments of this class. The forceps called after his name are still used in this neighborhood.

Charles Clay was born at Bredbury, near Stockport, on December 27, 1801, and died at Poulton-le-Fylde on September 19, 1893. He studied in Edinburgh and at the Manchester Royal Infirmary, and he settled in Manchester in 1839, in which year he performed his first ovariotomy and removed an ovarian tumor weighing thirty-six pounds; it is said that the operation occupied only ten minutes. In 1865 he published an account of 111 cases of ovariotomy, seventy-seven successful, and in 1880 his cases amounted to 395 operations with only 101 deaths. In 1845 he removed the whole uterus for fibrous tumor; this was nearly twenty-five years before Koeberlé's case. He was one of the first to advise the long incision, and in 1843 was the first to employ drainage in ovariotomy. He brought into use the term ovariotomy, which was suggested to him by Sir James Simpson. Clay was, indeed, the father of ovariotomy as far as Europe is concerned. Peaslee, in his work on ovarian tumors, says that to Charles Clay of Manchester, more than to all other operators, the credit belongs of having placed the operation of ovariotomy on a sure foundation. Johann Martin Fehr of Heidelberg calls him the original hero of the operation.

A contemporary of Clay was William James Wilson, born in Leeds, died July 19, 1855, who was elected man-midwife in ordinary to the Manchester Lying-in Hospital in 1813. He was the operator in a case of cæsarean section on May 24, 1821. He was also an oculist of great distinction. Among others he operated for cataract on the father of Charlotte Brontë, who came to Manchester for that purpose.

James Whitehead was born in 1812, and died in Manchester in 1885. His father was a herbalist and a dealer in simples. He became a pupil of Mr. Clough, a surgeon of the Manchester Lying-in Hospital, and in his turn he also was elected surgeon to the same hospital. He was a man of great energy, industry, and endurance. His interest was centered on the medical side of the diseases of women and children. In 1847 Whitehead published his work on the causes and treatment of abortion and sterility. He also published in 1851 another work on the transmission from parent to offspring of some forms of disease and of morbid taints and tendencies.

Edward Stephens was born in Manchester in 1804, and died September 14, 1863. He was for many years surgeon and consulting surgeon to St. Mary's Hospital. He was most dextrous in the use of the forceps and in all midwifery operations; he had an extensive knowledge of gynæcology, especially of the diagnosis of abdominal and pelvic tumors..

John Thorburn was born in 1834 at Huddersfield and died at Manchester in 1885. In 1866 he took part in the foundation of the Southern Hospital for Women and Children. In 1873 he was appointed obstetric physician to the Manchester Royal Infirmary, and was the first occupant of the post. When the Medical School, at which he was lecturer, was incorporated with Owens College, he became the first professor of obstetrics and gynecology. He contributed among other papers one on the treatment of the unborn child. He had just finished his most impotant contribution to the literature of his subject—a practical treatise on the diseases of women—when death called him away.

Dr. Curatulo of Rome, in proposing a vote of thanks, said that his countryman, Scipio Mercurius, mentioned in the address, was the inventor of the position known as Walcher's position.

The Modern Indications for Cæsarean Section.—Dr. Galabin, obstetric physician to Guy's Hospital, London, opened the discussion on this topic. He said that cæsarean section was most often required in cases of contracted pelvis, though bad cases of contraction were not common in England compared with some continental countries. The mortality of one of the latest tables published was 3 per cent., but this was an ideal mortality when all the circumstances were favorable. Another table of 279 cases gave 5.1 per cent. mortality. Dr. R. P. Harris of Philadelphia in 1894 recorded the mortality of the operations performed in Great Britain up to that date as 31 per cent. The mortality of embryotomy was, he thought, generally put too low. In Guy's Hospital the mortality of embryotomy in severe contraction of the pelvis was less than in the moderate degrees, because, in the former, time had not been lost in futile attempts at delivery. Charles reported the following mortality: Ninety cases of embryotomy, mortality 6 six per cent.; eleven cases of cæsarean section, one death; fifteen symphyseotomies, one death; 100 cases of induction of premature labor, no maternal death, fetal mortality, 36 per cent. He would conclude that the mortality of embryotomy was not less than 6 per cent. The conclusion was that cæsarean section should be the operation of election when (1) The decision could be made before the onset of labor; (2) Septic surroundings were absent; (3) The operator was versed in abdominal surgery.

Embryotomy would still have to be done in a large proportion of cases where (1) The patient had been long in labor, and (2) The surroundings were bad; and he did not think that embryotomy could ever be abolished under these conditions. As to the question of cæsarean section, after trying forceps in prolonged labor, personally, if an attempt had been made to deliver through the pelvis, he chose embryotomy; but where the labor had been prolonged only, without attempts at delivery, he would choose a cæsarean section in private practice. Unless the operator was skilled in abdominal section, it was better to do embryotomy.

In the highest degrees of contraction, with a conjugate of two and a half inches or less, craniotomy was advisable in *all* cases, because if the contraction was diagnosed as it should be, and measurements taken, no attempt at delivery per *vias naturales* ought to be made. He did not advise sterilization, because cæsarean section might be repeated on the same subject, but if sterilization were decided on, he would perform hysterectomy. In obstruction of labor by ovarian cyst cæsarean section had been proposed, but a better plan was to do vaginal ovariotomy.

The name of Porro's operation should be reserved exclusively for cases in which the pedicle was treated by the extraperitoneal method. In cases of labor obstructed by cancer of the cervix, cæsarean section was called for, but the results were bad, owing to the septic conditions prevailing.

Symphyseotomy was not in much favor in this country. Pinard's statistics showed a mortality of 12 per cent. The objections to the operation were: (1) The dangers of lameness and bladder troubles afterward, and (2) The fact that one could not sterilize the patient. The only cases in which symphyseotomy should be done were those in which the contraction was slight and forceps had failed to deliver.

The mortality of induction of labor was not more than 1 per cent. The frequency of craniotomy in Guy's Hospital Charity had been one in one thousand. The frequency of cæsarean section may be increased at the expense of the induction of premature labor, but he did not think that the latter operation should be given up as some had advised. The speaker thought cæsarian section should be decided on in cases where induction of labor had not succeeded in saving the child on a previous occasion. In a few cases cæsarean section had been done for placenta prævia; the mortality of six such cases had been given as 17 per cent. The operation had also been done for cases of concealed accidental hemorrhage with an undilated os. A doubtful extension of the operation had been to cases of puerperal eclampsia, and the mortality of recorded cases was 60 per cent. In Guy's Hospital Charity eclampsia treated by other methods had yielded a mortality of 9 per cent.

As regards the ethical question, he asked, could a doctor throw up a case, after undertaking it, if the patient refused to submit to cæsarean section on his advice? and his reply was decidedly "no."

Dr. Murdoch Cameron of Glasgow read a paper entitled, "Remarks on Fifty Cæsarean Sections." The cases were all of pelvic contraction; the conjugate in no case had been above two and three-fourth inches. Many had undergone craniotomy several times. Statistics were untrustworthy, because no comparison could be drawn between cases seen early and those which had been a long time in labor and in which many attempts at extraction had been made.

The operation was one of election when the child was alive and the operation could be performed at the onset of labor, before rupture of the membranes, and by an experienced operator. The speaker would never do it for placenta prævia, though he might for eclampsia. He ligated and divided the tubes in every case. His statistics showed the following results, the cases being divided into three groups: (1) Twenty-one cases, three deaths; (2) sixteen cases, seven deaths; (3) Thirteen cases, no deaths; Total, fifty cases, with ten deaths.

Dr. Munro Kerr of Glasgow read a paper entitled, "Some Experiences of Fritsch's Fundal Incision in Cæsarean Section." He said that it was of the greatest importance not to injure the lower uterine segment. The points about Fritsch's incision, which was a transverse incision of the fundus, were: The abdominal incision could be made higher up; the placenta was more frequently encountered, but he had found that, whatever the incision, the placenta was encountered in 50 per cent. of cases; the bleeding was said to be less, but he considered this doubtful; the uterine wound was said to be smaller afterward, and he had found this to be the case; it was said that the child would be more readily extracted, and with this he agreed.

The only serious objection which he had found to this incision was that the uterus became adherent higher up on the abdominal wall than in the older incision, and this interfered with involution.

Dr. Jardine of Glasgow, in continuing the discussion opened by Dr. Galabin, said that cæsarean section had been performed more frequently in Glasgow than in any other town in Great Britian. He did not think cæsarian section for eclampsia was to be recommended; he had performed it in one case in which the eclampsia was associated with contracted pelvis. He entirely agreed that it should never be done for placenta prævia. He had made up his mind that he would do cæsarean section in the first case of accidental hemorrhage with undilated os that he encountered, because his mortality from such cases treated in the usual way had been very heavy.

Professor Spencer of University College, London, was pleased to see that Dr. Galabin refused to recognize an impacted ovarian tumor obstructing labor as an indication for cæsarian section. He would not sterilize the patient when he performed cæserian section and did not consider it his duty to do so. One indication for cæsarian section which had not been mentioned was the presence of scars in the vagina obstructing delivery. He did not believe in the fundal incision, as he considered it more likely to lead to intestinal adhesions; in the usual anterior incision the scar adhered to the abdominal wall.

Dr Haultain of Edinburgh said that the doubtful case were those having a conjugate of three inches and upward. Ought one to recommend cæsarian section in these cases in which craniotomy was absolutely safe, while cæsarian section was fraught with danger and had a mortality of at least 10 per cent.?

Dr. Walter of Manchester drew attention to the fact that though the immediate fœtal mortality of induction of labor was given as 30 per cent., many more children died within the first few years of life.

Dr. Galabin, in reply, agreed with what had been said as to the greater liability to intestinal adhesions if the fundal incision were adopted. He agreed that the mortality of cæsarean section was greater than both craniotomy and induction of labor, though he had not found any statistics of embryotomy showing a mortality lower than 6 per cent. As regarded the ethical question of sterilization he thought if the woman refused to have the operation performed unless she were at the same time sterilized then he considered we were quite justified in carrying out sterilization.

Total Abdominal Hysterectomy, Especially by Doyen's Method, for Fibromyoma Uteri, with Notes of Fourteen Cases.—Dr. Herbert R. Spencer of London read this paper He held that the presence of fibroids was not in itself an indication for operation. Cystic fibroids, large fibroids in young subjects, and fibroid uteri suspected of malignant disease should be removed even when no symptoms were present. In other cases operation should be done only when serious symptoms were present or threatened. He called attention to the dangers of mistaking sarcoma and cancer for fibromyoma. Enucleation, especially through the cervix, was the best operation in suitable cases. Normal pregnancy and labor might follow it. Vaginal hysterectomy was to be preferred to abdominal for tumors not larger than a fœtal head.

The three chief methods of abdominal hysterectomy were as follows: (1) Supravaginal amputation with extraperitoneal treatment of the pedicle. Mortality slight. Disadvantages: Prolonged convalescence and risk of hernia. (2) Supravaginal amputation with intraperitoneal treatment of the pedicle. Disadvantages: Drainage not good; danger of hemorrhage; infecton and sloughing of cervix; leucorrhœa; infection of stitches; adhesion of intestine to stump; the growth may be sarcoma or cancer; malignant disease may develop in the cervix. (3) Total abdominal hysterectomy. Supposed disadvantages: Operation long; danger of injuring ureters; danger of vaginal hernia. Only the first objection is a real one if Doyen's method be employed. The average duration of the fourteen operations was 87 minutes.

In conclusion he said that total abdominal hysterectomy was superior to supravaginal amputation, and Doyen's method of performing it was the best. This method was employed in twelve out of the fourteen cases reported by the author of the paper.

Thursday, July 31—Second Day

Phototherapy in Obstetrics and the Diseases of Women. Professor Curatulo of Rome read this paper. He used the electric incandescent light, which gave out three kinds of rays: heat rays, light rays, and actinic or chemical rays His specially-devised speculum enabled light to be divided and use made of each kind of rays separately It was made of glass, shaped to the vagina, with a beveled upper extremity; it had double walls, with a space between, through which it was possible to circulate a current of cold water. The uterine end of the speculum was pressed against the cervix to secure anæmia of the mucous membrane, which was an essential condition of the treatment. If the space between the two walls was filled with a solution of alum the heat rays would be absorbed; if filled with a solution of copper sulphate, the chemical rays only were allowed to pass; and a solution of cochineal or other red die allowed the passage of the heat rays only. He made use of this mode of treatment in metritis and hypertrophy to promote the absorption of exudations, for ill-developed uterus, and for sterility.

Dr. Walter of Manchester asked how many applications were required.

Mr. Targett of London had seen good results from light treatment of cases of epithelioma of the skin and thought it probable that in some cases of slowly-growing epithelioma of the cervix in old women it might be of advantage.

Professor Curatulo, in reply, said that in cases of chronic exudation he had obtained good results from forty to fifty applications repeated every other day and each lasting half an hour.

Etiology, Diagnosis, and Treatment of Ectopic Gestation.—Dr. G. T. Harrison of New York read a paper with this title. He said that he would restrict his remarks to cases of tubal gestation in the early months. It might be held that the possibility of ovarian gestation was now proved. A wrong belief was still cherished that tubal gestation usually ended in rupture, but he considered that in most cases the ovum died very early, before rupture occurred, and before attempts at tubal abortion with subsequent absorption took place. He would place the frequency of this latter occurrence as compared with rupture of the tube as about eight to one.

As regarded *etiology*, some of the factors were previous conditions of the tube. (1) Congenital—persistence of the fœtal form; (2) Acquired—salpyngitis. Recent investigations had made it a doubtful matter whether an actual decidua formed.

As to the question of *diagnosis*, the physician was not often consulted till after the ovum had died. Before death of the fœtus the usual signs were amenorrhea, enlargement of the uterus, and the presence of a soft elastic tumor in the tube (the latter was only simulated by hæmato- and pyosalpynx. A transitory hardening of the tubal tumors had been made out. The signs of death of the ovum were a mass in the pelvis and a discharge of tarry blood. Vesical tenesmus was common. The diagnosis of interstitial pregnancy was very difficult. Hæmatocele was recognized by the crowding forward of the uterus and the mass in the pouch of Douglas though the mass was occasionally in front or at one side. Rupture of the tube could easily be diagnosed.

Treatment.—As soon as pregnancy in the tube was recognized the ovum should be removed at once. The speaker preferred the abdominal route. It was necessary to secure all bleeding vessels at once, and this was best done by the abdominal route. The uterus was used as the landmark after opening the abdomen. If the patient were bloodless, he would precede operation by subcutaneous saline infusion, give camphor in olive oil subcutaneously, and give ether in preference to chloroform. If a hæmatocele had already formed one might wait for absorption. Pelvic hæmatocele meant extrauterine gestation and usually tubal abortion. The question of operation in these cases was very difficult, but he would say that when the hæmatocele was enlarging and the patient's health deteriorating an operation was called for. The supervention of symptoms of putrefaction indicated operation, and in that case posterior colpotomy could be done.

Professor Spencer of London said that it ought to be known that the majority of cases of tubal gestation did not rupture, but when rupture occurred operation was urgently required. Cases of tubal abortion with hæmatocele seldom terminated fatally, even if not operated on. He preferred the abdominal route.

Professor Byers of Belfast did not believe that antecedent disease of the tube was a necessary factor in the etiology of the disease. The greatest advance lately had been the use of saline injections and strychnine in cases of severe collapse; in such cases he often used local anæsthesia.

Dr. Donald of Manchester pointed out there was often no clear history of a missed period. The treatment when the pregnancy was still developing was operation, but when there was evidence that the fœtus was dead we might wait and watch the effect of rest in bed. He considered the abdominal route the best in all cases except those of rectouterine hematocele.

Dr. Walter of Manchester said that we ought to diagnose between rupture of the tube and abortion, the severity of the symptoms would assist the diagnosis. The discharge was often dark brown rather than frankly hemorrhagic.

Mr Targett of London had seen two cases of tuberculous disease of the tube associated with extrauterine gestation. He had seen the entire tumor lying in front of the uterus.

Dr. Hellier of Leeds used large doses of strychnine, 10 minims of the official solution repeated several times. He preferred intravenous injection to intracellular.

Dr. Harrison, in reply, said, in reference to diagnosis previous to rupture that no other tumor presents the same elastic, soft feeling except hæmatosalpynx or pyosalpynx, and the history would exclude these.

As regarded the question of operation in hæmatocele, where there was any sign of recrudescence of the hæmatocele or the general health was suffering he would operate.

The Use of Potassium Chlorate in Habitual Death of the Fœtus in the Later Months of Pregnancy.—Dr. Jardine of Glasgow read a paper on this subject He said the late Professor Simpson had proposed this remedy under the impression that by it oxygen was given to the fœtus, this was probably not true, but he himself considered that it had a good effect on the uterus. No ill effects to the mother had followed in any of his cases; the dose was fifteen grains three times daily after food. He narrated five cases.

Intermenstrual Pain Cured by Two Successive Oophorectomies.—Dr. Whitelock of Oxford reported this case. The patient was a schoolmistress. The pain, which rendered her unable to work, began ten days before the period and completely disappeared twenty-four hours before the flow commenced. The cervix was dilated, but no relief followed. The left ovary, which was enlarged but not prolapsed, was removed by abdominal section At the operation the right ovary was seen to be cystic, but small; the cysts were punctured. Pain returned and another abdominal section was done eighteen months later. At this time the right ovary was the size of a small orange and the uterus was seen to be enlarged by a small fibroid. The right appendages were removed. The patient was now quite well. The speaker thought that the fibroid had more to do with the pain than the ovarian condition.

So-called Neurasthenia, Hysteria, and Abdominal Section.—Dr. Stuart Nairne of Glasgow read a paper with this title. In these cases abdominal section showed very diverse conditions, in many cases of most persistent abdominal vesicocele, in which he had opened the abdomen, he had found a condition which he described as rigid uterus, and he attached much importance to this condition.

Friday, August 1.—Third Day.

The Operative Treatment of Prolapsus Uteri.—Dr. Berry Hart of Edinburgh opened the discussion on this topic. He said that the apathy which existed on this subject was due partly to general ignorance of the anatomy of the condition and partly to the disheartening effects of recurrence after operation which was frequent.

The relations of parts in an advanced prolapse, as shown by frozen sagitto-mesial section, proved that it was not a mere uterine displacement, but a descent of the whole pelvic floor. The bladder and the vagina were driven down, and these, with part of the broad ligament, lay below the conjugate diameter of the outlet of the pelvis. We had no knowledge of the side relationships in this condition, but the speaker believed that the construction of the pelvic connective tissue with the obturator internus and lateral wall of the pelvis was greatly stretched. He had found the uterine artery and the ureter not displaced at the outer side, but markedly displaced inside of the point at which they crossed one another. There was no separation between the fascia and the broad ligament, but the triangular ligament was greatly stretched. There was an actual hernia sac lined internally by peritoneum, and having for coverings the bladder and the vaginal wall, and its canal being bounded behind by the sacrum and in front by the pelvis. In the normal position of parts the bladder lay behind the pubes, the posterior vaginal wall lying on the anterior pertal wall, and a strong fascial band tying the vagina to the fascia. The supporting parts of the pelvic floor were the perineal muscles and the levator ani.

Among the causes of this condition were great intra-abdominal pressure; perineal tears; looseness of parts from stretching during parturition. The speaker attached litttle importance to backward displacement of the uterine as a factor in prolapse.

In the diagnosis from hypertrophy of the cervix, it should be remembered that in this condition the fornices remained at their normal level. When the patient was told to strain in cases of prolapse the parts appeared in a definite order—firstly, anterior vaginal wall from below up, then cervix, and lastly, the posterior vaginal wall from above down.

One could operate on the prolapsed part or on the supporting part, but only the lower portion of the latter was accessible to operation, and this rendered such operations unsatisfactory. The best operations in the category were amputation of the cervix, anterior and posterior elytrorrhaphy, and perineorrhaphy.

The cervix was amputated by a circular incision of the mucous membrane, the latter being stripped up and used to cover the stump after amputation. The cervix was split laterally and each lip divided and the mucous membrane sutured over. Anterior elytrorraphy was done by removing a large oval surface of mucous membrane, this was clipped off with scissors and the new edges united by catgut ligatures.

The speaker performed the perineorrhaphy by Bischoff's method of removing the tissue, and Emmett's method of applying the sutures. Some preferred an operation on the lateral walls of the vagina as advised by Westermarck, this acted by hindering eversion of the vagina. Cases occurred in which all such operations failed, and in these ventral fixation and vaginal hysterectomy were not always effective.

In concluding, he grouped the operations as follows: (1) Tying up the uterus to a fixed point, ventral fixation, Alexander's operation; (2) Operation on the vaginal wall anterior, posterior lateral elytrorrhaphy; (4) Perineorrhaphy; (5) Resection of uterus or of both vagina and uterus.

Dr. Edebohls of New York, in continuing the discussion, said that in mild cases he performed ventral fixation, and in more severe cases, those of second degree, he added plastic operations to the ventral fixation, doing the following operations at one sitting: Curettage, amputation of the cervix, plastic operation on the vagina walls, and ventral fixation. One point in connection with the plastic operation to which he wished to call attention was the great advantage of bilateral colporrhaphy. In doing this he would leave on the anterior and posterior vaginal walls a strip of mucous membrane 1½ inches wide, removing all the mucous membrane on the lateral walls. By that means he obtained a vagina one inch in diameter. He had reported, eighteen months ago, four cases in which he had performed complete extirpation of the uterus and vagina for prolapse of the third degree, and all had been successful. Before performing this operation, one should always explain to the patient what was to be done. In performing it, he first made an incision round the vulva and then dissected up the vaginal walls, removing the uterus and vagina in one piece. He would leave the tubes and ovaries. This left a solid bulwark of tissue five inches deep with no peritoneum intervening. After removing the uterus and vagina he brought the raw surface together by circular sutures, tying them from above down, and pushing them up one after the other, then making a ring of sutures seven to ten in number. He used chromicized catgut. He allowed the patient to get up one week after the operation.

Dr. MacNaughton Jones of London considered retroversion of the uterus an important factor in prolapse. He thought the best operation was ventral fixation with amputation of cervix. He would amputate the uterus only when it was distinctly diseased.

Mr. Bowerman Jessett of London thought that one should be careful to explain the operation fully to the patient beforehand in cases in which it was intended to remove the vagina, otherwise a law suit might follow.

Dr. Smyly of Dublin said that there was no difference of opinion about the importance of restoring the pelvic floor, but there appeared to be a difference of opinion as to the part that retroflexion played in prolapse; personally, he thought that retroflexion with relaxation of the peritoneum was the first step in prolapse, and he considered that it was essential to cure the retroversion. He did not favor Alexander's operation, because in about one-fourth of the cases adhesions were present, which it was not possible to free by this operation. He preferred ventral fixation, or, in old women with small uteri, vaginal fixation. The hypertrophy of the cervix disappeared when the uterus was kept in position, and he had not usually found it necessary to amputate the cervix.

Dr. T. J. McCann of London divided prolapse into three classes: (1) Descent of uterus associated with prolapse of the vaginal wall; (2) Primary prolapse of the vaginal wall; (3) Primary prolapse of the uterus. For the first, if the anterior vaginal wall was involved, he did colporrhaphy, removing much tissue and using buried catgut sutures; if there was rectocele he performed extension of the perineum.

For relief of the second condition he performed supravaginal amputation of the cervix with colporraphy and extension of perineum. For the third he performed ventral fixation, attaching the round ligaments to the abdominal wall.

Dr. Inglis Parsons of London said that after ventral fixation, trouble in subsequent labor might ensue; in women past the child-bearing period this objection did not hold good, but in old women the abdominal wall was frequently so weak as to yield readily and be drawn inward. He had obtained excellent results from his method of injecting a solution of quinine into the broad ligaments, so as to excite inflammation and contraction in the fibromuscular bands in these ligaments, which, as proved by Professor Turner, offered the greatest resistance to prolapse. He had done this operation in si[illegible] cases, four-fifths of which were cases of complete procidentia. He used sulphate of quinine, 12 grains dissolved in three parts each of dilute sulphuric acid and distilled water.

Mr. Stanmore Bishop of Manchester had devised an operation by which he fixed the uterus in the peritoneum at the back of the pelvis near the rectum, so as to close the lower part of Douglas's pouch.

Dr. J. Tennant of Edinburgh had dissected two specimens of long existing prolapse and had found the peritoneum of Douglas' pouch extending almost to the perineum. In most of the operations this sac remained and might contain intestine, and the operation described by the previous speaker was the only one that had been mentioned which would deal with this pouch.

Dr. Y. Edge of Wolverhampton said that prolapse differed from ordinary hernia, in that the walls of the sac contained important organs which could not be sacrificed.

He had seen two cases of prolapse in virgins and had cured them by ventral fixation. In performing vaginal hysterectomy for prolapse, the peritoneum should be closed and the fascial structure brought together by sutures. He had performed complete extirpation of the vagina and uterus after the method which had been described by Mr. Christopher Martin of Birmingham, and found it best to strip down the vaginal wall while it was still attached to the uterus. He advised curetting, amputation of cervix, anterior vaginal fixation of uterus and double lateral colporraphy. Rest after operation was a great factor in the final cure.

Dr. Comyns Berkeley of London had seen good results from the operation described by Dr. Inglis Parsons.

Dr. Galabin of London pointed out that Dr. Hart had said little about the elongation of the uterus, which was so marked a feature in prolapse; this elongation was caused by the traction exerted on the uterus by the prolapsed vaginal walls, as was proved by the fact that the uterus became smaller again in the third stage of prolapse, when the uterus was entirely outside the vulva.

In his experience recurrence was liable to take place after all forms of operation, and he thought that the prolonged wearing of a Hodge's pessary after operation was advisable, and that the patient should have as long a rest in bed as was possible. He performed anterior and posterior colporraphy and endeavored to unite the fibers of the levator ani by a special form of suturing. He had done vaginal hysterectomy and united the broad ligaments afterward by suturing. This held up and prevented prolapse of the vagina.

He advocated Le Paul's method of making a double vagina by uniting raw surfaces on anterior and posterior walls, this allowed of coitus, but was not advisable in cases in which pregnancy might occur.

Dr. Berry Hart, in reply, agreed with Dr. Galabin that the elongation of the uterus was caused by the prolapse and was not a factor in its etiology.

Past and Present Treatment of Uterine Fibroids.—Dr. Murdoch Cameron of Glasgow read this paper. He did not believe that fibroids ever disappeared spontaneously. Not more than one-third of all cases required operation. He had obtained good results from oophorectomy in fibroids and advised that operation.

Professor Curatulo of Rome read a paper on "Special Treatment in Cases Peculiar to Women in Conjunction with the Muriated Iodo-bromine Water of Salso Maggiore." Dr. F. J. McCann of London read a paper on "Vaginal Fixation."

A vote of thanks to the President was proposed by Dr. Berry Hart, and seconded by Dr. Buist.

This concluded the business of the session.

(To be continued.)

Clinical Department.

A CASE OF MULTIPLE PERSONALITY.

By J. ALLEN GILBERT, Ph.D., M.D.,
PORTLAND, ORE.

After the article published in the Medical Record of August 9 had been submitted, among other developments of importance, there came to my notice a letter written by X at San Francisco to his grandparents at Crawford, Neb., November 6, 1900. In his letter sent to me by his grandparents, not only were they known to him, but his brother, uncles, and aunts at Crawford were mentioned by name. It will be remembered that it has been supposed all along that only as X1 and in his "united self" were his relatives known to him. X1 had said on April 2 that he knew nothing between the quarrel with his father at Glenrock, Wyo., in '99 and waking up in Portland on April 2, 1902. This letter appeared to be a blank contradiction of the above history. It was decided that either he had forgotten or misrepresented the facts as X1, in saying he knew nothing since September, 1899, and had on April 2 concealed his life at San Francisco, or else while at San Francisco he was at some time in what we have looked upon as his "united self," or in some other State in which his relatives were known to him. To decide this point it was determined to change him from his "united self," which we will hereafter call X1, 2, 3, into X1, and after questioning him in regard to San Francisco, to show him the letter. On June 4, in company with Dr. S. A. Robinson, who has shown great kindness and interest in the case throughout, I went to Vancouver, explained to X1, 2, 3 that, in order to verify a few things of great importance, it would be necessary to change him to X1, assuring him that he would be returned immediately afterward to X1, 2, 3. He refused blankly, on the ground that he did not want to run any unnecessary risk of losing again the memory of his whole life in exchange for the partial memory of either X1, X2, or X3. The importance of doing as we requested was argued in vain until after about one-half hour's explanation and persuasion, he finally consented. He was hypnotized with ease. To be assured myself, and to assure the officers present that he was completely hypnotized, after suggesting anæsthesia, he was stuck with a pin in the neck and hands till blood was drawn without calling out the slightest reflex. By the usual method he was changed into X1 on waking. He did not know the officers present. No clue could connect him with either X2, X3, or X1, 2, 3. He never had been in Vancouver, and on being told that he was now in Vancouver, arrested on the charge of desertion from the army, he denied the charge, and then retracted the statement, after a brief pause, by saying, "Yes, I must have deserted back at Chickamauga." It will be recalled that his arrest was for his desertion at San Francisco, and not at Chickamauga. At times, in his different personalities, his mind seemed clearer than at others, and he was now urged again to try to recall how he got back from Chickamauga to Nebraska. After thinking awhile, he said, impatiently, "It is no use trying to remember a thing I don't know anything about." He must have had, at least, a brief change of some kind at Green Brier, Tenn. Letters received from Mr. Pinson, the man for whom he worked for two days near Green Brier, stated that he acted very queerly there, and all at once he wanted to quit and leave and "claimed he was sick when he left, with stomach about to kill him." This looks like a change into X3. Mr. Pinson also wrote, "I am satisfied his mind was not balanced while he was with me," and looked upon him as a "deserter or convict," and also said in his letter "he would at times seem as if his mind was wandering clear off, would talk to himself at times, and I knew he was not the man I wanted, so I was glad to get rid of him." Mr. Pinson says that while there he used the name Charley Smith. He now knows nothing of having used that name. It is possible that this name may stand for another personality, which would fill the gaps still existing. He remembers distinctly having used the name "Peter Jones" at Edgemont, S. Dak., but says he assumed that intentionally to cover any possibility of pursuit by his father, who tried to shoot him at Glenrock, Wyo.

While X3, on April 24, in relating to me his experiences while working for a John Hunley at Springfield, Tenn., which was his next stop after Green Brier, he said Hunley told him that one time he wandered away and disappeared, and they were looking everywhere for him. This affair scared the women, and they told him if he ever did that again he would have to leave. He knew nothing of wandering away. This was in all probability another change. Evidence seems to indicate that there have been a great many changes of short duration, of which we are as yet in ignorance. A number of times he has spoken of dreams which were not dreams at all, but real, isolated experiences of short duration. At Oxford, Mascot, and Holdredge he undoubtedly had a number of changes, for he was looked upon as insane.

To return to the examination of X1: On being asked his age, he answered, "I ought to be eighteen, but you told me in the hospital in Portland that was not so." Hesitating again, and looking round him, when asked where he thought he was, he said: "Maybe I have dreamed all this. I ought to be in Glenrock, Wyo." And, as if to reassure himself, he reached over and touched my knee. In answer to questions, he said he never had been in San Francisco, but he remembered a dream he once had of being there. A few details of the "dream" were given, but it was hazy for the most part. He knew none of the officers at San Francisco when they were mentioned to him. In short, he was X1, and knew nothing that transpired since last being X1 in the hospital. I then gave him the letter in question, and asked him if he could tell me anything about it. He looked at it and said: "That's my handwriting all right enough." After reading the letter, he said, in a confused and hesitating way: "I must have been there, but I don't know anything about this letter." It was then explained to him briefly what had happened, and, in order to get his consent to be hypnotized again, so as to change him back to X1, 2, 3, the letter in his pocket and other evidence were brought to bear, and he readily consented. He was hypnotized easily, but not so easily as in previous attempts, likely because he had only been hypnotized twice in this personality. While hypnotized, as chance would have it, a cannon was fired just outside the guard-house. It startled us severely, but X never moved a muscle. It was then suggested he would wake as X1, 2, 3, and he did so. He was then shown the letter in question again, and asked if he knew anything about it. After scanning it partially, he said: "Yes, I wrote that at San Francisco while I was in the army there," adding other unimportant details. He now knew his officers at San Francisco at that time, and gave other details which were verified by one of the officers who was at San Francisco at that time, and who was now at Vancouver and present as a witness to the above.

At the time it was thought that the above showed conclusively that the letter in question was written while $X_{1, 2, 3}$, and note made in my record to that effect, supposing that only X_1 and $X_{1, 2, 3}$ knew their relatives; and it was also concluded in consequence of this that on April 28, instead of "uniting" his three personalities for the first time, we had merely brought to light a new personality which had existed at San Francisco. A later development on June 27 showed this supposition, however, to be incorrect.

On June 20 I received a letter from him written in prison at Vancouver the day previous, in which he says he "came to himself," and found the cell in disorder. The guards said he acted delirious for several days. $X_{1, 2, 3}$ had been in the habit of crossing off the days on his calendar as they passed, in order to keep account of the days of the week. The last three days were not crossed. In his delirium during these days he at times chased red devils. This was probably a change to the state of delirium described above.

On June 25, 1902, he was released from prison and discharged from the army. After a ride home with him on the electric car from Vancouver Ferry, Dr. Robinson and I left him as $X_{1, 2, 3}$ near his home, with the promise from him that he would come to my office the next day by noon. He did not come. I searched for him, but did not find him at home, and met him, while searching, on June 27. When asked why he did not come to my office, he said he was afraid to come any more, because he had a horrible dream night before last, and he decided he had better stay away from me. He knew nothing of promising me on the car to come to my office, nothing of his imprisonment at Vancouver (except what he thought was a dream), nothing of the beard which he had involuntarily raised while in prison, etc. In short, he was X_2 again. The dream he had was hazy, but he said he was behind bars, and the guards made fun of him. There were a great many soldiers there. Mrs. Gilbert and I were there, too, and I had something to do with his imprisonment. This "dream" will be readily recognized, not as a dream, but as his real experience at Vancouver when I went to present his case to the officials, May 16, at which time Mrs. Gilbert was with me. At that time, it will be remembered, I found him changed to X_2 and changed him back again to $X_{1, 2, 3}$.

After finding him in X_2 now again, we walked to his scow near by. On the way he spoke of his relatives. With my attention on the subject under discussion, I did not notice the seeming inconsistency of his knowing his relatives at Crawford till later, after he was again changed to $X_{1, 2, 3}$. On April 1 he gave the history of not knowing his relatives, except his father and brother, and did not know the name of the latter. It will be remembered that at that time his memory was fragmentary and incomplete, due, probably, to the concussion of brain received in the large accident. All through the development of the case, the supposition has been acted upon that he did not know his relatives, but this has evidently not been the case, and it leaves but little doubt that the letter in question was written as X_2 while in San Francisco.

After explaining to him briefly what had happened, I again hypnotized him and by the usual method changed him to $X_{1,2,3}$. He woke as $X_{1,2,3}$, and knew all as before as well as his prison experience, discharge, experience as X_2 since his discharge, etc. After leaving me on the car as $X_{1,2,3}$, June 25, he had gone to his scow, unpacked his valise and then went up town to get shaved. He retired that night and woke as X_2 next morning. The dream he thought he had made him avoid me. He thought it was May instead of June, and everything was awry. For the sake of brevity numerous interesting details must be omitted.

On July 3, while sitting talking to a companion, X suggested that they go down town. All at once, he says, without any knowledge of time having elapsed, here stood his companion before him with clothes changed ready to go down town. Evidently this was another short lapse, not of sufficient moment to attract the attention of his companion. Evidence points to numerous short lapses in past years.

On July 25, about 8 P.M., X came up the street toward my home greatly bewildered and staggering like a drunken man. I called to him before he saw me and asked him what was the matter. He started, looked at me rather wildly, and after leaning against the post of the porch for support, said, "They told me to ask you if the cows had come home." Then manipulating his fingers as if to imitate some contrivance, he said, "I know it will work all right." During the next hour he said repeatedly, "I feel terrible sick," and his looks showed that he was. On being questioned he said he had seen Mrs. Gilbert and me somewhere, but did not remember our names, and, by way of explanation, added that he at times forgot names. When urged repeatedly to tell us what month this was, he at last said: "Oh, I don't care much." Numerous questions were pressed upon him, but his answers were evasive; most of the time he would not answer at all. He insisted upon leaving several times, in a way which indicated that he did not fully realize where he was or where he belonged. I urged him to sit down because he was sick, to which he responded, "Yes, but I am not crazy. They made fun of me, but I don't care," but the distress in his face showed that he did care. His eyes were blood-shot. He felt chilly, but this was due to the sudden cooling of his sweated shirt after being overheated, as developed later. I began taking his pulse and temperature. While holding his wrist to count his pulse, he dropped asleep. I spoke to him and tapped him on the knee. He woke with a start, was $X_{1, 2, 3}$, smiled and said, "Well, how did I get in here anyhow?" His pulse before and after waking was 99 and 90 respectively. His temperature after waking was normal. The last he could remember was being accosted at 2 P.M. by a man who hired him to fire the engines in the Portland Hotel. At first he could not recall where it was he had been hired to fire, did not know the man who hired him and could only remember starting off with him. After thinking a few minutes he remembered that it was at the Portland Hotel he was to work.

He still felt sick at the stomach and said a lemon was the only thing that would relieve him. It was given him, and he ate it almost ravenously, saying that at first it tasted sweet, only becoming sour toward the last. He said that while firing for the West Coast Furniture Co., at San Francisco, he had such a spell and ate six lemons before he was satisfied. At Mascot he always carried lemons in his lunch pail. This throws light on the peculiar circumstances at Oxford, Mascot, Holdredge, and San Francisco, making it highly probable that the gaps still existing in the schedule would be filled by this semi-delirious state if they could be obtained.

After eating the lemon he felt better, became more serious and thoughtful and said, "Oh, well I've been asleep again, that's all." When he left for home he was very blue and discouraged. Inquiry next day at the Portland Hotel revealed that he had worked there, had been a good hand, and was all right so far as they could detect, except that about 7.30 P.M. he left without saying anything to any one.

He probably came directly to my house. It was exceedingly hot where he worked. The next day X was in good spirits again. His experience of going to the hotel with the man and working there came back to memory, but minor details were still wanting.

In order to make the schedule complete to the present time, the following data should be added:

X1,2,3. Hypnotized April 29. When questioned in regard to the existing gaps he passed into

**f. A state of semi-delirium. Put to sleep and changed him to

X1,2,3. Arrested May 14. Taken on car to Vancouver, Wash., changed to

X2. Hypnotized May 16 and changed to

X1,2,3. Hypnotized June 4 and changed to

X1. To verify the letter in question. Hypnotized and changed to

X1,2,3. While in prison on June 15 changed to

**g. A state of semi-delirium. Changed June 18 to

X1,2,3. Discharged from the army June 25. Came home on car. Changed that night to

X2. Hypnotized June 27 and changed to

X1,2,3. Had a short lapse July 3. On July 25 changed to

**h. A state of semi-delirium. Changed to

X1,2,3.

I had hoped to get his consent to hypnotize him and change him to X2, in order to question him in regard to the letter written at San Francisco, but he seems reluctant and the point can be reached later perhaps. Though he, with justice, resents being hypnotized unnecessarily, yet what has been done has always been done with his full consent and, though he has not given his consent to submit himself for further study, he does not seem entirely averse to the idea. Should opportunity present, a more thorough investigation of the separate personalities and their relation one to the other with reference to suggestion and many other pyschological problems will be made. There are indications that a study of his dream life would also be exceedingly instructive.

A CASE OF PREMATURE DELIVERY WITH UNUSUAL TEMPERATURE COURSE.

By ANNA E. BLOUNT, M. D.,
OAK PARK, ILL.

On April 28 I was called to a woman whose confinement I had expected in July. The patient, a young woman of twenty-four years, had been married the preceding October, and had not menstruated afterward. She had been a stenographer, and was of a nervous temperament. She gave a good family history, and her only acute illness had been typhoid fever, two years previously. During the preceding August and September I had treated her for frequent and aggravating attacks of pain in the right lower abdominal quadrant. She appeared to have no enlargements of tubes or ovaries, but a slight thickening and tenderness in the right fornix. She had a retroflexed uterus. The chest examination showed dulness of right apex. She had had a winter cough for several years.

On arriving at the patient's bedside I found her having moderately severe labor pains, their strength waning. She complained of excruciating pain and tenderness over the right upper part of the abdomen. An area the size of her palm was exquisitely tender. Pains had begun with a sneeze, which made her hold this side especially. Temperature 98.6°, pulse 100°. She had been taking quinine and hot baths for a cold in the head. She was unable to take nourishment without vomiting. The child presented vertex, L. O. A., and was living.

I gave anodynes, and the pains ceased by the next morning. There had been no flow. Temperature 100.5°, pulse 104. In the evening of this day, temperature was 99.5°, pulse 100.; no pain. The woman felt quite well.

On the morning of the third day she had a slight chill and the temperature rose to 103°, pulse 108.

On fourth day, the morning tempertaure was 97.6°, pulse 100; evening 100°, pulse 110. The urine of this day showed albumin and hyaline and granular casts.

Three weeks previously the urine had been normal, with high specific gravity.

On the fifth and sixth days there was no pain, and a slightly subnormal temperature prevailed. During the evening of sixth day of illness there was a severe chill, two more the next morning, and the temperature rose to 103°, pulse 120. Labor pains had returned, and the patient vomited.

I called Dr. J. W. Tope in consultation on the eighth day, the temperature course on this day being as follows: 1 A. M. 103°; 9 A. M. 97°, pulse 100; 9 P. M. 100°. On the following, or ninth day, at 2 A. M., the temperature was 95°; at 8 A. M. 96.8°; at 4 P. M. 97.6°.

Acting upon the advice of Dr. Tope, I resolved to terminate the difficulty. The pains had subsided again, and on the evening of the ninth day, having secured a nurse, I dilated with Barnes' bags, after douching with 1 per cent. orthoform. Dilatation occupied one and a quarter hours, was somewhat painful, but was well borne.

After the patient was put to bed, pains promptly ceased, but returned after thirty-six hours. The patient's temperature was 96.6° to 97.6° during this time. (Rectal temperatures showed a degree higher in each instance.) On the twelfth day the pains continued all day, but subsided at midnight, having produced very little dilatations, but some descent. The fœtus was lying obliquely, head and shoulder partly descended, into the pelvis, both hands palpable through the membranes. The patient was much exhausted, but rested during the night.

The next morning there were a few pains, and the child was still living. Patient's temperature was 97.2° at 10 A. M., when she was anæsthetized. I had the patient carefully prepared, and after complete anæsthesia had been secured I redilated the cervix manually, taking turns with an assistant at this wearisome process.

I found the hand and shoulder presenting, and the head on the right above the brim, both hands being palpable through the membranes.

By combined internal and external manipulations I pushed up the shoulder and brought down the breech. The feet, however, I could not grasp, and after many attempts to get a foot, I delivered by pulling on the breech, one forefinger hooked into either groin. The child, a female, weighing one and a quarter pounds, was dead.

I carefully separated the placenta by the fingers, but found one portion so much softened that it could hardly be kept intact.

This portion was the site of a disintegrating bloodclot. We had previously considered it likely that we should find placental hemorrhage. The patient suffered no hemorrhage. Her temperature was 100°, on the evening after the operation, but on the following morning was 98°, and from that time on was practically normal. The urine on the seventh day after delivery showed a trace of albumin, and a single hyaline cast was found.

The striking features of this case were successive hilis and an irregular temperature course, from o4° to 95°, due to placental hemorrhage.

The mother of the child had never shown any ymptoms of syphilis, but the father had been reated five years perviously for tertiary lesions, hough he knew of no primary lesion.

New Instruments.

N INSTRUMENT TO INCREASE THE SCOPE OF COCAINE SURGERY.*

By FREDERIC GRIFFITH, M.D.,
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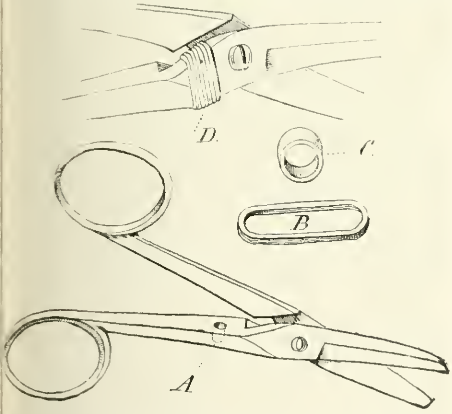
SURGEON, BELLEVUE DISPENSARY; FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

HERE are many associated factors at work in a uccessful cocaine operation. While it was formerly irected that only by using solutions varying in trength between 4 per cent. and 10 per cent. of this rug could we hope for a satisfactory result in the roduction of localized anesthesia; it has remained or surgeons during the past few years to demonstrate the fact that according as one is able to impress upon the mind of the patient the knowledge f his power to perform a painless operation, to the ame degree can he reduce the percentage of ocaine in solution. By this means there are a umber of surgeons in town who habitually employ ocaine in strength of ½ to ⅛ per cent. down to a nere infiltration of the tissues after the initial uncture has been made by the weak soda solution sed as a diluent, and are thus enabled to perform perations which many would not contemplate vithout the use of general anesthesia.



During the performance of a cocaine operation he patient is in an abnormally active, receptive rame of mind. Keyed up to a high pitch of expectant incredulity the various proceedings of the urgeon, his manner, words, the tone of his voice, an in an instant change success into failure, and it s in this direction, to decrease the chance of an dverse conception being made, that the instrument o be described is intended.

Scissors are now used by some surgeons to the xclusion of knives for ordinary work, and in the eld of cocaine surgery, save for one fault, namely, he clamp of the blades, they become indispensable. he click of the steel is unnoticed by all save the atient, but questioning will show that he is taking lively interest in that irritating noise, and there re a certain number of individuals in whom this ne thing will decide for failure or success.

To reduce the noise of the working blades to a minimum I have devised an appliance which can be attached to any form of scissors; a rubber burr is to be fitted behind the joint of one handle (*A*). The hole is to be drilled one-fourth of an inch behind the joint and to be three-sixteenths of an inch in diameter for ordinary sized shears. In depth it should extend nearly through the handle, and a plug of rubber long enough to stand out from the surface one-eighth of an inch is to be inserted. Acting thus as a buffer, the plug retains its place by reason of its own elasticity, if made slightly larger than the diameter of the hole.

Sterilization of the instrument by boiling will not interfere with its practicability, as the rubber plugs may be easily renewed.

A method by which a similar result may be obtained from a piece of thin rubber tubing, or an ordinary elastic band, applied over the joint of the female blade of the detachable scissors commonly in use is pictured in figures *B*, *C*, and *D*.

805 Madison Avenue.

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*Presented at a meeting of the Surgical Section, New York Academy of Medicine.

AN AMPUTATING RETRACTOR.

By ELWIN C. TAYLOR, M.D.,
SCRANTON, PA.

HOUSE SURGEON, MOSES TAYLOR HOSPITAL.

Many operators have wished for a suitable amputating retractor, but still use the two- or three-tailed bandage. The bandage retractor does not steady the part, retracts poorly, and always catches the saw unless the assistant's fingers are interposed.

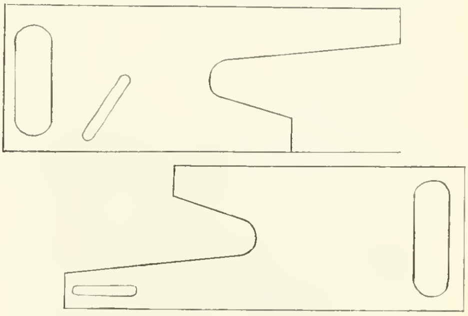

FIG. 1.—RETRACTOR PLATES.

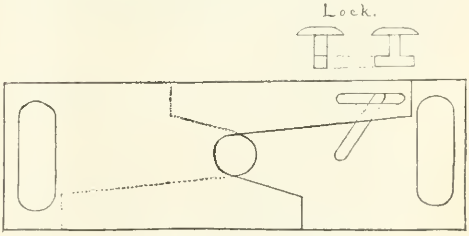

FIG. 2.—RETRACTOR PLATES IN POSITION.

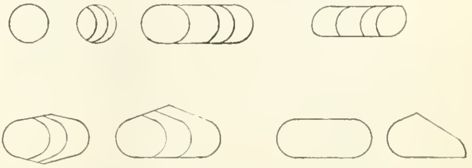

FIG. 3.—RETRACTING APERTURES OBTAINED BY THE INSTRUMENT.

The instrument as designed by the writer is eleven inches long, four inches wide, and is made of spring steel one-eighth of an inch in thickness. The figures illustrate the construction and mode of application of the device.

Its advantages are that it is (1) easily cleaned and sterilized; (2) retracts evenly; (3) holds the part teadily while the operator is working; and (4) is djustable to size, shape, and ridges of bones amputated.

Therapeutic Hints.

Medical Treatment of Tuberculous Peritonitis.—According to Yeo, over 50 per cent. of cases recover. Persistance in the local application of equal parts of iodoform ointment and cod-liver oil is of extreme importance. A mixture of 15 gr. bismuth salicylate, 15 mm. spr. chloroform, ½ ʒ comp. tinct. cardamom with mucilage and water will relieve pain and allay intestinal irritation.

Simple Feebleness of Heart.—This condition is particularly met with in older people whose powers are beginning to wane. Heart sounds are normal, but when at rest the pulse is feeble and irregular. The irregularity is ascribed to interference of feeble pulse waves, in a low-toned and badly-filled channel. *Cardiac drugs are contra-indicated.* Rest, good food, pleasant occupation, and a general tonic will bring about complete restoration.

Tapeworm.—The patient fasts two days, and on evening of second day takes a purgative dose of castor oil, and the next morning, while still fasting, takes an ounce of slippery elm bark in half a pint of water, and repeats in half an hour with a full dose of oil.

Orchitis.—For the pain in orchitis quinine sulphate, gr. viiss. internally, and the following locally applied:

℞	Methyl salicylate	ʒvi
	Guaiacol	ʒi
	Vaselin	℥i

—Lutand.

Neurasthenia.—

Chlorid gold and sodium	gr. $\frac{1}{10}$
Guaiac. resin	gr. v

M. ft. in cap No. 1.
S. One capsule before each meal. —Brower.

Goiter.—Hydrastis canadensis is recommended after experiments on a series of twenty-five cases. The period of cure lasted from six weeks to three months. The drug is given three times daily after eating.

—William Cuthbertson.

Spasmodic Os Uteri.—Chloral hydrat gr. xv to ʒi every quarter of an hour is of decided use. Morphine hypodermically is of great use where the spasm is combined with great maternal exhaustion. —Marx.

Feeble Uterine Pains in Second Stage.—Sugar is used as a muscular stimulant, the patient being given several lumps to eat. Quinine muriat gr. x by mouth or rectum, is of great aid. —Marx.

Prostatic Congestion.—

℞	Potassii iodidi	gr. v
	Icthyol	gr. iii
	Morph. hydrochlorat	gr. $\frac{1}{6}$
	Ext. datura	gr. $\frac{1}{6}$
	Cocoa butter q. s.	

M. ft. suppository No. 1.
S. Use one or two suppositories daily.

—Stordem.

Meat and Fish Poisoning.—

℞	Sol. hydrarg. perchlorid		♏xx
	Potassii iod		gr. v
	Chloral hyd		gr. v
	Ac. carbol		gr. i
	Spts. amon. aromat		♏xx
	Aq. chloroformæ	q. s. ad	℥i

M. S. One dose every three or four hours till effects are gone. —Arthur P. Luff.

Pleuritic Pains.—

℞	Menthol		ʒss
	Guaiacol		
	Camphor		
	Chloral		
	Methyl salicylate	aa	ʒi
	Lanolinæ	q. s. ad	℥i

M. S. Rub a small quantity into the skin over the lesion and cover with oiled silk. —W. J. Robinson.

Thrush.—Sodium sulphite solution, ʒi to ℥i water, if applied to mouth and tongue thoroughly, will usually cut short an attack. —Wm. J. Robinson.

Facial Neuralgia.—Give six drops every six hours of a mixture of equal parts of the tinctures of belladonna, aconite root, and colchicum seeds. —Medcalf.

Persistent Vomiting.—This symptom is in most cases checked by repeated small doses of calomel, gr. $\frac{1}{10} = \frac{1}{12}$ fifteen minutes. *Medical Summary.*

Superficial Burns.—

℞	Thymol		gr. 1½–2
	Aq. calcis.		
	Oil lini	āā	℥iii.

Apply to burn. —Wertheimer.

Constipation.—

℞	Fl. Ext. cascara sagrada	ʒi.
	Glycerin	ʒi.
	Tr. gaultheria	ʒi.
	Tr. cinnamon	ʒi.
	Tr. lemon	ʒi.

M. Sig. ʒi. sufficiently often to keep bowels regular. Note.—Generally one dose two or three times per week is sufficient. —Geo. J. Monroe.

Books Received.

A Physician's Practical Gynecology. By W. O. Henry, M.D. 8vo, 229 pages. Illustrated. The Review Press, Lincoln, Neb.

How Can I Cure My Indigestion? By A. K. Bond, M.D. 16 mo, 180 pages. The Contemporary Publishing Co., New York.

The Principles and Practice of Bandaging. By Gwilym G. Davis, M.D. 8vo, 146 pages. Illustrated. P. Blakiston's Son & Co. Price, $1.50 net.

The Purin Bodies of Foodstuffs, Etc. By I. Walker Hall, M.D. 8vo, 108 pages. Sherratt & Hughes, Manchester. Price, 2 shillings.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. XIV for 1901. 8vo, 369 pages. Wm. J. Dornan, Philadelphia, Pa.

A Manual of Practical Medical Electricity, The Röntgen Rays and Finsen Light. By Dawson Turner, M.D. III Edition. 8vo, 296 pages. Illustrated. William Wood & Company, New York City. Price muslin, $3.00 net.

Transactions of the Sixty-ninth Annual Session of the Medical Society of the State of Tennessee, 1902. 8vo, 306 pages.

Massage and the Original Swedish Movements. By Kyrre W. Ostrom. 5th Edition, 8vo, 181 pages. Illustrated. P. Blakiston's Son & Co. Price, $1.00 net.

Psychopathological Researches. By Boris Sidis, Ph.D. 8vo, 329 pages. Illustrated. New York City: G. E. Stechert.

The Theory and Practice of Infant Feeding, with Notes on Development. By Henry Dwight Chapin, M.D. 8vo, 326 pages. Illustrated. William Wood & Company, New York. Price, muslin, $2.25 net.

The Treatment of Prolapsus Ani in Children with Paraffin Injections.—Karewski has treated eight cases of prolapse of long standing and which had resisted other methods of treatment by injecting a ring of paraffin (melting point 56 to 58°C.) above the anus. The patient's bowels were kept open with laxatives for two days, and then, on the afternoon of the day before the injection, were checked by giving him 15 to 30 grains. of bismuth. After disinfecting the operative field the prolapse was reduced and one finger kept in the rectum. Using it as a guide, a ring of paraffin was then injected around the anus between the skin and mucous membrane, only a single needle puncture being made. Bismuth was again administered to prevent defecation during the next twenty-four hours. Of the eight cases treated in this way only one failure is reported, and no infection occurred in any of them, even when defecations followed immediately after the operation.—*Centralblatt für Chirurgie.*

Medical Items.

Contagious Diseases—Weekly Statement. Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 23, 1902:

	Cases.	Deaths.
Measles	63	2
Diphtheria and croup	158	25
Scarlet fever	76	7
Smallpox	5	1
Varicella	4	..
Tuberculosis	209	134
Typhoid fever	119	20
Cerebro-spinal meningitis	..	3

Opium Dangerous in Pneumonia.—I regard opium as a drug of extreme danger in pneumonia. I am aware that men of great eminence have taught otherwise. But, in so representing the case, I am not advocating any theory, but rather am dealing with facts which I know to be true, and which, if true, are such as ought to be in the mind of every practitioner. I have repeatedly seen what can only be regarded as poisonous effects from very moderate doses of opium in certain stages of pneumonia; and (especially toward the crisis) have learned to dread it more than almost any other drug. One case of this kind occurred some years ago in the Western Infirmary, and might well have been published at the time, by way of caution, had I not been anxious to spare the feelings of my excellent assistant, who (if I were to name him now) would be recognized by every Glasgow student of that time as one of the best men in the profession, whose premature death, some years later, was the cause of universal and deep regret. The case in question was this: A man in the prime of life, and otherwise quite sound, had acute pneumonia of the lower lobe of one lung, which was running an average course, up to (I think) about the sixth or seventh day from the rigor. I had left him in a fairly good condition, but with considerable pain, which increased during the night. Next morning he was cyanotic, with slow intermittent breathing, and a very feeble, unsatisfactory pulse. His pupils were somewhat contracted. "Has he had any opium?" I immediately asked. "Yes; one-sixth of a grain of morphia, hypodermically injected, for the pain." The whole scene was such as, I am sure, will never be forgotten by those who witnessed it. My poor assistant was almost thunderstruck, but there was no time to be lost; and, by the usual means, we just managed to pull the patient through a most perilous crisis, after which he recovered without any relapse or any further incident. Now, this is a fact to be related, apart from all hypothesis. And yet it is not at all difficult to find a legitimate theory to fit in with, and account for, the fact. In pneumonia, far more than in pleurisy, more even than in bronchitis, the safety of the patient depends upon the respiratory nerve-centers being kept, as it were, wide-awake. The greatly accelerated breathing—"accelerated without being laborious," as I used to point out as a rule —is practically at once the index of the danger, and the means by which Nature compensates for the restricted area of lung within which the air can meet the circulating blood. If then, when the respirations are 60, or even 50 or less in the minute, the respiratory nerve centers are sent to sleep by a potent narcotic, is it not obvious that the influence exerted at a critical time must be unfavorable? But opium is, of all narcotics, the one that tells most rapidly on the respiratory nerve centers, and thereby not only on the reflexes dominating the overt respiratory acts, but on all the more latent reflexes which are concerned in what I have constantly termed the "scavenger action" of the bronchial tubes, due to their circular muscles. In the above case (as in others which I have witnessed) all this essential machinery, working at high pressure to keep the patient in life, is brought to a comparative standstill, while the disease is still proceeding, or at least not retreating. Can we wonder at the result? I give this theory tentatively, not dogmatically; but of the facts I am absolutely sure, as above stated. If strychnine and the older remedy, antimony (as to which I must even now speak with caution), are good for anything in these circumstances, it is because they tend to keep these respiratory reflexes in full operation, which even a moderate dose of opium would paralyze or abolish.—SIR W. T. GAIRDNER in *Glasgow Medical Journal*, April, 1902.

Modern Methods Employed in the Prevention and Treatment of Trachoma and Other Forms of Contagious Ophthalmia.—Karl Koller speaks of the treatment of gonorrhœal ophthalmia, of diphtheritic conjunctivitis, and of trachoma. In gonorrhœal ophthalmia of the adult, the first concern is to prevent the spread of the infection. The patient should be isolated and put to bed. The room should not be dark. If only one eye is affected, the other is covered with a protective bandage, which should be changed every three or four days. The eye should be thoroughly cleansed of all discharge as soon as it accumulates. Sometimes it is necessary to rinse the eyes every fifteen minutes, day and night. Kalt has introduced irrigations of the conjunctival sac with large quantities (up to one quart) of a 1:5,000 solution of permanganate of potash; or a solution of 1:2,000 formalin, or sublimate 1:5–10,000 can be used. The solution must be warmed. These irrigations may be used every two hours, day and night. If cold applications are not well borne, hot ones should be tried. Nitrate of silver is the sovereign remedy in this affection. In the new-born, as soon as a case of this kind comes under treatment, nitrate of silver ought to be applied in 2 per cent. solution. The lids should be well everted, and brushed with the solution until they are well whitened. This ought to be repeated every day. Every half hour the lids should be separated and the discharge washed away by expressing a cotton swab, saturated with boric acid. Kalt irrigates the eyes two or three times a day with 1:5,000 permanganate solution, using a quart each time. In diphtheritic conjunctivitis hot applications should be made from the beginning. The discharge should be removed as often as it accumulates. After five or six days of infiltration, nitrate of silver is used, in 1 per cent. solution, and this most carefully. It must be stopped if membranes or infiltration reappear. Corneal ulcers are treated according to general principles. Prophylaxis is important in trachoma. Nitrate of silver and sulphate of copper are trustworthy remedies. The expression with roller or other forceps is now in almost universal use. General anæsthesia should be used. Whereever the conjunctiva is atrophic, expression should not be done. After this operation a ½ per cent. solution of silver nitrate is to be applied to every part of the conjunctiva. A bandage should be applied and kept on over night. It will prevent the œdematous swelling. A 2 per cent. solution of $CuSO_4$ in glycerin, used from four to six weeks, will, in most cases, cause the entire disappearance of follicles and papilæ. In all cases of acute inflammation liberal scarification of the conjunctiva will be beneficial. In cases in which atrophy and cicatrization of the conjunctiva exist, the follicles may be expressed between the nails of the two thumbs. This is far less injurious than the forceps.—*Pediatrics.*

Popular Errors.—That man, as an individual or in the aggregate, is prone to believe all kinds of statements, without the slightest evidence as to their correctness, is a well-known psychological fact of every-day observation. There is an amusing illustration of this in "The Life of Charles Darwin." A gentleman, who it appeared later was a good local botanist, wrote to Darwin from the Eastern Counties that the seeds or beans of the common field bean had that year everywhere grown on the wrong side of the pod. Darwin wrote back asking for further information, as he did not understand what was meant, but he received no answer for a very long time. "I then saw," Darwin goes on to say, "in two newspapers, one published in Kent and the other in Yorkshire, paragraphs stating that it was a most remarkable fact that 'the beans this year had all grown on the wrong side.' So I thought there must be some foundation for so general a statement. Accordingly, I went to my gardener, an old Kentish man, and asked him whether he had heard anything about it, and he answered, 'Oh, no, sir, it must be a mistake, for the beans grow on the wrong side only in leap year.' I then asked him how they grew in common years and how in leap years, but soon found that he knew absolutely nothing of how they grew at any time, but he stuck to his belief. After a time I heard from my first informant, who, with many apologies, said that he should not have written to me had he not heard the statement from several intelligent farmers, but that he had since spoken again to every one of them, and not one knew in the least what he had himself meant. So that here a belief—if, indeed, a statement with no definite idea attached to it can be called a belief—had spread over almost the whole of England without a vestige of evidence." Dr. Poore records an interesting instance of the same kind of thing in "Medical Jurisprudence": Whilst dining with five or six military gentlemen, all men of standing in the army, and one of them a colonel in the Engineers, the conversation turned on the growth of hair after death. Dr. Poore expressed the opinion that, theoretically, such growth might proceed for a few moments after death, but that was all. The Engineer colonel turned around and said, "You are perfectly wrong; there is no doubt whatever that in the Crimea the beards of the soldiers grew through the collars of their greatcoats." Further questioning showed that this estimable officer, who was incapable of a joke, especially on such a subject, had got it from a lieutenant who had got it from a captain; the captain had been told by somebody who had himself been told by Tommy Atkins. Of course, the notion that the beard could grow through the collar of a greatcoat is wildly absurd, yet here were educated people thoroughly believing in it. And the worst of it is that, like the old Kentish gardener, they, no doubt, stick to the belief.—*British Medical Journal.*

A Human Incubator.—A Kentucky farmer, Filson by name, lay sick with a fever, so high, the account goes, that it notably heated the whole bed-coverings. He was the breadwinner of the family, but his wife was a resourceful woman. Seeing her husband's energies going altogether to waste in uselessly raising the local temperature of his immediate surroundings, the thought occurred to her of a way of utilizing them to her and her family's profit. Borrowing some four dozen eggs, she placed them in the bed, securing them from danger of breakage by some simple arrangement, and in due time hatched out in this novel incubator forty-four chickens, to the great delight of the father of the family and herself. Perhaps the emotional condition influenced the disordered heat centers, for it is said that with the appearance of the newly-hatched brood the fever subsided, at least this is an allowable *post-hoc* conjecture. Continued fever is not a pleasant matter, as a rule, but the woman of the above story, which is given as a veritable history, deserves credit for her ingenious utilization of adversity, and the conclusion certainly is cheerful. Father and chickens are reported as crowing over their outcome.—*Journal of the American Medical Association.*

Information Wanted.—We are told that the New York medical profession, which has been in a state of disruption lo! these many years, is to become as a band of brothers at last, and there is to be no one hurt in the mix-up; that is, there will be no "defeat," no "victory," no "lying down of the lamb within the lion." Well, now, in the language of our old friend "Uncle Josh Weatherby," do tell us how this wonderful feat has been or is to be accomplished. It is a piece of parliamentary or diplomatic gymnastic work that we have never heard of before, and would be glad to know something definite about the *modus operandi.—American Practitioner and News.*

Hygiene of Churches.—The Bishop of Fano in North Italy provides for the association of cleanliness with godliness in his instruction to pastors; an example which might well be emulated in religious circles generally. In all churches, after feast days on which unusual numbers of people have congregated, the floors are to be cleansed with a sublimate solution 1-1,000. At least once a week pews and confessional benches must be wiped with a damp cloth, and the grating of confessionals washed with lye. The appurtenances of the altar are likewise to be cleansed with lye or sublimate.—*The Sanitarian.*

Consumption of Beer in Germany.—The Statistical Year Book of Berlin shows that the consumption of beer per individual increased from 199 liters (about 44 gallons) in 1895 to 232 liters in 1900. The corresponding figures for all Germany were 115 liters in 1895 and 124 liters in 1900. The Bavarian average in 1899 was 247 liters. The Berliner thus overdrinks the average German and underdrinks the Bavarian.—*New York Times.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended August 23, 1902:

		CASES.	DEATHS.
SMALLPOX—UNITED STATES.			
California, San Francisco	Aug. 3-10	2	
Florida, Pensacola	Aug. 8-16	4	
Massachusetts, Boston	Aug. 8-16	8	3
Brockton	Aug. 8-16	1	
Cambridge	Aug. 2-16	5	3
Everett	Aug. 8-16	1	
Fitchburg	Aug. 8-16	1	
Somerville	Aug. 8-16	1	
Michigan, Detroit	Aug. 8-16	2	2
Missouri, St. Joseph	Aug. 2-16	36	
St. Louis	Aug. 10-17	2	
Montana, Butte	Aug. 10-17	1	
Nebraska, Omaha	Aug. 8-16	4	
New Jersey, Camden	Aug. 8-16	1	
Newark	Aug. 8-16	3	3
New York, New York	Aug. 8-16	2	1
Ohio, Cincinnati	Aug. 8-15	1	
Cleveland	Aug. 8-16	58	8
Hamilton	Aug. 2-9	1	
Pennsylvania, Altoona	Aug. 8-16		1
Johnstown	Aug. 8-16	3	2
McKeesport	Aug. 8-16		1
Philadelphia	Aug. 8-16	1	1
Rhode Island, Providence	Aug. 8-16		1
South Carolina, Charleston	Aug. 8-16	2	
Utah, Salt Lake City	Aug. 8-16	2	
Wisconsin, Milwaukee	Aug. 8-16	3	
SMALLPOX—FOREIGN.			
Austria, Prague	July 26-Aug. 2	2	
Barbadoes	July 29	15	
Belgium, Antwerp	July 18-25	4	
Great Britain, Liverpool	Aug. 2-9	11	1
London	July 26-Aug. 2	44	7
India, Bombay	July 15-22		3
Karachi	July 6-20	1	
Madras	July 12-18		2
Italy, Palermo	July 26-Aug. 2	8	
Japan, Formosa	May 1-31	22	4
Russia, Moscow	July 17-26	5	3
Odessa	July 26-Aug. 2	3	
St. Petersburg	July 17-26	1	
Straits Settlements, Singapore	June 14-July 12		2
YELLOW FEVER.			
Colombia, Panama	Aug. 4-11	1	1
Mexico, Coatzacoalcos	Aug. 2-9	9	1
Progreso	July 15-Aug. 9	4	3
CHOLERA.			
China, Niuschwang	July 12-19		66
Egypt, Aboukoukas	Aug. 19	78	38
Assiout Province	Aug. 19	Serious.	
Cairo	Aug. 19	3	
Charkich	Aug. 19	19	
Minieh	Aug. 19	43	
Alexandria	Aug. 19	2	
India, Calcutta	July 12-19		73
Karachi	July 6-20	191	130
Japan, Formosa	May 1-31	7	4
Fukuokad, Ken	To July 10	101	56
Kobe	July 15	Present.	
Nagasaki	July 1-19	5	2
Mogi	To July 20	23	16
Okayama	Aug. 9	Present.	
Tokyo	July 9		1
Straits Settlements, Signapore	June 14-July 12		170
PLAGUE.			
Australia, Brisbane	Apr. 1-May 31	45	17
India, Bombay	July 15-22		37
Calcutta	July 12-19		19
Karachi	July 6-20	74	60
Japan, Furmosa	May 1-31	700	555

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Original Articles.

ORGANACIDIA GASTRICA.

By MARK I. KNAPP, M.D.,
NEW YORK.

THIS article is to be looked upon as rather being a preliminary report. Whenever mention is made of experiments, in parentheses, I refer to experiments made by me, but which have not yet been published.

Of all diseases of the stomach, organacidia gastrica is fully entitled to take first rank in importance, as it takes in frequency. This disease derives its name from the presence in the stomach of organic acids, but to produce symptoms such acids must bear a certain relation to the HCl. Based upon my experience, I should judge that the number of the victims of this disease reach into the hundred thousands. Organacidia gastrica is a disease so common, and of such characteristic symptomatology, that rather its non-discovery hitherto should cause surprise. The reason that this disease has not been recognized can be attributed only to the fact that there were no exact, ready means to demonstrate such organic acids unless by very cumbersome, time-consuming, chemical analysis, requiring the skill of an expert chemist. The indicators now universally used in titration are faulty, so are the test papers. In my article of "Some New Facts in the Chemistry of the Stomach" (*American Medicine*, March 22, 1902) the fallacy of both dimethylamidoazobenzol and congo is proven. Both these dyes not only react on free inorganic acids, but also on free organic acids, and the dimethyl reacts even on the monophosphates of calcium and magnesium. It is but natural that in using fallacious tests fallacious results were obtained. Congo paper as a reagent for free HCl is not only useless, but misleading, and I have discarded its use. An imaginary deep blue color of the congo paper—in reality a gray blue—has been interpreted to indicate excess of HCl—hyperchlorhydria—whilst, as a matter of fact, such color means organic acids, which is very often accompanied by hypochlorhydria. Organacidia gastrica is always a matter of relative hyochlorhydria, although HCl *per se* may be found in sufficient quantity. My observations seem to justify the assumption that real hyperchlorhydria is not of so frequent occurrence. Fallacious tests led to fallacious diagnoses; fallacious diagnosis to fallacious treatment, and fallacious treatment led to the recognizing of the frequent occurrence of neuroses of the stomach. Whilst a good many cases came to me with a diagnosis of nervous dyspepsia, I myself could not corroborate such diagnosis, nor could I ever make such a diagnosis myself. When the causes of this disease are considered we see the reason why this disease is so common. As in diseases of the stomach generally, so also here can a positive diagnosis be made only after examining the stomach contents. So characteristic very often is the physical appearance of the aspirated chyme that a proper appreciation of it will help us greatly in making the diagnosis. The microscopic examination should be made a matter of routine. It is true that this disease can be diagnosed just as easily, indeed, even more readily, by the microscope, but not every practitioner enjoys the pleasure of owning an expensive instrument. However, the diagnosis by the microscope not only corroborates the chemical examination, but, quite occasionally, we may not aspirate enough for a chemical analysis, and for that reason a knowledge of the microscopical picture is very important. There is always enough of chyme on, or in, the stomach tube for a microscopical examination.

The presence of organic acids in the stomach, which constitutes this disease, manifests itself, clinically, in a symptom-complex only when there is a disproportion between the organic and the free hydrochloric acids. Normally, there should not be any, or possibly only a trace of, organic acids, and with the normal quantity of free HCl a small quantity of organic acids may cause no inconvenience. But when the quantity of organic acids increases or the free HCl diminishes in quantity, distressing symptoms will be elicited clinically. The same absolute quantity of organic acids may not cause any inconvenience in one case, yet be productive of distressing symptoms in another; it is always a question of relation between the free HCl and the organic acids. It would not be well or scientific to say how much of organic acids and how much of free HCl can be present in the stomach without giving symptoms; exact figures cannot be given—at least not as yet. Organacidia gastrica *per se* need not have any pathologico-anatomical changes; it is a pathologico-chemical disease. But whilst there are no pathologico-anatomical changes at the beginning of the disease, the gravest conditions may be the sequelæ. And because this disease is a pathologico-chemical one and because suitable quick tests for the recognition of such organic acids had not been known, the discovery of this disease had so far successfully retreated before the searchlight of critical investigation. In the absence of anything definitely demonstrable the symptoms caused by organacidia gastrica have been adduced to the mythical presence of neuroses of the stomach, a diagnosis, surely not in accord with the axiom of "survival of the fittest."

Organacidia gastrica is a collective term, and can be subdivided into three distinct classes: (1) Organacidia gastrica simplex; (2) Gastrosis fungosa, and (3) Zymosis gastrica. Whilst the symptoms of all these three classes are caused by organic acids it is not the same organic acid that causes the symptoms in each class, nor are the symptoms identical. The first, organacidia gastrica simplex, is to designate the transient presence in the stomach of organic acids in either absolutely or relatively large quantities. It is caused by the ingestion of large quantities of organic acids as contained in fruits, salads, pickles, strong cheese, etc. The symptoms are transitory. The vehemence with which this disease will manifest itself will vary with the amount of noxious material in the stomach. It may vary from a slight heartburn to violent cramps and vomiting, from insignificant gastralgia to severe cardio- and pyloro-spasmus. As a rule, the symptoms will disappear after the use of an emetic or cathartic. Beyond this medication and a little rest to the stomach nothing is necessary. Very often I have seen violent cramps, a temperature of 104°, or even 105°, accompanied by cold sweat, disappear after a suitable dose of calomel. It is different with gastrosis fungosa and zymosis gastrica. These are diseases of a chronic character. Nevertheless, both these conditions are amenable to successful treatment, and if uncomplicated can be cured in about two months, often in less time. But when complications exist, which are usually sequelæ to these diseases, the treatment may have to be greatly prolonged, in some cases the cure may be possibly altogether problematical. As a whole, I believe I am justified in being optimistic as to the cure of these diseases, once they are recognized and identified.

The most frequent disease of the three (possibly only in our geographical position) is gastrosia fungosa. In contradistinction to gastritis I want to introduce the term gastrosia. The term gastritis suggests an inflammatory condition, recognizable anatomically; the term gastrosia is to designate a pathologico-chemical condition. Fungosa implies, derived from, caused by fungi-mold, so that gastrosia fungosa signifies a pathologico-chemical condition of the stomach due to the presence of mold. I believe there may be several varieties of mold present in the chyme, but so far I could differentiate but two varieties as most often occurring in the stomach. Macroscopically, one is yellowish green and the other is dark red. In microscopical quantities I have never missed seeing mold or its spores in the aspirated chyme. In fact, mold has been found in every part of our body; in the blood, in the lungs, in the ear, in the nose, in the urine, in the skin, in new growths, etc. Their presence anywhere should not be regarded as not obnoxious. Regarding their presence in the stomach a few authors mention having observed them in the chyme, but only Einhorn (MEDICAL RECORD, June 16, 1900) attaches importance to the presence of mold and expresses himself very reservedly. My own experience leads me to accept that sufferers from this cause, excessive mold in the stomach, are very many in number.

Macroscopically, mold can be recognized as yellowish green, grass green or dark red clusters, patches, or streaks. Depending on the quantity of the mold present in the chyme, this may get its color. The yellowish green color is mistaken for bile and the dark red streaks for blood. Einhorn describes the mold he found as of blackish gray and of brownish green color. I have recently aspirated the fasting stomach of a woman, six months pregnant, and obtained about 70 c.c. of contents which would surely pass muster—macroscopically—for a hemorrhage; it was mold of the dark red variety. This experience should certainly warn us to accept the statement of any patient of having vomited blood or gall with a little reserve. There is no doubt in my mind but that greenish yellow contents have been seen by all who pay any attention to the stomach examination, but so striking is the resemblance to bile that even as great an authority as Riegel says in his book that the admixture of bile to the stomach contents can be recognized macroscopically, and that the chemical test for bile is superfluous. After having recognized the characteristics and identity of mold, I have applied Gmelin's and Pettenkoffer's test a few times with negative results.

Under the microscope the picture varies with the variety of the fungus. Undoubtedly, the mold seen by others has been misinterpreted. Patches of irregular shape and form, clusters of spores or mycelium have been explained to me as being detritus. Single asci are mistaken for isolated nuclei. At one time I thought I found crystals in the chyme—and the presence of crystals has been mentioned by some—but I have since learned that those supposed crystals are only single detached segments of mold filaments, especially of the penicillium glaucum. The young mold filaments contain no granules, but consist only of a wall membrane and are segmented at regular intervals. A single segment detached looks like a crystal. Spores are plentiful and, as a rule, are mistaken for micrococci. Until I had studied the growth and the development of several mold varieties in pure cultures, I made the same mistakes. How much of an importance this study may bear upon the interpretation of the causes of disease only the future may develop. I have found a mold variety which grew in a solution of tartaric acid (0.6 gm. in 100 c.c. dist. water); parts of this mold resemble the diptheria bacillus. Another mold variety, I believe it was the oidium albicans, had vibriones; in other molds I have seen structures that surely looked as the comma bacillus. All such structures, looking like bacilli and cocci, for which they are taken, can be seen in the chyme. Long bacilli, short bacilli, thin bacilli, thick bacilli, straight bacilli, curved and corkscrew-shaped bacilli, homogeneous bacilli and bacilli looking like a peapod filled with peas, or, if somewhat thinner, looking like a string of beads, clusters of spores looking like staphylococci, they all are to be seen in the chyme of gastrosia fungosa as phases of mold varieties. Twice or three times have I seen circular bodies about one-quarter of an inch in diameter (Baush and Lomb 1/8 objective and No. 2 eyepiece) filled with very fine granules. These granules were in very rapid motion, resembling very much the twinkling of a star. Several times have I seen circular bodies, also 1/4 inch in diameter, of which nothing but a double cell wall could be seen. Von Jaksch describes such colorless rings as the remnants of red cells. I doubt, however, this explanation.

The mold varieties which I have most often found are the penicillium glaucum, oidium albicans, and the aspergillus group. Spores are often so thickly set that nothing definite can be made out; they look like shapeless, formless, and structureless blotches; very often even their color defies description. We see dark patches without being able to give either definite structure or definite color. Some cylindrical sections are very thin, with or without granules, others are wide. Such cylindrical sections may show longitudinal or cross or oblique markings, usually of a light green color. Very often such so-called bacilli are either only or best seen after staining and decolorizing. For staining I use a solution of fuchsin (50 mg. to 75 c.c. dist. water). After staining, the specimen is decolorized with the decinormal solution of caustic soda. In some cases these bacteria (?) appear only after the decolorization. For the microscopical examination I use only the drop or two which collect at the bottom of the beaker after the chyme has been poured out of it. A drop is taken with the pipette, placed on a slide, covered with a cover-glass and examined under the microscope, unstained. Then, without removing the slide, a drop of the fuchsin solution is placed near the edge of the cover-glass. Soon the fuchsin reaches the margin of the cover-glass, and then gradually stains the specimen. The entire process of staining can be watched under the miscroscope. Then the specimen is decolorized with a drop or two of the soda solution, the soda solution likewise being placed near the edge of the cover-glass. Any excess of either stain or soda can be carefully removed with blotting paper. The soda solution, as a rule, decolorizes every thing but mold and yeast.

Succinic acid and mold go hand in hand. Whenever I found large quantities of mold I also got the reaction for this acid. But this need not be taken to infer that succinic acid is the only one that is characteristic of all mold varieties. My intention, as yet, is only to call attention to the fact that there is mold vegetation in the stomach under certain conditions, and that this mold produces injurious effects. The mold varieties which I have most often found give the reaction for succinic acid. The qualitative test (fully described in *American Medicine*, March 22, 1902) is: 1 c.c. of filtered chyme is extracted in a Straus' separatory funnel with 4 c.c. of ether and the clear ether extract is floated on a solution of ferric chlorid (one drop of a 10 per cent. ferric chlorid to 2 c.c. dist. water in a narrow test tube). At the line of junction of the two clear and colorless fluids there is a dark mahagony red ring. This test has proven a very delicate one, and is made in about a minute or two.

Plentiful as is the literature on the presence of mold in the body, but few noted it in the stomach, and of these few only Einhorn (cited above) guardedly and tentatively speaks of the necessary relation and of the interdependence between mold and certain symptoms. He says: "It is scarcely conceivable that such a mold coating of certain zones of the gastric mucosa can be unattended with disturbances of the functions of the organ. Conditions of irritation as well as inflammatory processes might be expected *a priori* from the mechanical action of the mold," and further he says, "yet it cannot be said with certainty that the mold produced the existing pathological processes in the stomach . . . it appears plausible that these mold fungi are connected to a certain extent with the above-mentioned abnormal conditions; and even if they are not the cause of these, they undoubtedly increase their severity." Such guarded assertions bespeak the true observer. In fact, I did not know how to help myself either when I first observed mold accompanying the symptoms to be described later. I wished I had known of Einhorn's article at that time instead of seeing it only lately. I found the presence of mold. I found certain symptoms accompany the presence of large quantities of mold. I was pretty sure there was an intimate connection between the mold and the symptoms given by the patient, but to definitely bring mold and the symptoms into the relation of cause and effect was something I could not do until after the lapse of a few months when I learned the chemistry of some of the mold varieties. Learning the chemistry of mold and consequently being able to demonstrate, experimenting with the growth of mold and its action, finding out experimentally what agents would enhance the growth and then applying the knowledge thus gained to abundant clinical material—all this I believe permits me to hold mold as the culpable agent which produces diseases of the stomach.

Etiology.—Sufficient has already been said on the cause of gastrosia fungosa—the presence of developing, growing mold in the stomach. What is yet to be answered is: How does mold get into the stomach? What favors its development there? Undoubtedly the most frequent media to transmit mold into the stomach are food and drink. Mold is ingested either involuntarily or, even, voluntarily, as is the case with certain varieties of cheese. Any and every article of food may have mold in microscopic quantity: Vegetables, fruits, meats, breadstuffs, dairy articles, etc. Very often we can discern the presence of mold by the sense of smell even if we cannot see any. To produce symptoms, mold must be present in the stomach in an active, living, and multiplying condition. The ingestion alone is not sufficient. Mold or its spores must remain in the stomach beyond the normal time of stomach digestion, and must find suitable surroundings in which to develop. Both these conditions must be present to effect the growing of mold. There is every reason to accept as fact that mold remains in the stomach for a sufficiently long time to develop and that it does develop there. This can be proven by the following fact: Mold is aspirated from the stomach in large clusters. But as mold was not ingested in that condition the aspirated mold colonies must needs have developed in the stomach. But since the growing of the mold from the microscopic quantities ingested to large clusters requires much more time than the ingested material remains in the stomach the ingested microscopical quantities of mold must have remained all that while in the stomach. Einhorn says (cited above): "any considerable growth of mold would be possible only if a colony of the fungi had infested a fold of the surface of the gastric mucous membrane and had become so firmly adherent that they were not carried along with the onward passage of the chyme." This explanation is highly reasonable, and I believe it to be true. But this would explain only one thing; namely, that the fungi do stay in the stomach for days and get time to develop, so that they can be seen in the aspirated chyme, macroscopically, as clusters and patches of considerable size. The answer to the second question, what conditions are favorable to the development of fungi, would be that different fungi require different media. The fungi I have so far found in the chyme seem to require saccharine media, and, as a matter of fact, I believe to have noticed, quite often, increased saccharification in moldy chyme. But saccharification is not the function of the stomach. The question would now come up: Do we have increased diastatic action; do we have diminished production of HCl; do we have delayed pouring out of HCl; or do we have all these conditions combined? I have seen all these conditions present in the stomach in cases of gastrosia fungosa. I have seen cases of gastrosia fungosa where the free HCl was as high as 30, and have seen other cases where the amount of free organic acids was, indeed, very small. But in the first cases the titration for organic acids gave very high values, and in the second cases there was either very little or no free HCl at all. Given the same amount of HCl and of organic acids, the severity of the symptoms will depend on the presence and quantity of saccharine matter in the stomach, immaterial whether the saccharine matter has been introduced as such or whether it is the product of diastatic action. So that, based upon experimental and clinical experience, I can say that the fungus growth is very much influenced by the saccharine matter in the chyme—the greater the quantity of saccharine material the better the growth of most fungi. The readiness with which mold grows on sweet media or starchy matter is pretty well known.

Symptoms.—The symptoms of gastrosia fungosa can be summed up under the heading of the presence of irritating organic acids in the stomach. The symptoms will vary with the quantity and the degree of concentration of the organic acids. The symptoms will radiate from the stomach, up or down in accordance with the spreading of the noxious acid in either or both directions. The patient will interpret the irritation in accordance with the severity of such irritation. In the milder cases, when there is yet enough of HCl, the irritation is interpreted as hunger, or increased appetite; the patient always wants to eat; the patient has a sickly gnawing sensation in the stomach, and the German well expresses this sensation as "Herznagen." This is a false appetite that must be suppressed by the physician. The symptoms may also vary from simple uneasiness and rawness in the epigastric region to severe pain and cramps. In uncomplicated gastrosia fungosa the patient does not complain of heaviness or of a load, or weight, or fulness in the stomach. Most often the pylorus is the part affected, and the reason for this is very easily explained. It is due chiefly to gravitation. The chyme and the irritating acids gravitate toward the most dependent portion of the stomach, which, most often, is the pars pylorica. The irritation of this part elicits pain and causes contraction of the pylorus. In violent cases there are cramps in the pyloric region, pylorospasmus, which quite often is mistaken for gallstone colic, and in one case I have seen such a case operated with negative results as to the finding of any gallbladder trouble. Occasionally we may feel the contracted pylorus. I have several times succeeded in feeling the pylorus in the following way: The stomach is distended with CO_2 by giving the patient half a teaspoonful each of tartaric acid and bicarbonate of soda, each in a little water. This causes slight distension of the stomach. If we now run our fingers along the greater curvature toward the pylorus, we can feel the pylorus in suitable cases. The patient may complain of no more than a raw sensation, or, again, it may be excruciating pain, spasms and violent cramps. Between these extremes there may be suffering of different gradation. The time when these pains either appear or are augmented in violence differs with the individual patient. The pains always appear either before or after meals. When they have assumed the character of cramps the pain comes after meals. But when the suffering is in a less degree, when there is only a slightly painful sensation, this is very often relieved for a short while by the ingestion of some food. This phenomenon is to be explained by the fact that the slight irritation of the mucosa by the organic acid gives the sensation of hunger, and after the ingestion of some food the consequent pouring out of HCl decomposes, dissociates the noxious organic acid, which is evidenced, clinically, by the cessation of the symptoms for a short while.

How soon after the meals do these pains appear? This depends upon the presence or absence of HCl, upon the quantity of HCl secreted by the stomach, and upon the time when such HCl appears in the stomach. The sooner the HCl is secreted and the greater is its quantity, the later will the symptoms of gastrosia fungosa manifest themselves. The location of the pain is not always limited to the stomach itself, but will spread with the spreading of the organic acid. With whatever organs these acids come in contact, irritation of such organs, with consequent pain, will be the result. Only too often the œsophagus shares the misery with the stomach, and the patient then complains of either pain between the shoulder blades, if the posterior wall of the œsophagus is attacked; or of a raw pain behind and along the sternum, if the anterior œsophageal wall is attacked or of both. The response of mucous membranes to irritation is the producing of contraction of the muscular fibers of the organ to which they belong. This contraction is, in severity, in direct proportion to the vehemence and the degree of irritation; the greater the offending material, the more sudden and the more violent the muscular contraction. Thus cardio- and pylorospasmus will be the response. The sudden and vehement contraction of the muscular coats of these orifices will be the answer to great irritation of these parts by the organic acids. The patient complains of severe cramps in the neighborhood of the umbilicus, in pylorospasmus, and of spastic, cramplike pain in the neighborhood of the ninth dorsal vertebra on the left side, if it is cardiospasmus. The volatile organic acids reach also the œsophagus and cause irritation there, with consequent muscular contraction. Especially is this contraction marked at the beginning of the œsophagus. The patient points to the suprasternal notch and describes his sensation as that of choking, which we have learned to describe, unfortunately, as the globus hystericus. There are no hysterics about this, it is actual fact. In those cases where there is a sufficient amount of HCl, together with the organic acid, the patient experiences the sensation of hunger; he has a good appetite, nay even a ravenous appetite, and very frequently such patient boasts of such an excellent appetite that he feels as if he could eat up a horse. And it is really a surprise to such a patient why, with such a good appetite, there should be suffering, pain, and distress in the stomach. This is a false appetite, which it is the duty of the physician to suppress. Great, indeed, must be our persuasive powers to convince the patients of the danger of such an appetite, even after they have been relieved of their distressing symptoms.

The symptoms of dryness and thirst are next in importance. In aggravated cases the patient can hardly alleviate his thirst; he drinks all the time, thus introducing large quantities of water into the system. From this excessive amount of water the system rids itself by the natural channels of perspiration and micturition, giving these symptoms. Thus we get intense thirst and polyuria—what a vivid clinical picture of diabetes! Should such symptoms, by chance, be associated with alimentary glycosuria, and a diagnosis of a case of confirmed diabetes will not be doubted. I have recently had such a case in a woman, about middle age, who had been treated for a few months for diabetes just because of these two symptoms: Intense thirst and polyuria, although there was no sugar in the urine. The intensity of these two symptoms, which hindered that woman greatly in her butcher business, evidently prevailed on her physician to make the diagnosis of diabetes and to treat her for it with nearly disastrous result. This woman made an excellent recovery, gaining weight and color in about four weeks. In the course of time the irritation will naturally spread from the stomach to the œsophagus, from the œsophagus to the pharynx, and from the pharynx to other parts with which this is in communication. Vomiting is very often a distressing symptom. The patient may vomit either a green or a dark red fluid, and say that he vomits bile or blood, as the case may be. This vomiting occurs chiefly either at night or early in the morning when the stomach is yet fasting. The vomiting is due to the great irritation of the stomach by the large amount of the organic acid, which causes spastic contraction of the stomach, expelling its contents.

To sum up—the symptoms of gastrosia fungosa are: Heartburn, rawness or pain, spasms or cramps, in the region of the pylorus and posteriorly on the left side at about the ninth dorsal vertebra, burning sensation in the epigastrium, rawness and burning behind and along the sternum and between the shoulder blades, a choking sensation, dryness in the throat, thirst, polyuria, excessive perspiration, sour taste, regurgitation of sour masses, vomiting and, as a rule, headache, which is most often of the frontal type.

Diagnosis.—The clinical symptoms must be corroborated by an examination of Ewald's test meal, which must invariably be preceded by an examination of the fasting stomach. In the examination of aspirated chyme of the test meal we may arrive at important deductions by the proper observation of the physical appearance of the aspirated contents. The quantity obtained from the stomach, the character of the chyme with reference to the fineness of subdivision of the solid part, the color of the fluid portion, and the odor of the aspirated ingesta, they all have their own and important interpretation. Properly appreciated, the very physical appearance of the chyme will very often make the diagnosis. The quantity, as a rule, is quite considerable, especially at the beginning of the disease. The solid part of the chyme is very fine, almost always appearing as if the chyme consisted of a "floury" layer at the bottom, with fluid above it; this after the chyme has stood quiet for a little while. The color of the fluid part is of a greenish hue, very often of a decided green. The odor is pungent, sweet sour, often resembling the odor of raisin wine. This condition has been seen and described, but invariably has been misinterpreted. This characteristic physical appearance has been associated with atony of the stomach, the diagnostic criterion being accepted to be the large quantity of aspirated chyme. But far from being atony of the stomach, such a condition must be looked upon as characteristic of hypertony of the stomach. It only depends upon the proper understanding of the cause for the large quantity of the aspirated chyme. The fact that a large quantity is aspirated does not necessarily imply that the muscularis ventriculi is unable to expedite matters by reason of its being weak. The fact that a person does not get out of a house does not necessarily mean that that person never made the effort to get out. He may have tried very hard to release himself, but the door may have been locked. The same explanation is due in this disease. The large quantity of chyme we aspirate is not due to the fact that the stomach is atonic, but that the door, the pylorus, is locked. The flour-like appearance of the solid part of the chyme, the "floury layer," attests that the stomach has made very great efforts to rid itself of its contents, but that the pylorus was spasmodically contracted. And the reason why the pylorus so contracts is that it is too strongly irritated by the organic acids within the stomach. We know that the stomach orifices close during digestion, this closing being due to irritation of the mucous membrane. The greater the irritation, the stronger, the more prolonged is the closure of the pylorus. That the chyme is highly acid in those cases has been noted by every one, and it is this highly acid chyme which strongly irritates the pyloric mucosa. The condition that prevails is: The pylorus is closed and the gastric mucosa endeavors to expel its contents. The greater the irritation, the stronger and the more prolonged the closure of the pylorus and the stronger are the efforts of the muscularis. Between these two conditions, spastic contraction of the pylorus and increased efforts of the muscularis, the inclosed chyme is very finely macerated, giving the "floury layer." A large quantity of chyme, the solid part of which is flour-like in appearance should be recognized as a condition of hypertony due to stenosis of the pylorus, "stenosis pylori ab irritatione." This view is more fully explained in my article in the *Philadelphia Medical Journal*, May 24, 1902, which was accepted for publication last December. On March 6 of this year appeared in the *Deutsche medizinische Wochenschrift* an article by J. Boas of Berlin, "Über Magensteifung, on Stiffening of the Stomach," in which that eminent author likewise questions the now-accepted theory of atony of the stomach and comes to the same conclusion as myself. This phenomenon, stiffening of the stomach, I elicited every time I thought of it, after reading the article, in my cases of organacidia gastrica. Boas' ideas of the tonicity of the stomach, as at present understood, are well expressed in the very first sentence of his article; he says: "The knowledge of the motor function of the stomach and of the interference with this by disease is yet very dark . . . what is being taught of it (muscular action of the stomach) is full of gaps and controversies." Further, he says: "In my experience of the last few years I have found the tonic contraction of the fundus relatively very frequently." He also expresses his doubts as to the correctness of the diagnosis of atony of the stomach when based on dyspeptic symptoms accompanying the prolonged staying of chyme in the stomach, and says: "As is known, we have heretofore designated as atony of the stomach all such cases that gave subjective symptoms of dyspepsia and which gave objective evidence of prolonged retention of the ingesta. Already before my attention was called to the fact that very often such atonies were seen in such individuals whose history pointed to the existence of an ulcus." He then cites the case of a physician whose stomach he examined after a test breakfast and found as follows: Test breakfast *well* chymified; free HCl 66 (he does not state which indicator he used), stomach contents (Mathieu and Remond), 340. And then he continues: "This examination shows every sign of 'atony of the stomach,' and yet a simple primary weakening of the stomach cannot be assumed in view of the repeated elicitation of the stiffening of the stomach. It doubtless is a case of a slight cicatricial *stenosis of the pylorus*." He thus positively denies the diagnosis of atony in this case, notwithstanding the large quantity of aspirated chyme, and makes the correct diagnosis of stenosis pylori. Further, he says: "The question is only what is the cause of the stenosis, the assumption of a so-called atonic ectasy, of continuing hypersecretion, etc., should be disregarded."

The green color of such chyme is due to the presence of large quantities of mold. The pungent sweet odor has for its cause the presence of the organic acid—succinic acid—with which is usually associated an increased saccharification. Of course, such physical appearance is present only in uncomplicated cases; complications will cause modifications.

To fully observe the physical appearance the aspirated chyme should be left standing still for about ten minutes, so that the solid part may have time to settle. After this we proceed to the microscopical and chemical examinations, previous to which the chyme is filtered. For the microscopical examination a drop of the residue remaining on the beaker, after its contents have been poured out on the filter, is taken with a pipette. This drop is placed on a clean slide, covered with a thin cover-glass and put on the stage of the microscope. We first examine the specimen unstained and then stain in the manner described above. Mold will be seen in many varieties and shapes. It may be seen in patches of irregular shape and constructure, green ish yellow or orange yellow in color, irregularly shaped patches of an uncertain dark color, now deep red brown, and again very dark orange or a very dark purple; there may be some other colors. Mold is seen as very fine pencils, especially noticeable after staining. Single segments of mold look, to all appearances, as crystals. Mold is seen as bacilli of various structure, thickness, and lengths, according to the variety of the special mold species; clusters of spores may be taken for staphylococci. The specimen is now stained and decolorized, as described before, and again examined. Very often a certain bacillus, resembling very much the tubercle bacillus, is seen after the decolorization. The more I study mold, the more I begin to doubt the identity of bacterial entities. The conviction seems to force itself upon me that what we recognize as bacteria are seemingly but parts and phases of mold. However, prudence would dictate great reserve in making any such allegations authoritatively. Indeed, it is the easiest thing to study mold. All we need is a fairly good microscope—an immersion lense is not an absolute necessity, the mold comes of itself.

For a complete chemical analysis both a qualitative and a quantitative analysis are of importance. The qualitative test for organic acid is made by extracting the chyme with ether and floating the clear ether extract on a weak solution of ferric chlorid, as described fully in my article ("Some New Facts in the Chemistry of the Stomach," *American Medicine*, March 22, 1902). For that purpose 1 c.c. of chyme is extracted with 4 c.c. of ether in a separatory funnel. The chyme and ether are well shaken up, then the clear ether extract is floated on the iron solution. This consists of one drop of 10 per cent. ferric chlorid to 2 c.c. dist. water, in a narrow test tube. At the junction of the iron solution with the ether extract a red brown ring will show the presence of succinic acid. The quantitative analysis is made in the usual way by titrating with a decinormal solution of caustic soda, using as indicators: (1) A super saturated alcoholic solution of tropæolin 00, for the determination of the free HCl; (2) A half per cent. solution of dimethylamidoazobenzol as an indicator for the free organic acids, and (3) A one-per-cent. solution of phenolphthalein for the determination of the general acidity. To 5 c.c. of the filtered chyme are added two drops of the tropæolin solution. A cherry-red color will result in the presence of free HCl. In the absence of free HCl the chyme becomes amber-colored. We now add slowly the sodium hydrate from the burette until the cherry red color has changed into an amber color. This is the end reaction. Now two drops of the dimethyl are added. In the presence of organic acids the now amber-colored chyme turns carmine red. The titration is resumed and continued until the carmine red turns into a lemon-yellow color, which signifies the approximate end reaction of the organic acids. Again are added two drops of the phenolphthalein and again titrated until the yellow-lemon color has turned red. Only 5 c.c. are needed for the whole determination. Care should be taken not to overtitrate. To the beginner, the first titration will cause some difficulty until his eye becomes acquainted with the color of the end reaction of the tropæolin. To do this I would advise to add the tropæolin to a chyme, known to have no free HCl (to be ascertained by Günzburg's reagent), and learn the exact color. A narrow column shows the color better than when the contents are in a wide beaker. Therefore, when there is a doubt as to whether or not the amber color has been reached some of the contents from the beaker may be poured out into a narrow test tube to show the exact color. Günzburg's reagent gives a ready means to control the tropæolin index. If, for instance, the tropæolin titration gave an index of, say, 20 free HCl, and we would like to verify that, we take another 5 c.c. of filtered chyme and add, say, 0.9 c.c. sodium hydrate. This would be an equivalent to an acidity of 18. After such addition we test with Günzburg, which should still give a positive result. After this we add NaHO, say another 0.3, and again test with Günzburg, which then should give a negative result. To calculate the acidities note the burette reading before we begin to titrate and at the end of each titration. If 5 c.c. of chyme are used and the burette reads 2.3 before the beginning of the titration, 3.2 at the end of the tropæolin titration, 4.8 at the end of the dimethyl titration and 5.7 at the end of the phenolphthalein titration the calculation will be: Free HCl, 18; organic acids, 32; general acidity, 68; 5 c.c. being the twentieth part of one hundred we multiply the number of c.c. of the NaHO used in each titration by twenty.

Prognosis.—In uncomplicated cases the prognosis is good. A cure can be positively assured. The cases I have had have been cured within six to eight weeks. From the history of most of my cases I could judge that the disease had lasted for several years. In complicated cases the cure will depend upon the nature of the complication.

Sequelæ.—The spastic contraction of the pylorus and the contracting stomach throwing the chyme toward the pylorus will soon be followed by the necessary consequences, viz., inflammation of the pyloric region. The frequency of this disease—gastrosia fungosa—and the fact that at autopsies it is the pyloric region which is mostly found affected, seem to throw the necessary light upon my conclusions. It is only a question of time when the pylorus will cease to respond, will no longer close, and thus create the condition of "insufficientia pylori." That oft-repeated and prolonged spastic contraction of the stomach and its orifices will interfere with the blood circulation is not a matter of deep speculation, and varicose veins in the stomach are surely not a rarity. But let it not be understood that gastrosia fungosa is the only cause of varicose veins in the stomach. Once this condition is established, the bursting of such varicose veins, by whatever cause—straining or otherwise—need surprise no one. Are we not led now to the understanding of the origin of hemorrhagic erosions upon which Virchow (in a discussion on hemorrhagic erosions by Pariser at the Berliner medicinische Gesellschaft, some time in the spring of 1900, and at which I was present can look in no other light than as being ulcers? Indeed, it requires no vivid imagination to reason further. That the stomach under such continuing conditions will not remain the only affected organ is only too evident. The regurgitation of sour acrid matter will not fail in producing deleteriou effects, in due time, upon such organs with which such irritating matter comes in contact, whether i be the œsophagus alone or parts beyond it. Thi latter condition suggests itself as especially virulen in infant and child life, which by no means make exception to be affected with gastrosia fungosa Pertaining to child life, I might mention but on affection which causes a great deal of anxiety laryngismus stridulus. But the evil influence this disease is not confined to spreading only upward; the intestines get there share in due time.

Treatment.—The treatment can be discussed under three headings: (1) Dietetic; (2) Mechanica and (3) Medicinal. Under the first heading belongs, first to avoid eating mold, and second to avoi

ıting any food varieties favorable to the develop-
ıent and growth of mold. With but few exceptions
ıold, macroscopically visible, is repugnant, and is
voided. Food articles with a musty, moldy odor
ıould likewise be refused. Some varieties of cheese.
rized for their sharp, piquant taste, which taste
due to the presence of mold, should not be per-
ıitted to be sold. A normally functionating stom-
ch is in no need of such an appetizer. When a
esire for a stomach excitant is present, such
omach should be carefully examined. No food is
xempt from moldiness, but sweet foodstuffs show
reater and readier proneness to mold growth.
weet fruits, especially grapes are great harbors of
ıold, and the latter should never be eaten by any-
ne unless they are thoroughly washed in running
ater before eating. Vegetables intended to be eaten
ncooked should be well cleaned, the outer leaves
moved, and thoroughly washed in running water.
eak organic acids do not destroy the growth of
ıold; one must have this in mind in thinking of
ılads. The food should be cooked and eaten soon
ter. No family should cook more than is re-
uired for the next meal and destroy whatever is
ft, as cooking the food does not prevent the
ccess and development of mold after such food
as been cooked. The poor patient especially
ıould be warned not to eat any food left over from
ıe day before. Very often they eat food left over
r several days, and then pay for such infraction
ı the laws of hygiene with severe attacks of "in-
igestion." Meat must likewise be thoroughly
eaned and washed before cooking. The orthodox
wish custom of making the meat "Kosher"
ıould be universally adopted. This consists in
st soaking the meat in plenty of clean water for
out twenty minutes and then salting it thoroughly.
fter the salting the meat is put on a sieve-like tray,
as to permit free drainage. For about thirty
ıinutes the meat is left in the salt, after which it is
ain thoroughly washed in clean water, to remove
ıe excess of salt. Then only is the meat ready for
oiling, stewing, etc. Meat for broiling purposes
ed not undergo this process. The meat does not
ıffer by the "kosher-making." I might cite here
y own personal experience. For a long while I
as dissatisfied with the meat I got at my table.
oiled. stewed or fried, it always had the same
oldy, musty odor. The butchers were frequently
ıanged, without avail. But after I thought I had
scovered the cause and ordered the meat treated
rictly in accordance with the orthodox Jewish
ws, I had no more trouble with the meat, no mat-
r where it was purchased.

Sweets, sweet fruit, stewed fruit, jams, and pies
ould not be allowed. Nothing sour should be per-
itted, as the stomach already suffers from the
esence of organic acids; very often the patients
mplain that they feel worse after eating sweets.

The mechanical treatment consists in cleaning
t the stomach from any fungi. This is best done
lavage. Indeed, this disease offers the ideal
dication for lavage of the stomach. The water
distending the stomach obliterates any folds,
ıd washes away the mold growth lying between
ch mucous folds. The stomach should be washed
ther before going to bed or before breakfast, pre-
rably the first. At all events lavage should be
ne on an empty stomach, as we surely do not care
rob the patient of the benefit of his meal.

Medicinal treatment.—The first thing that will re-
ıire our attention is the heartburn. Knowing that
is a sour taste and sour eructation that causes the
isery, it is but natural to prescribe the time-
nored bicarbonate of soda. But the failures of the bicarbonate to come up to the expectation are very many indeed. The patient may or may not feel relieved by the bicarbonate. In the latter case, if the patient comes back, the physician is surprised by the failure of the alkali to act as desired. In fact, such instances are numerous enough, if not the rule. The organic acids in the stomach do not require neutralization but chemical decomposition. The bicarbonate neutralizes what HCl there may be along with the organic acid, and in presence of the now introduced alkali the diastatic action proceeds, with the further production of organic acids (experiment). This explains why there may be some relief for a little while in some cases after the alkali and why the pains soon after reappear. Instead of giving sodium bicarbonate I give, with excellent results, the mineral acids. I usually give the HCl at meals and a mixture of equal parts of sulphuric and phosphoric acids ten to twenty minutes after meals, according to existing conditions—fifteen drops of this acid mixture in a glassful of water, which is preferably warm. These inorganic acids decompose the organic acids, destroying their action, and do not give the favorable medium for further development of the organic acids. The dilute nitric acid is also very good, but it must be watched, and the appearance of headaches was to me an indication to discontinue its use. Some patients seemed to require Fowler's solution after they had first been benefited by the mineral acids. This, together with the dietetic and mechanical treatment, would constitute all the therapy for an uncomplicated case of gastrosia fungosa. Where there are complications these will have to be taken into account.

Zymosis Gastrica (*Ζύμη*, yeast).—Next in frequency is zymosis gastrica. This pathologico-chemical disease of the stomach is due to the presence of yeast cells in their budding, sporulating, multiplying condition. This condition can be brought about by repeated ingestion of large quantities of yeast-containing food and drink, by the diminution of the quantity of HCl, or by the delayed secretion of the HCl.

The symptoms of this disease are caused by the physical and chemical properties of the yeast. The development of CO_2, normal in diastatic action, is much enhanced by the presence of yeast (experiment). So that in the presence of yeast the amount of CO_2 production will be much increased with the consequent distention of the stomach. The absence of the HCl, and the presence of an alkaline medium favor the growth and the development of yeast (experiment). The symptoms of stomach distention will vary from a slight heaviness to an unbearable sensation of oppression; the patients have to loosen their trousers, corsets, or skirts, as the case may be. The mechanical effect of the distended organ, encroaching upon the functions of the neighboring organs gives symptoms. The heart's action is interfered; its physiological excursions are limited, and the patient complains of palpitation. Excessive distension with gas may be of very grave and possibly of fatal result. The recent experiments by A. Oppenheim (*Deutsche medinische Wochenschrift*, March 27, 1902, Beitrag zur Bekämpfung des Meteorismus) show that the distention of the colon displaced the heart altogether, and that it may also produce death. We surely could reason the same to happen when the stomach is excessively distended. The largely-distended stomach interferes also with the physiological action of the lungs, and the lungs expanding upon the distended stomach, compresses the circumference of the stomach, which is evidenced as pain on respiration. In its efforts to get out the CO_2 produces belching when it leaves by the cardiac opening and gurgling when it escapes through the pylorus. Bitter taste is its chief accompaniment. In more aggravated cases there is nausea and vomiting, due to the production of that highly nauseating, penetrating, and irritating acid, butyric acid, which is a constituent of yeast. As in the former disease, headaches are very often present.

The clinical diagnosis will be aided by inspection and percussion. Inspection may show a bulging in the gastric region, the size of which depending on the degree of the distention of the stomach. Epigastric pulsation may at once attract our attention. This is due to the cardiac impulses being transmitted to the skin over the stomach by the distended stomach, which for such purpose forms a practically solid body for the transmission of the apex beat. Percussion will elicit tympanitic resonance.

The physical appearance of the chyme resembles much that of the preceding disease. Here likewise we aspirate a large quantity, which separates into a "floury layer" at the bottom with fluid above. The cause for this is the same as in gastrosia fungosa, stenosis pylori ab irritatione. The odor is much more intense than in gastrosia fungosa; it is very irritating and pungent, due to the butyric and acetic acids. In severer cases the chyme will separate on standing into three layers, fluid between two solid layers. The top one is the layer specifically lighter, because of the gas contained within it; gas bubbles are seen to rise from this layer.

Microscopically, the diagnosis will be made by seeing large numbers of yeast chains and large quantities of budding yeast. Normally, yeast is present in the stomach only as single isolated cells, or occurs possibly in twos, each cell being of about equal size. A chyme that contains budding yeast or yeast chains is not normal. Of this I have ample evidence and proof. In zymosis gastrica the yeast occurs either in chains or we can distinctly see mother and daughter cells. Yeast is seen in the process of division, forming figures of eight, others become elongated in their further metamorphoses. In one case I have aspirated some contents, which, under the microscope, showed nothing else than to consist of a pure culture of budding, sporulating yeast and yeast in chains. Bacilli are seen of various shapes and sizes, much more than in the preceding disease. In this condition of the stomach the yeast cells are also seen in the process of chemical evolution into other cells—acetic and butyric acid cells.

The chemical test will be for acetic and butyric acids, described in my article in the MEDICAL RECORD, November 16, 1901. The qualitative test for these acids is made in the same way as in the preceding disease, that is, the floating test. The ring that appears between the ether column and the iron solution is very similar in color to that obtained in testing for succinic acid. But whilst succinic acid gives the characteristic ring in even very weak solutions butyric acid solutions must be quite concentrated to give such ring. Whenever butyric acid is present in a large enough quantity to give the dark brown ring the identity of the brown ring must be established. This is done as follows: After completing the floating test as much of 95 per cent. of alcohol is added to the test tube as ether extract was floated, or rather a little less, and the test tube then inverted two or three times. The ether column, which was clear before, turns an orange color. The quantitative analysis for these acids does not differ from the quantitative analysis for succinic acid, described.

The prognosis in this disease, when uncomplicated and not yet far advanced, is even more favorabl than in gastrosia fungosa. But the sequelæ I believe, theoretically, to be much graver.

The treatment consists of the same elements a that of the preceding disease; dietetic, mechanical and medicinal. The dietetic treatment means excluding from the diet all articles which contai yeast. As it is the CO_2 produced by the yeast tha causes symptoms, all food and drink containing CO_2 or which cause and favor its production must b eliminated from the diet. Thus must be exclude breadstuffs, into the making of which yeast enter as a factor. Especially should the crust of the brea be excluded, as several of my experiments prove that almost all of the yeast was in the crust. Wh there should be a ban upon fresh bread I do no know. Surely we should not permit any stale bread stale bread is lighter through the loss of water b evaporation, but it is much sourer, due to the development of tartaric and lactic acids; neither of thes organic acids should be welcomed to the stomac The reason that fresh bread harms, and I will adm that, is not that there is anything intrinsicall wrong with the fresh bread, but that the fresh brea is more appetizing and a much greater quantity of is eaten. It is the greater quantity, and with it th greater quantity of yeast introduced, that harm Fruits that contain yeast and are prone to fermentation, especially grapes, should be blacklisted. Sod water, seltzer, vichy, etc., must likewise be avoide If bread must be given, only a little of the soft pa may be allowed. Instead of bread, crackers, biscuit or matzoth can be allowed. There is absolutel no reason why noodles, macaroni, spaghetti, potatoes should be prohibited. I always permit the —nay, I insist upon the patients eating these—ar have always met very satisfactory results. All kin of cabbages, turnips, and radishes should likewise excluded, so also raw onions. Beans and peas ca be permitted only when their external cellulose cov has been removed before cooking. With beans can be done this way: the beans are soaked ov night in water. In the morning the shells will found burst, curled up, and loosened from the bea Now each bean is to be taken between the finge and the bean squeezed out of its shell. The bea thus freed from the shells can now be boiled a eaten. Of peas, only split peas can be allowe Nothing sour should be permitted, as this mea introducing into the stomach of organic aci Coffee and tea must likewise be put on the blackli My experiments with coffee (to be published some future time) have repeatedly and conclusive proven that HCl entirely disappears when broug together with an infusion or a decoction of even ve strong, *i.e.* very sour, coffee, and we might think he of a surprising paradox—an acid neutralizing acid. Of course, this not a process of neutralizati but the exact chemistry will be explained, together with my report of the research. Water and m should take the place of other beverages. Pla milk, milk and hot water, milk with a little vich milk with a little salt added, or milk with hot water added, should be administered to suit the taste of the individual. It is my opinion that fresh cows' milk will never tire. However, milk must not be allowed *ad libitum*, as large quantities of milk may likewise give rise to the formation of gases. Well-fermented light wines might be allowed in moderate quantities.

The mechanical treatment is the same as in the former disease; lavage of the stomach. Medicinally the mineral acids are to be given. Phosphoric acid is the best of any other mineral acid, but I usually combine this with the sulphuric acid in equal parts, of which fifteen drops are given in a glass of wa water, either before or about twenty minutes after the meal. The severer the symptoms, the sooner will the inorganic acids have to be given. Complications must be met.

Plentiful are the cases where there is either gastrosia fungosa or zymosis gastrica. But very often both these conditions are present at the same time. The patients will consequently give symptoms of both conditions. A very often-met symptom of organacidia is frontal headache and vertigo. Some patients say they are "dopy"—they cannot bend down at all because of getting dizzy and the "blood rushing to the head." I believe the cause of this to lie in the fact that the CO_2 which is largely developed in this condition together with the highly irritating, volatile organic acids come in direct contact with the part complained of. These acids and the gases reach the frontal cells in a most direct way. From the stomach through the œsophagus to the pharynx. Thence through the posterior nares and nose upward until they reach the frontal cells. From the pharynx there is open communication with the middle ear through the Eustachian tube. As a matter of fact, patients suffering from organacidia gastrica very often complain of buzzing and shooting in the ear; they are very often subject to nasal catarrh with its evil influence. To imagine the injury that is possible to result from the chronic irritation of the œsophagus and pharynx by the irritating, volatile acids and regurgitated, acrid acid matter on one hand and inflammation of adjacent parts resulting from continuity on the other hand, is an easy matter. The œsophagus, in the course of time, must and does suffer. Œsophagitis is recognized by the pain or burning or rawness between the shoulder blades and behind and along the sternum. Ulcer of œsophagus in organacidia I have already reported (Medical Record, March 1, 1902). The attack on the œsophagus is surely not limited to ulcer alone. The regurgitated acid matter comes easily in contact with the epiglottis and larynx, and if such a condition is often repeated, an inflammatory condition of both these structures cannot very well escape. How far organacidia gastrica operates in child life to produce laryngismus and other ill effects can at the present moment be only a matter of conjecture. Inflammation of the middle ear, chronic rhinitis, the inflammation of the lacrymal ducts through the continuity from the nose with consequent conjunctivitis and the sequelæ of this, are all easily understood when the chronic inflammatory condition of the pharynx is recognized. How much organacidia is o be blamed for inflammation of the tonsils and or the production of adenoids only concurrent observation will teach. Once the chronic inflammaory condition of the pharynx is established, and the nflammation of this organ has spread to contiguous structures, produeing, chronic rhinitis, with blockng up the nasal air passages, a circulus vitiosus is fully established. We have then obstrucion to the breathing together with organacidia gastrica, two factors that will lead, if unchecked, to he inevitable. The influence of organacidia gasrica upon the intestines cannot very well be regarded as favorable, but I will not consider it here. For the avorable treatment of organacidia gastrica, complications must well be kept before our eyes. Especially is this the case should insufficientia pylori ccompany it. For the treatment of this disease I efer to my article in the *Philadelphia Medical ournal* of May 24, this year.

In writing this article I have omitted to mention ther symptoms which the patient complains of ccasionally, but which symptoms do not belong nmediately to the stomach, such as constipation, diarrhœa, especially morning diarrhœa, distention of the bowels, griping pain in the bowels, etc. Such are frequently concomitant symptoms, but they are engendered by organs other than the stomach.

136 East Seventy-eighth Street.

ÆSTIVO-AUTUMNAL FEVER IN MANHATTAN ISLAND AND ITS ENVIRONS.

By HENRY STUART PATTERSON, M.D.,

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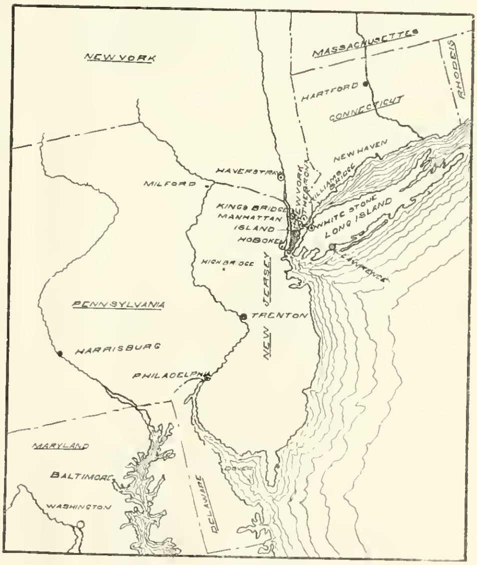
Much misunderstanding has been associated with the malarial diseases of New York in general, and with the æstivo-autumnal variety in particular. Every year Johns Hopkins graduates, who take positions on house staffs in our hospitals, express incredulity when informed that malarial fever on Manhattan Island is quite often endemic. Tertian intermittent fevers, developing in or close to New York City proper, have always been more or less common; and that this fact should be generally unknown is evidence that the clinical field is so large that observers are unable to find time in which to classify their results. As late as 1900 it was stated by eminent authority that æstivo-autumnal fevers did not belong to these latitudes, but were always brought here from southern states, if not from the tropics. In a most excellent article in the Medical and Surgical Report of the Presbyterian Hospital for 1898, Solley and Carter report two cases of æstivo-autumnal malaria; one of the patients had not been out of New York for five years, the other had been in the city for seven months. The clinical experience of the last three summers has been such that we must infer that either these cases have not been generally recognized, or something has happened that has increased a variety of infection previously extremely rare. While clinical microscopy has certainly developed to such an extent that nearly all hospital internes are capable of recognizing malarial organisms, it seems more probable that endemic cases of æstivo-autumnal fever are more common to-day than they were before the year 1898. It is the purpose of



this paper to bear witness to the fact that this variety of fever is now one of our domestic diseases, by citing cases on record at the New York Hospital, but it should be borne in mind that similar cases are on record in Bellevue and Presbyterian hospitals, if not in others.

In reviewing the cases of remittent malarial fevers on record at the New York Hospital, it is found that none is on record as occurring previous to the Spanish war in which infection was not acquired either in the southern states, the West Indies, or Central or South America. Cases in which positive blood findings were absent are not here considered.

In 1899 the first undoubted case of æstivo-autumnal fever arising near New York was observed. The patient had been living in Whitestone, Long Island, and an examination of his blood

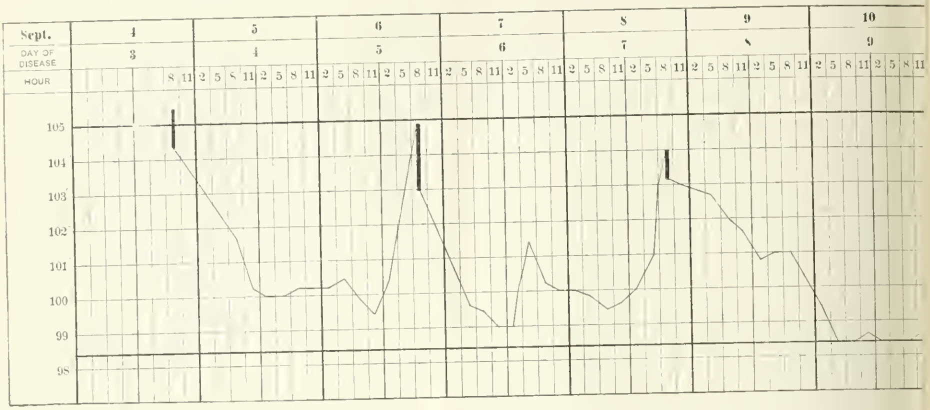


CHART 1, CASE 6188—Showing the marked elevation every other day, with remissions alternate days. The long remissions in this case led the physicians in attendance to take a diagnosis of æstivo-autumnal fever several days before organisms were found.

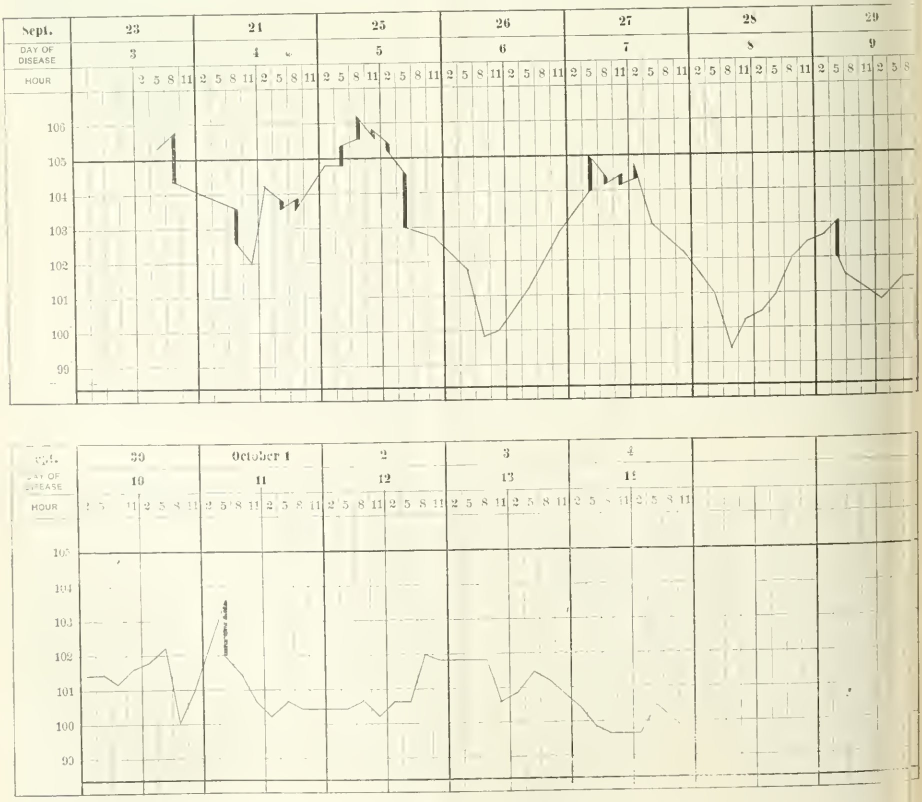


CHART 2, CASE 4489—Showing elevations and remissions alternate days, and the inefficacy of baths during the period of elevation.

revealed an unusually large number of crescents.

In 1900, the first case was that of a young man who had been living in Kingsbridge, in whose blood crescents were found. Two cases not on the records but observed about the same time, one patient living in Williamsbridge, the other in the Bronx, both showed crescents. The next case, in which the infection was traced to Lawrence, Long Island, also showed crescents. Another case is recorded in which the blood contained crescents, which originated near Philadelphia. Case 4727 is of unusual interest; in this instance crescents were found in the blood of a man who, we believe, was sincere in saying that he had not been off Manhattan Island for four years.

In 1901 a young negro, in whose blood signet rings and crescents were found, developed the disease in Haverstraw. A blood examination in the next two cases, one infected in or near Hokoken, the other on the west end of Long Island (6188—Chart No. 1), discovered the presence of crescents in one instance, a single characteristic ovoid in the other. Case 6472 developed along one of the railroads leading out of New York, at no great distance from the city, and showed young forms of æstivo-autumnal organisms.

Here there are records from one hospital alone of one case of æstivo-autumnal fever developing on Manhattan Island and ten developing within a radius of from ten to one hundred miles of New York, the geographical distribution being illustrated by the accompanying map. The sources of origin of cases 6188 and 6472 are traceable to districts and not to particular towns, so they are not presented.

The Spanish war would seem to be the period from which the more common occurrence of domestic cases of this fever dates. In the majority of our city hospitals are reliable records of cases brought from Cuba in 1898. The spring recrudescences of 1899 could well be the source of increasing infection of the anophyles in that year.

In connection with these cases, the question of diagnosis naturally arises. In a case of fever in which a palpable spleen is all that physical examination records, or in a case of fever without splenic enlargement which has been ill sufficiently long to exclude the exanthemata, the choice lies ordinarily between malarial and enteric fevers, with the theory of probabilities in favor of the latter. In cases of a negative blood finding—and in these days when typhoid bacilli are readily recovered from the blood, this method of investigation ought not to be overlooked—there are a few clinical points which seem to help. In the first run of the fever, there appears to be, in a number of the cases at least, a marked elevation in temperature every other day, with a corresponding remission alternatedays, with a gradual subsistence up to about the fourteenth day. This point is rather strikingly illustrated in cases 4489 (chart 1) and 6188 (chart 2). On hydrotherapy, the cases act in a very different manner from cases of typhoid. During the periods of elevation in temperature tubs may have very little effect on the curve; in chart 4489, for instance, the temperature one half hour after the bath on four successive occasions on the fifth day of the disease was higher than when the patient was put in the tub. The tubs may, however, precipitate remission, which the charts show to be much longer and much greater than in enteric fever, except in cases of that disease in children, when the drops in temperature after baths may be four or five degrees, or even to subnormal, but these remissions are as temporary as the less marked reactions of adults.

Unless the physician is reasonably sure that he has to deal with a case of malarial fever, the administration of quinine may create a great deal of mischief. In cases of typhoid, remissions accompanied by sweating, followed by chills and rises in temperature, may be caused by the exhibition of this drug, and much obscurity may be thrown about an otherwise clear case. Two such cases were observed in the New York Hospital in 1901 alone. They looked like cases of typhoid, their temperature resembled that of malaria, except that the chills were more frequent. One had been on steady doses of quinine, the other on an antipyretic, probably quinine. On the removal of the drug, the temperatures behaved in a perfectly straightforward manner. When the diagnosis is perfectly clear, quinine sulphate grs. 10 and arsenious acid grs. $\frac{1}{50}$ may be given every four hours until the temperature reaches 101°; and then quinine grs. 5 and arsenious acid gr. $\frac{1}{50}$ every four hours should be given until after the time for the next elevation, when such elevation is not apt to occur or is only slight. The medication is then given three times a day, and the patient allowed to get up when he has been without fever ten days. At this time the medication should be given twice daily and persisted in for two or three months, only stopping temporarily in the presence of unpleasant symptoms. Even when taken persistently for several months, and later omitted and used alternate weeks, the case which developed in Williamsbridge had a recurrence about eight months after the infection was first controlled. If the patients cannot take the drug in solution, quinine in capsules with dilute sulphuric acid minims 20 seems to be just as efficient. In pernicious cases one should not hesitate to give quinine by the needle. In the ordinary cases quinine and arsenic really seem to be much more efficient than either alone, and their action is greatly augmented by rest in bed.

It does seem that individuals are rather more frequently infected with æstivo-autumnal fever in and about New York than previously. Whether this increase in endemic cases is permanent, the next few years alone can decide.

51 West 58th Street

Ventroscopy, or Illumination of the Abdominal Cavity in Vaginal Cœliotomy.—D. v. Ott has improved the technique of vaginal cœliotomies by devising a system of electrical illumination of the field of operation, combined with a modification of the Trendelenburg position. The patient is placed on the back in the usual lithotomy position, and then the pelvis is raised until the body lies almost at the angle of the Trendelenburg. When the vaginal vault is incised under these conditions air rushes into the abdomen and the intestines slip high up out of the way and leave the pelvis free, except for its own viscera. By the use of an electric forehead light, or of the author's special retractors with lamps attached, a beautiful view of the interior of the abdomen can be obtained, and by seizing the anterior abdominal wall in the neighborhood of the umbilicus with a volsella and drawing it upward the field of vision can be extended to include the cæcum, appendix, transverse colon, the stomach, a part of the liver, gallbladder, anterior abdominal wall, and spleen. Before making the change of position, the vaginal wound is covered with a tampon of absorbent cotton, to filter the air that enters the abdomen and eliminate all danger of infection from that source. By this modification the vaginal route is robbed of its most serious drawbacks, viz., the necessity of working in the dark by touch alone, and the inconvenience of having the intestine constantly forced into the field through the respiratory movements and the intraabdominal pressure.—*Centralblatt für Gynakologie.*

WHY IS MODERN SCHOOL LIFE SO OFTEN DISASTROUS TO THE SCHOLARS, ESPECIALLY TO GIRLS?

By RICHARD COLE NEWTON, M.D.,
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A GREAT deal has been said and written of late in regard to the hygiene of school life. It seems to be generally conceded that the health of many scholars is injured by their school work, and there is a growing tendency to blame the teachers for driving the pupils beyond the limit of their strength. As the writer has from time to time looked over the educational field for about thirty years, and was himself at one time a teacher, he naturally takes considerable interest in this very important question.

While it seems that teachers are frequently to blame for urging children to study beyond their strength, this mistake would appear to be, in a measure at least, in consequence of ignorance of the limits beyond which the delicate organization of the growing child should not be urged. Teachers themselves appear to need more thorough education in hygiene and physiology, as well as in physical training.

On the other hand, there is no question that they are often far less to blame for pushing their scholars too fast than the parents, and, in some cases, the children themselves. The giving of prizes and marking the scholars competitively so that the spirit of rivalry and emulation is excited is distinctly bad; and as this has apparently always been a prominent feature of our public school education its evil influences are everywhere apparent; although fortunately the pernicious practice of inciting scholars to do well for the sake of surpassing their colleagues is now being superseded; publishing graded marks, giving prizes, etc., having been so largely abolished.

Now, however, the parents and the children are constantly menaced with the fear that the latter will not be promoted at the end of the year, and if any one fails of promotion he fears that the finger of scorn will be pointed at him, and his parents act as though they feared a loss of social prestige if their offspring should be set back a year. It seems probable, however, that the baleful influence of parental vanity can be measureably overcome by appeals to reason and moderation. People must be made to understand that it is no disgrace if their children are not so strong, nor so receptive as their neighbor's child. It will be an immense gain when the parents shall be made to understand that the mental vigor depends largely upon the bodily health.

By taking thought we cannot add a cubit to our children's intellectual stature, any more than we can to their bodily stature. The child's mind must not be stretched to fit the system, but his intellectual capacity must be carefully weighed and measured, and he must take that place in the graded school which he is capable of filling.

Amongst others, Edward Everett Hale has recently inveighed against "the mechanism of the public schools." But it must be borne in mind that the public schools are fulfilling a great function in trying out and classifying their scholars. Hard as the system may seem to be in certain cases, it is, on the whole, a good and beneficent system; although it may seem needlessly harsh to the parents of weak and dull scholars, still it must be admitted to be a great and lasting advantage to ascertain the mental and bodily limitations of every scholar as early as possible, and upon this foundation to proceed to build up his education in the most judicious manner. Instead of condemning and antagonizing the teachers, parents should co-operate with them, by carefully watching their children, and by conferring with the teachers they can ascertain whether the former are working up to the limit of their strength or beyond it, or whether, on the other hand, they are slighting their work. This I am satisfied, only comparatively few parents do systematically, and much of the dissatisfaction which is expressed against the schools is really the fault of the parents; and, furthermore, the bitterest and most vehement complaints come from parents who really understand least about the matter.

My own experience, and I presume that of others also, leads to the conclusion that the school work bears much harder upon girls than upon boys. While there are, so far as I know, no available statistics relating to the point, I dare say that no one will dispute this assertion. Admitting for the sake of argument, that it is desirable and proper for girls to go through our public grammar and high schools, and to take the same courses as the boys, how are we to prevent the injury to their health which many of them sustain while doing this? While the question is a difficult one to answer, its great importance will presumably lend interest to certain suggestions upon the subject.

In the first place, girls have a decided handicap as compared to boys by reason of their greatly inferior physical equipment. Professor Pierce of Philadelphia once said, in my hearing, that the strain of the high-school examinations in his town ordinarily showed itself in the resulting injury to the teeth of the school girls; whereas the boys, interested in baseball and out-of-door sports, showed no dental decay at examination time. This to my mind is a striking proof of the fact that the girls are working more beyond their strength than the boys, because in this regard the two sexes can be fairly compared, whereas the saying that 75 per cent. of school girls suffer from menstrual irregularities, while sufficiently disheartening, does not allow of comparison with boys. Scoliosis and chlorosis are much more frequent in girls than in boys, and in many instances no doubt are the evil results of over work and bad hygiene during school life. An old surgeon of wide experience once told me that he had found that fractures did not unite as favorably in girls as in boys. A recent writer has said that of the children who enter the hospitals for physical defects in, I believe, Boston, hardly 5 per cent. are boys. All these statements tend to show that girls are much weaker physically than boys, and that their *more frequent break-down in school is to be expected;* provided the same amount of work is required of both.

Is this physical inferiority inevitable? Or can we so prepare and train our female children that they shall be as hardy as their brothers?

This question opens a wide field for discussion into which we cannot enter now, except to point out the obvious fact that if girls are to go through the same courses of study as boys, it is only fair and right that they should have as good a preparation. Instead of being turned out to play in the sun bare-footed and bare-legged until they are eight or ten years old, women begin their earthly pilgrimages with the same handicap that they bear to the end, viz., a never-ceasing, unremitting, all pervading care for their clothes. As soon as they can understand the meaning of language they are warned not to soil their clothes. They are made to look pretty, and are set up to be looked at from infancy upward. Their natural physical indolence and timidity are augmented in every way by precept and training. Fortunately, many of the older girls play golf and do other things to develop their bodies, but the physical well-being of little girls is criminally neglected. It is in these early years that they must acquire that muscular and nervous tone which shall carry them safely through the storms of puberty and the fierce grind of the public school. Can they acquire it at all? The question is an exceedingly interesting one. Until little girls, as a class, get the same out-of-door life that little boys do, we cannot say whether they will develop the same nervous resiliency or not, and without such experimental knowledge, generalizations on this head must be more or less conjectural.

From observation on the lower animals there seems to be little difference in endurance between the sexes. The squaws amongst our native indians have nearly as much endurance as the braves, and in many cases apparently more physical strength; so far as known, these women escape neurasthenia and the other troubles peculiar to their sex. It is only so-called civilized women, amongst which the Chinese should be included, whose dress, habits and training so markedly hamper them in doing their part in the world, whether as students, workers, or mothers. We must begin the physical education of our women earlier and make it more thorough, and we must dress them differently all their lives if they are to have anything like an equal chance with men as workers, or if they are to come anywhere near fulfilling their possible destinies.

It is just as true now as when Lysander said it "that the fate of a nation's prosperity depends upon the bodies of its women," and it is just as true that perfect bodies can only be produced out of good material by the utmost care; and lastly, let it never be lost sight of that, with a few exceptions, which are more apparent than real, a sound mind cannot exist outside of a sound body.

PROSTATIC GONOCOCCAL AUTO-REINFECTIONS OF THE URETHRA.*

By TERRY M. TOWNSEND, M.D.,
NEW YORK.

In a recent publication Dr. Valentine[1] has directed attention to urethral gonorrhœal auto-reinfections from gonococci remaining residual in the urethral stroma and adnexa, and pointed out the difficulties attendant upon the cure of these obstinate conditions. It is with the hope of supplementing this subject that the following observations of gonorrhœal auto-reinfections of the urethra are offered.

Of the complications of gonorrhœa, prostatitis is the most frequent. Most writers agree that posterior gonorrhœal urethritis is almost invariably followed by gonorrhœal prostatitis, Von Frisch[2] forcibly remarks that "almost no case of acute posterior gonorrhœal urethritis occurs without infections of the glands." A study of the methods of prostatic infection causes surprise that any gonorrhœic escapes prostatic involvment.

While direct extension of the gonorrhœal process to the prostatic gland ducts is the most frequent route of infection, this cannot account for many cases in which the posterior urethra seemingly retains its integrity.

Grosglick[3] suggests that posterior urethritis may occur and disappear without observed symptoms during the interval between the patient's visits to his physician. Wossidlo[4] believes that the posterior urethra in some cases possesses an immunity which allows gonococci to traverse its length and infect the gland without producing urethral symptoms Another method of prostatic invasion is suggested by Lewis[5]. He believes, with Rona of Buda-Pesth, in the possibility of gonococci entering the posterior urethra and prostate through lymphatic anastomoses between the anterior and the deep urethræ. Still another method is suggested by Lydston[6], who likens the posterior urethra during ejaculation to the rubber bulb of a syringe He assumes that the first few contractions of the perineal muscles force the seminal fluid into the anterior urethra and the succeeding contractions and relaxations aspirate the semen, mixed with anterior urethral secretions, into the posterior urethra.

Through whichever method or whatever route the infection occurs, neglected, misdirected, or omitted treatment will result in a chronic gonorrhœal prostatitis, whose recrudescences constitute a never ending danger and annoyance.

For convenience of consideration, these recrudescences may be classified into (1) Those which occur before convalescence is established; and (2) Those which occur sometime after the cessation of all symptoms. That the recrudescences occur in this manner may be explained by the pathology of gonorrhœal prostatitis.

In the lightest and most frequent type of infection ("der acute gonorrhoische Katarrh der Glandulæ prostaticæ"—Finger[7]), only the ducts of the prostatic follicles are affected. "The disease phenomena of this lightest form of prostatitis can hardly be observed alone, as they are so fully covered by the pregnant symptom-complex of acute posterior urethritis." (von Frisch[2]). The best evidence of this condition is the presence of curled filaments in the urine, first described by Fürbringer,[8] consisting of mucus, pus corpuscles, prostatic epithelia, and usually rich in gonococci.

Given this form of prostatic infection, a urethral discharge or excess of moisture free from gonococci, clear urine containing perhaps but few filaments; any mechanical dislodgement of the contents of the inflamed ducts will most likely result in an exacerbation of the urethral discharge and rapid proliferation of gonococci.

It is when the gonorrhœal process proceeds to the prostatic follicles and becomes subacute or chronic that the pathological changes in the gland occur, which makes possible the auto-reinfections seen after intervals of apparent health. These changes consist of small round-cell infiltration into the peri-glandular tissues, which later take on a cicatricial character, resulting in stricture or obliteration of the ducts. From this connective tissue change, the follicle and remaining part of the duct acquire a racemose appearance, are filled with desquamated epithelia and pus corpuscles, and in many cases the original infectious bacteria.

The causative factors in the dislodgement of this plug of mucus epithelia and pus are usually coitus, nocturnal pollutions, the masseur's finger, and sexual excitation without gratification. However, these will not explain the recrudescences occurring years after apparent cure. Valentine[9] reports such a case after twenty-five years of healthy marital life. In this case manifestations of incipient, senile hypertrophy of the gland was the motive for consultation. The writer has observed one case of this type, in which the only traceable cause was a period of prolonged physical and mental exertion

The symptomology contains a few interesting features which differ from those of acute anterior gonorrhœa. Ardor urinæ is usually absent and the patient's first indication of an abnormality is a sensation of dampness around the genitalia or stains on his shirt. Unless the condition be recognized at once, and the prostate vigorously treated, acute posterior urethritis and an acute recrudescence of the prostatitis occurs. In this event the prostatic symptoms predominate.

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*Presented before the American Urological Association at Saratoga, June 13, 1902.

If the gonorrhœa be of recent acquisition, in the majority of cases studied, the prostatitis has shown decided tendency to parenchymatous inflammation and to abscess-formation. Cases of the second type, where gonorrhœal infection has been of years before, the prostatitis nearly invariably remained follicular, because of the endogenous cicatricial connective tissue in the parenchyma.

The symptoms of prostatitis have been so well detailed by master pens that their recapitulation is unnecessary. The urethral symptoms vary directly with the intensity of the exacerbations of the prostatitis; the discharge and turbidity of the urine diminishing with increased prostatic engorgement and increasing as the inflammation subsides.

After the diagnosis of gonorrhœal urethritis is made, the differentiation between an acute infection and a prostatic recrudescence is more perplexing and, after the lapse of a few days, even impossible. This differentiation assumes importance, because upon it depends the direction of intelligent treatment, and not infrequently the re-establishment of conjugal felicity. The following symptoms of acute infections are opposed to those of prostatic recrudescences:

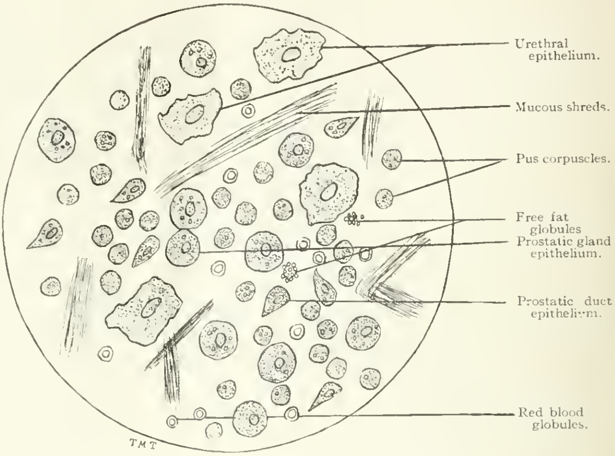
IN PROSTATIC AUTO-REINFECTION.	IN ACUTE INFECTION.
History of a precedent gonorrhœa, with posterior invasion.	May or may not have had a previous gonorrhœa.
A short incubation period: twenty-four to forty-eight hours.	The usual period of three to ten days incubation.
The stain is much larger in proportion to the discharge.	The stain on the cotton covering the meatus is commensurate with the urethral discharge.
Meatus is somewhat puffed and its lips pouting outward.	Meatus is usually reddened and eroded.
First portion of urine usually clear and containing the curled filaments of Furbringer.	First portion of urine almost invariably turbid.
Discharge unaffected by anterior urethral treatment	Discharge is reduced by anterior urethral treatment.
Abrupt onset of acute posterior urethritis.	Gradual appearance of acute posterior urethritis.
Appreciable pathological changes, per rectum.	Gland, normal, per rectum.

Since the symptoms are not always constant, and may be masked by disease phenomena not here considered, the microscopic features of the urinary sediment are worthy of closer study.

Accepting Heitzman's[10] differentiation of epithelia in urine sediment, the features found in the incipiency of prostatic auto-reinfections of the urethra are here tabulated, with a consideration of their significance:

1. Pus corpuscles depending in number on the purulence and intensity of the disease.

2. Red blood globules—depending upon the area and intensity of urethral involvement.



Features Found in the Urine Sediment in Chronic Gonorrhœal Prostatitis, with Acute Auto-reinfection of the Urethra. × 500.

3. Epithelia from the prostate gland and its ducts. These preponderate in number over other epithelia found in the urine and are filled with globules of fat, indicating that the chief lesion is prostatitis and that the condition is chronic. Few of the epithelia from the gland contain endogenous new formations, showing the effect of the pressure by the peri-follicular exudate.

4. Epithelia from the urethra, varying in number with the area and degree of intensity of the urethritis.

5. Epithelia from the urethra, near the vesical neck.

6. Epithelia from the middle layer of the bladder. Heitzman (op.cit.) finds these two latter varieties of epithelia in the majority of cases.

7. Mucus threads abundant, as is the rule in all genito-urinary inflammations.

8. Fat globules—free, and in the epithelia and pus corpuscles. They indicate a degenerative metamorphosis and signify chronicity.

Taking these features for a premise, the following reasoning is logical. Prostatic epithelia studded with fat globules and some containing endogenous new formations, indicate a chronic prostatitis, hence this is the previous lesion. Urethral epithelia, from both strata and red blood globules denote acute urethritis, necessarily acute because of the absence of the fat globules in the epithelia and the presence of red blood globules. Therefore, the diagnosis of chronic prostatitis with acute urethritis is inevitable. The infective nature of the disease can be demonstrated by staining a filament or the urine sediment for gonococci. Oftentimes stained specimens show prostatic epithelia containing diplococci with the morphology and staining properties of gonococci. This fact is conclusive proof of the correctness of the diagnosis. In many cases other features are found in the urine sediment from concomitant or preexisting lesions, but these are afield from present consideration.

While the prostatic infection remains a simple catarrh of the gland ducts, cæteris paribus, the prognosis for rapid and complete recovery is good. Unfortunately, the extension is seldom recognized in time to prevent its further progress. Frank[11] suspects and searches for this complication within the first few days of the disease and attains success by vigorous treatment.

The prognosis in prostatic recrudescences occurring some time after the cessation of subjective symptoms must be guarded. Ordinarily, the urthritis yields kindly to treatment, but the prostatic foci of gonococci are not easily eliminated. Those prostates which present a large area of diseased tissue, many nodules of hardening and spots of softening, and of long duration, are most difficult to cure. Van der Poel[12] thinks that catarrhal inflammation previous to the gonorrhœal infection is the cause of these softened spots, and predisposes to a gonorrhœal follicular prostatitis. This will, in part, account for the obstinate persistence of points of hardening and softening even after prolonged treatment. It is well to reserve opinion as to the probable duration of such conditions, and even after the disappearance of disease phenomena to warn the patient of possible future auto-reinfections.

Rational treatment demands simultaneous attention to the prostate and the urethra. This may be accomplished by thorough massage of the gland followed by irrigation of both urethræ. Many of the simple infections of the ducts do not require massage. Von Frisch[2] says "the treatment of acute catarrhal prostatitis coincides with the treatment of acute posterior urethritis." However, if there is the slightest suspicion of follicular invasion and especially if prostatic epithelia abound in the discharge or urine sediment, massage should be instituted. Under any circumstances, this procedure, properly conducted, cannot produce untoward results.

In many cases of chronic prostatitis, effective emptying of the follicles is difficult, in some instances because of the hard fibrous condition of the gland, and in others because of its high location in the pelvis. Mechanical devices to aid the massaging finger have been proposed by several authors, but have not accomplished the results that justify their use.

The frequency with which prostatic massage may be done is quite variable. Ordinarily, afebrile cases of mixed follicular and parenchymatous types bear daily massage well. After six or eight days the interval between massages may be lengthened one day until five or seven days are reached. Old follicular prostatites do not seem to tolerate treatment oftener than every third day, increasing the interval *pari passu* with the improvement.

In the prostatic treatment the following ends must be attained: (1) Evacuation of the infecting focus or foci; (2) Effective emptying of other diseased follicles; (3) *Restitutio ad integrum* of newly-infected areas.

The management of the urethritis does not materially differ from that of acute gonorrhœa, except that intravesical irrigation may be done from the beginning of treatment.

When a stenotic meatus, stricture, or urethral infiltrations exist, instrumental treatment may be instituted in the interim between massages, thereby gaining time in the cure.

The selection of the irrigating fluid depends upon the microscopic findings, silver preparations being preferable when gonococci persists. When gonococci disappear, other bacteria remaining, *e. g.* colon bacilli, strepto- or staphylococci, solutions of corrosive sublimate are indicated; where no bacteria are demonstrable, astringents.

Summary.—1. Early and vigorous efforts should be made to prevent gonorrhœal prostatitis.

2. Once established, all care should be taken to prevent it from becoming follicular and chronic.

3. Auto-reinfections of the urethra from chronic prostatitis can be differentiated from acute infections.

4. An opinion on the probabilities of future recrudescences should be very guarded.

5. Each prostatic massage should be immediately followed by thorough irrigation of both portions of the urethra, to prevent recurrent acute urethritis.

6. Omission of this irrigation is sometimes permissible for diagnotic purposes.

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Major Ross and His Reward.—A "coronation honor" about which little or nothing has been said was the award of a companionship of the Bath to Major Roland Ross. Assuming that this was in recognition of Major Ross's discovery that a parasite of the anopheles mosquito is the cause of malaria in man, the reward is a meagre one, especially when compared with those which went to soldiers and politicians whose services to humanity are infinitesimal beside those of this able and industrious surgeon. To find the relation between mosquitos and malaria was to confer benefits absolutely immeasurable—it amounted to a doubling of the earth's safely habitable area, to a marked decrease in the general death rate, and to an enormous diminution for succeeding ages of the aggregate of human suffering. Of course Major Ross has had many fellow-workers, including scientists in many lands, but he opened the field of investigation, and he has labored at least as successfully as any of the others in the practical campaign against the insect once regarded merely as a sorry joke, but now recognized as the bearer of certainly two, and probably several more, terrible diseases. To equip a man like this with a title reminiscent of servile tasks once deemed honorable when performed for royalty is fortunately amusing as well as absurd. Otherwise it would be outrageous. The matter however, is not one to be considered seriously. Major Ross's real reward is the frequent coming nowadays of news like that from Dar-es-Salaam, German East Africa, where anti-malarial measures suggested by him and begun in 1901 have already produced marked effects, and promise within five years, as the British Consul there reports, "to change the town from a plague spot to a sanitarium."—*New York Times.*

THE EFFECT OF FERRIC PERCHLORIDE IN LARGE DOSES IN ERYSIPELAS AND SIMILAR INFLAMMATORY DISEASES.

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ERYSIPELAS is an infectious disease due to the invasion of the skin by streptococci, which cause an inflammation of this tissue with constitutional symptoms. In its uncomplicated form there is to be seen little else than inflammatory œdema. The cocci are found chiefly in the zone of spreading inflammation and in the lymph spaces. The streptococci, having gained access to a certain part of the skin, multiply and produce excretions deleterious to the tissues with which they come in contact, the capillaries which are contained in this area become disabled. "Inflammation is the succession of changes which take place in a living tissue, as the result of some kind of injury, provided that this injury is not sufficient to immediately destroy its vitality"—and are unable to carry off their poisonous substances, which go on accumulating until they overpower their producers and cause their death—every animal has the power to commit suicide, to drown itself in its own excretions. The succession of changes which occurs in an inflamed area results in stasis of the circulation, the exudation of liquor plasma and the escape of white blood corpuscles. On the escape of this fluid and corpuscles into an inflammatory area or into a foreign surface there is the formation of fibrin, the fibrin ferment being liberated from the corpuscles and acting on the only fibrin factors in the fluid. This fibrin enmeshes the bacteria and renders their escape into surrounding tissues difficult, and also renders them an easier prey to their own secretions, which are now more unable than ever to be carried off. This forming of a clot, or as it is called on the surface of a mucous membrane, a false membrane, is Nature's method of effecting a cure; a conservative process by which poisons are localized.

Ferric chloride is not given in these diseases for its hæmatinic action, for if so, very much smaller doses would be all that would be required, for the amount of iron taken up by the red blood corpuscles is, indeed, small (.42); but it is rather for another effect. The circulation being obstructed in the diseased area, the ferric chloride will not enter this area, but will circulate in the vessels just outside of it, and here it exudes from the capillaries into the tissues in which they lie—Iron's astringent effect is not exerted as that of silver or lead by actively contracting the small vessels, but by diminishing their size by pressure from without. This action of iron increases a clotted or unsuitable area in which any bacteria which have so far escaped being entangled are prevented from advancing into new fields. The first was nature's barrier, this is a chemical one. It takes large quantities of iron to produce this coagulating effect; hence large doses. In smaller tonic doses this would not be accomplished.

We have thus a coagulated area which is a coagulated area, one produced by disease, the other by medicine. From the vessels of the latter, when they are released from the compression from without, an exudation of liquor sanguinis and an escape of white corpuscles takes place, and these wander into the coagulated area, and reorganization takes place much as non-vascular tissue is regenerated from the surrounding vascular tissue.

Bacteria kill themselves by their own excretions. Immunity to disease is the result of these excretions still circulating in the blood. Bacteria coming in contact with them perish.

Why do bacteria not cause disease in a healthy person, and why do they cause it in an unhealthy person or in one who has some weak spot? Bacteria entering the tissues of a healthy body are at once attacked by their normal leucocytes which have normally escaped from the blood vessels of the part attacked; these overpower the invaders; but in a tissue whose vitality is in the least lowered these bacteria come in contact with an increased amount of liquid plasma and an increased number of escaped white corpuscles; but in this instance Nature's first attempts are not to overpower the invaders, but, first of all, to form a clot or coagulated area in the vicinity of the capillaries, and the greater number of the white-blood cells yield up their fibrin ferment, which acts on the fibrin factors of the liquor sanguinis and fibrin is formed, the bacteria being then enmeshed in this and killed by their own excretions. In the healthy body there is no need of this, and the leucocytes at once attack the bacteria. How do they accomplish this? Is it possible that the fibrin ferment contained within them has an injurious effect on the germs? It is in the low grades of inflammation that bacteria flourish best, for here Nature's preventive to their advance is slower in being formed (a fibrinous clot).

VAGINAL OPERATIONS FOR RETROVERSIONS AND RETROFLEXIONS OF THE UTERUS, WITH A CRITICAL REVIEW OF FIFTY-SEVEN CASES OF VAGINAL SUTURING OF THE ROUND LIGAMENTS (THE AUTHOR'S OPERATION).*

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THE old and much-abused vaginal fixation of the uterus (the Mackenrodt operation), in my opinion, still forms the ideal operation for a certain class of cases of retroversions and retroflexions of the uterus. These cases are: (1) Cases of retroversion, giving rise to symptoms, in women past the child-bearing period, or, let us say, in women past the fortieth year. It must be understood that the operation is indicated only when for some reason or another a pessary cannot be worn or cannot keep the uterus in good position. It is not my province in this brief paper to enter into the details which proscribe the use of a pessary. It will suffice for me to state here that I make use of one in these conditions when it is capable of accomplishing the desired result. (2) Cases of retroversion in women approaching the menopause, in which the retroversion is associated with a marked degree of prolapse and a marked rectocele and cystocele. Pessaries in these cases are of little or no avail. The vaginal fixation forms only one of a series of operations that are indicated, and which are performed at the one sitting. As a rule the additional operations called for are (1) Amputation of the cervix; (2) Anterior colporrhaphy; (3) Posterior colporrhaphy; (4) Perineorrhaphy. I deem it necessary, in order to obtain a permanent anatomical result, in performing vaginal fixation in these cases to open the peritoneal cavity and to suture the anterior surface of the fundus directly to the vaginal wall. Having opened the peritoneal cavity, it is wise to directly inspect the adnexa, and if found diseased to treat them on conservative surgical principles. I was the first in this country to perform vaginal fixation (my first operation being done in 1893), as I was also among the first in this country and elsewhere to do plastic work upon the adnexa through a vaginal incision.*

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*Read at Obstetric Section of Academy of Medicine, May 22, 1902.

When we have to deal with women of a less advanced age, in whom the child-bearing period has not yet been extinguished, vaginal fixation has some serious drawbacks, as has been pointed out by several writers, including myself.†

For women of this age I resort to vaginal suturing of the round ligaments, the operation which I devised in the early part of 1896.‡

It ought to be a wise and profitable thing to review one's results in a certain line of work from time to time. The review attains considerable scientific value if it be based strictly on accurately-observed facts, and if it be not tinctured over much with the bias one naturally feels, so to speak, for his own offspring. It will be my aim to live up to these requirements in the analysis of my cases which I shall present to you to-night.

In May, 1900, in a paper read before the American Gynecological Society,§ I presented, in tabulated form, the results of my operation in fifty cases, embracing the cases operated upon from February 4, 1896, to November 10, 1899. I could then say of these fifty cases that forty-seven were attended with anatomical success, *i. e.* the uterus remained in a good forward position for a period varying from four to five months. At that time I was able to report four pregnancies going to full term and having easy and normal labors. There were then, so far as I knew, no cases of miscarriage, nor of dystocia. My anticipations, therefore, as to freedom from disturbances during pregnancy and parturition from the operation were thus far fully realized.

Subsequent to the publication of that paper one of the cases (case 40) miscarried at the twelfth week, while she was abroad and traveling a great deal. I saw her some months afterward, and learned that she continued on her travels a few days after the miscarriage. I found the uterus in complete retroversion. It is reasonable to assume that had she been more discreet during her pregnancy the miscarriage might not have occurred. The recurrence of the retroversion is certainly no cause of surprise when one considers that two days later she was on her feet again and travelling from city to city. Still, to be strictly accurate and to leave no room for fault-finding by the most carping critic, I place the case in the list of failures and of miscarriage following the operation.

Another case (case 48) that was put down in the report as a therapeutic failure, later became entirely freed from pelvic symptoms, and had a miscarriage at the eighth week in October, 1900. She then became pregnant again in December of that year, went through a normal pregnancy, and was delivered of a male child at full term in September, 1901. I examined her some months afterward and found the uterus in excellent position, and the patient entirely free of symptoms. I have had occasion to examine several of the other patients in the reported series, and the foregoing case constituted the sole relapse. Some of the cases, therefore, have now been under observation for a period of over six years.

Since November 10, 1899, the end of the period embraced by the tabulated report, I have operated upon seven other cases, all of whom made a smooth recovery after the operation. There has consequently been no mortality in the fifty-seven consecutive cases, and only in three of the first series had the convalescence been disturbed by any complication. These results with an operation, covering a period of six years, and done under variable conditions, some of which were very unfavorable, as when operating in tenement-houses, must refute the objection raised by some as to the difficulties of rendering the field of operation aseptic when operating through the vaginal route. It must be borne in mind that in every case the peritoneal cavity was entered, the adnexa brought into view for direct inspection, and in 70 per cent. of the cases more or less plastic surgery was done upon the adnexa.

Of the second series of seven cases none has been operated upon later than September, 1901. They have all been frequently examined since then, and only one has shown a relapse. There were three relapses in the first series of fifty cases, but two of these occurred in cases of congenital retroversion, in which no operation, so far as my experience goes, is attended with success. These two cases may, therefore, be properly excluded, and we thus have two relapses in fifty-five cases or a percentage of anatomical failures of 3.6 per cent., or an anatomical success of 96.4 per cent.

On looking up the notes of the case of relapse of the second series I find that only one suture was employed on each side, while in the majority of the cases I have applied two sutures on each side. It would seem wise, therefore, not to trust to a single suture, but in every case to make use of two sutures for each round ligament.

The small number of cases operated upon during the past two and a half years may require an explanation. This may be found in the following circumstances: First, my material has been drawn during this period from a better-to-do class, from a class who can afford to rest, and in whom the use of mechanical supports or other palliative treatment can be carried out with a good degree of success.

Secondly, having operated upon a fair number of cases, I was desirous to wait, and to note the behavior of pregnancy and labor in those who might happen to conceive before subjecting any more to the operation. I think I may safely state now, after an observation of six years, that there need be no fear of dystocia following this method; but I will speak of this more fully later on.

It would appear that every one aspiring to be a gynecologist nowadays deems it necessary to devise a new method for anchoring the uterus in a forward position. This is unfortunate, for no sooner is a method advocated than it is superseded by some modification, either by the originator himself or by some one else. The result is that the number of operations advocated for backward displacements is legion, and no one operation or method offers any data for a respectable period of time by which to judge of its merits or demerits. It is with these operations as it was in days gone by with pessaries, when every one thought he had to invent one, and I venture to predict that the fate of these numerous fantastic operations will be the same as that which befell the odd and curiously-shaped pessaries.

It is interesting to note the roundabout methods, in order to be original, some operators will adopt to carry out a simple principle. To select a couple of instances from a great number: One operator dilates both internal abdominal rings, so as to be able to inspect through them the adnexa on either side, and then sutures the round ligaments to the pillars of each ring. How much simpler it is to make a small median incision through which both adnexa may be inspected and treated surgically if necessary, and then suture the round ligaments to the abdominal wall. This constitutes the Olhausen's method. It has stood the test of time, and has never as yet been followed by dystocia. The same applies to the vaginal route. Why try to perform all kinds of fantastic tricks with the round ligaments; as, for instance, making them pass from one side to the other through a canal made in the uterine tissue, when the simplest and most reasonable thing to do is to suture them to the vaginal wall?

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*Vaginal Cœliotomy, etc.—THE MEDICAL RECORD, March 2, 1895.

†I must, however, repeat here what I said on a former occasion, that, as far as my own experiences go, the only serious result I have known to take place in my cases was the occurrence of abortion in some of the cases. My cases of vaginal fixation in women during the child-bearing period number over fifty, several have gone through a normal pregnancy and a normal labor. In none, as far as my knowledge goes, was dystocia observed. It was only the other day that I again examined my first case of vaginal fixation, done in 1893. The patient went through a normal gestation and puerperium a few years later, and at this day the uterus is in excellent forward position.

‡*Medical News*, March 14, 1896.

§*The American Journal of Obstetrics*, August, 1900.

The behavior of pregnancy and labor in cases in which the operation was performed will constitute the crucial test as to the value of the operation. I can now report eight pregnancies in six patients, going to full term and terminating in easy and normal labors. There have been two miscarriages, one of the patients subsequently carrying to full term and having a normal labor. The occurrence of the miscarriages ought not to count against the operation, for as we have seen in the one case, it, no doubt, was brought on by imprudence; and in the other it could not well be due to the operation, inasmuch as the patient went to full term in a subsequent pregnancy, the uterus remaining in the position it was placed by the operator. As I have stated on a former occasion, the occurrence of a miscarriage in a uterus that has long been in retroversion cannot always be charged to the technique that may have been followed to anchor the uterus in a forward position. And for this reason, a uterus that has long lain in an abnormal position becomes the seat of a chronic metritis, which does not readily disappear, even after the uterus has been placed in proper position.

Now, we know chronic metritis is frequently the cause of a miscarriage even when the uterus has always been in a normal position, and why cannot it also be the cause in a case in which the uterus has been placed in a normal position artificially?

Be this as it may, however, the chief desideratum in an operation to anchor or suspend the uterus forward is whether it is to be followed by difficulties at labor. It seems to me that, on the strength of the data I have thus far been able to collect, I can safely venture the opinion that there is little likelihood of dystocia following the operation that I have devised. Although it must be granted that the number of cases as yet is rather small to justify a positive opinion, still the experiences tally so completely with the theoretical considerations that I I feel justified in recommending the operation without any fear on that score. But I must emphasize a point referred to in my former paper, that, in order to reduce the risks of dystocia to practically *nil*, the greatest care must be taken not to wound the anterior wall of the uterus in bringing it into vaginal incision. For were one to be careless in this step of the operation and cause a large raw surface of the uterine wall, a condition would be created which might be followed by a firm union of the fundus with the vaginal wall. Then we would have a similar state of things to that which is intentionally brought about in the old vaginal fixation, and which proved to be so frequently a cause of dystocia. But the uterus can readily be delivered through the vaginal incision by the aid of a couple of traction sutures, and there is no need of creating a raw surface on the uterine wall. To make assurance doubly sure I always suture the incision made in the peritoneum after having first passed the fixation sutures about the round ligaments.

Larger and more extensive experience with the operation has convinced me of its utility in a certain class of cases, in those in which (*a*) the uterus is movable and a pessary cannot be worn; (*b*) the uterus is more or less fixed by posterior adhesions (*c*) in the same class of cases with moderate diseases of the adnexa.

From the nature of the different lesions in different cases it is not reasonable to assume that the same technique is suitable in all cases. Each case must be carefully studied and the method selected which seems to be the most suitable for that case.

In my own experience, roughly speaking, about 75 per cent. of the cases that I meet with are adapted to the operation of suturing the round ligaments to the vaginal wall.

751 MADISON AVENUE.

Milk Sickness.—W. J. Collins defines this as an acute infectious disease, occurring both in man and in the lower animals, characterized by "trembles," and disordered functions of the alimentary canal. The gastrointestinal tract is the gateway of infection. The author describes the symptoms in detail. In favorable cases the course of the disease is long, and there is a great tendency to relapse. The prognosis is not very favorable. About 40 per cent. of the author's cases died. Symptoms are to be treated as they arise. Strong purgatives are contraindicated, but constipation should be combated by enemata and calomel. Bismuth and hydrastis should be given to control vomiting. Strychnine and digitalis are indicated. Rest is the most important point in the treatment. Prophylaxis consists in the prevention of disease in cattle by keeping them away from all places where they are liable to contract the disease. In infected districts all milk, and milk products and beef, unless well cooked, should be avoided, for the milk of a cow which may appear healthy may be very poisonous. Writers devote too little space to this disease, and are apt to state that it exists only in parts of North Carolina. Although the disease is waning, it is not entirely eradicated in a number of States, and it is of paramount importance that practitioners in these States should know how to recognize and treat the disease.—*The Medical Standard.*

The Mattison Method in Morphinism.—W. P. Ivey extols this method, which consists in rapidly filling up the patient with bromide of sodium, and at the same time rapidly reducing the amount of the narcotic. The patient *must* be put to bed, as absolutely as if he were in the third week of typhoid fever, and he must have a reliable nurse, whose sole duty it is to stay with him all the time. The physician now begins with an initial dose of ten grains of sodium bromide twice daily, increasing the dose ten grains each day for seven days. The author inclines to think that in general practice thirty grains would be better for an initial dose. At 4 P.M. and 4 A.M. a dose of the bromide is given, and at 10 P.M. and 10 A.M. a dose of the accustomed narcotic. For the first few days the opiate is given in gradually diminishing doses and afterward when the patient is becoming bromidized the dose is diminished more rapidly; the last dose being given not later than the tenth day. The Mattison method possesses no advantage over any other in making the cure permanent. As in any other treatment, the patient must not be dismissed too early, but must be considered a patient for several weeks, and be given tonics and restoratives, and kept away from temptation.—*The Carolina Medical Journal.*

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THE ARMY SURGEON IN CROMWELL'S TIME.

It is fair to assume that, since the time when organized bodies of fighting men first came into existence, along with those whose duty it was to maim and kill the enemy, went others whose task it was to relieve the sufferings and, if possible, save the lives of those whom the enemy's weapons had injured. But probably at all times, as now, these men of healing were regarded with scant favor, and were simply tolerated by their fighting comrades because of their occasional usefulness in patching up a dissected warrior. History has little to say of them, and it is only by a word let drop now and then that we know they existed as a recognized body.

The author of a recently-published account of the army serving under Crowmell*, Mr. C. H. Firth, has devoted an entire chapter to the sick and wounded among the soldiers of the Protector, and in it we find many curious and interesting details.

Many people think that the immunity and quasi-neutrality of ambulances and their staff date only from the Geneva Convention, yet 250 years ago, in the Civil wars, surgeons were treated as non-combatants by both sides. Mr. Firth says: "When in the field they probably wore a distinguishing badge according to the practice of earlier times." "Surgeons," says an Elizabethan writer, "must wear their baldric, whereby they may be known in time of slaughter; it is their charter in the field." Distinguishing badges were also needed by the combatants in order that men might tell friends from enemies, for until the modern scarlet was adopted by the parliament, Royalists, and Roundheads were indistinguishable by their dress. Before an assault or a pitched battle, orders were often issued as to the badge to be carried. At Edgehill the Parliament's troops wore orange scarves.

When their own wounded were in the hands of the enemy it was not uncommon for surgeons to be allowed to visit and to treat them. For the honor of our professional forebears, it is to be hoped that the army medical corps of his day was not an accessory to the "slim" behavior of Colonel James Hippisley in Ireland. This enterprising officer disguised himself as a surgeon, and thus got access to an Irish castle which his troops were besieging, and, after spying out its weak points, headed the storming party which took it. Evidently such abuse of privileges was rare, or they would soon have ceased to be granted. Barnaby Rich, in his "Pathway to Military Practice," published in 1587, half a century before the outbreak of the Civil War in England, had written: "A good and skilful chirurgeon is a necessary man to be had in a companie, such an one as should worke according to arte, not practisinge newe experiments upon a poore souldier by meanes whereof many have been utterly mayned by a chyrurgeon's practise that otherwise might have doon very well." This has a familiar ring. Its echoes are heard in ill-informed complaints of the "incompetent army doctors" of the twentieth century. But the army surgeons could neither cure nor please everybody. Turner, in 1671, complained of them, and demonstrated the obvious wisdom of employing "none but good and experienced artists." There seems to have been at least one surgeon to every regiment, who, "besides his monthly pay, should have his Surgeon's Chest, furnisht with all manner of Necessaries for curing Wounds of all kinds; and this chest is to be furnisht at the Prince's charge [this was written in 1671] and all wounds received in the Prince or State's service, he is obliged to cure (if he can) without demanding anything from the Patients, but all others got accidentally, or by quarrelling and Duels, he is not obliged to cure but for payment, in which the officers are bound to assist him."

When in 1650 Cromwell set out for Scotland, each regimental surgeon was ordered £15 to pay for a chest and £10 for a horse to carry it. A year later we find that the pay of the regimental surgeon was six shillings a day. In Ireland, under Cromwell, it had only been four shillings, while the two surgeon's mates had half-a-crown daily. Financial tightness prevented the maintenance of the high rate of six shillings, and by 1657 it had fallen again to four. General Monck thought that this was too low, and raised it in a way that is characteristic of former times in the services. He put the surgeons on the roll as privates, so that they drew ninepence a day extra. Apparently both surgeons and privates had to feed and often lodge themselves out of their pay.

In Essex's army Dr. St. John was "physician to the train and person" and Laurence Lowe held a like appointment as surgeon. In the list of the staff of the "New Model Army" are the names of four medical officers and the armies in Ireland and Scotland each had a Physician-General, a Surgeon-General and an Apothecary-General, which arrangement was maintained after the Restoration. Dr. Henry Glisson, brother of the great Dr. Francis Glisson was Physician-General to Manchester's army, and he and later Physicians-General to Cromwell and Monck received pay at the rate of ten shillings a day, while the Apothecary-General received six shillings and eightpence a day. When important persons were ill the "mere army doctor" was not trusted alone, but civilians were called in. Thus when Cromwell fell ill in Scotland in 1651, Drs. Wright and Bate were sent down to him and liberally paid by Parliament When the regular army surgeons were not at hand, civilian practitioners were employed and were paid by the job. There is a bill in the Record Office from one of these, a certain George Blagrove, which Mr. Firth quotes. For "curing a sore brused leg" the charge was ten shillings. "Cut over the eye and a sore thrust through the arme, twenty shillings." This bill also includes £5 for curing the inglorouis wounds of twelve cavaliers, of whom most were "sore cut in their heads and thrust in the back."

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* "Cromwell's Army: A History of the English Soldier During the Civil War, the Commonwealth, and the Protectorate." Being the Ford Lectures delivered in the University of Oxford in 1900-1. By C. H. Firth, M.A. London: Methuen & Co., 1902.

Any systematic attempt to collect and remove the wounded from the field is quite a thing of late years, but in the sixteenth century Diggs, in his Stratiticon (quoted by Mr. Firth), wrote as follows: "It were convenient to appointe certaine carriages and men, of purpose to give their attendance in every skirmishe and incounter to carry away the hurte men to such place as surgions may immediately repayre unto them, whiche shall not only greatly incourage the souldior, but also cause the skirmish to be the better maintained, when the souldiors shal not neede to leave the fielde to carry away their hurte men. These were called among the Romans 'Despotati.' And this among other laudable Romane orders have the Spaniards at this day revived and put in practice, whereby also they conceale from the enemie what losses in any skirmishe they have received."

In the Civil-war the surgeons and men of the victorious army cared for their wounded, and then usually leave was given to the people of the neighborhood to do what they could for the enemy's wounded, who were left on the ground. There were no movable or field hospitals and the injured were removed to any houses near and cared for by the occupants, and claims for this care were made, and were paid by Parliament, some permanent hospitals were established in towns, as at Bristol in 1645 and at Northampton after Naseby. At first the chief or only permanent hospitals were St. Bartholomew's, St. Thomas', and Bethlem in London. Afterward special military hospitals were established in the Savoy, and at Ely House, to accommodate about 350 patients. In Dublin the Archbishop's house and "the mass house in Back Lane" were utilized for sick and wounded, and in Edinburgh Heriot's Hospital, but it provided only thirty beds for an army of 10,000 men or more, though for these thirty the diet provided seems to have been liberal. The nursing in the hospitals was done by women, mostly soldiers' wives or widows; for instance, in the Savoy Hospital, it was ordered that they should be "chosen from the widows of soldiers so far as fit ones can be found." In the two London military hospitals, at Ely House and the Savoy, there were twenty-nine nurses to 350 patients, not an inadequate number, seeing that some of the patients were not very ill. In Edinburgh, the provision was one nurse to five "weak" men, and one per ward "where the patients are ambulant." Nurses were paid from £10 to £13 a year. Whether this included board or no does not appear. Strict regulations were made for the preservation of discipline and decorum, and amongst other rules was one that if a patient and a nurse married, both should be expelled. Not content with instituting hospitals in the capitals for its soldiers, the Council of State in 1652 sent 220 soldiers from Ely House to Bath "for the recovery of their limbs and perfecting their cure."

Apparently some invalids were maintained in the hospitals as well as the sick and wounded who were actually under treatment, but they were not all well cared for. The money difficulties of the Government increased apace, and it appears from a report presented in March, 1660, that the revenues assigned to the hospitals had not been paid for nearly a year, so that the patients were in the greatest distress, "insomuch that some have been starved; others have attempted to destroy themselves; and many are daily likely to perish through imprisonment, hunger, cold and nakedness. And the sick and mained soldiers now under care in the said hospital are also ready to perish for want, being not able to stir out of their beds, and having had no pay these four weeks."

In concluding the chapter Mr. Firth writes; "So closes the history of the long Parliament's effort to provide for the soldiers who suffered in the Civil War. It had promised more than it could perform, but it had made a serious attempt to carry out the principle it had laid down in 1642. It recognized the moral obligation of the State to those who suffered in its service, and it was the first English Government to do so. In 1680 the foundation stone of Kilmainham Hospital for old soldiers in Dublin was laid, and in 1681 that of Chelsea Hospital. Thus at last the example of the Long Parliament bore fruit." France was before England in this respect. The Invalides, founded by Louvois, was opened in 1674.

LYMPHANGIECTASIS.

Notwithstanding the many investigations that have been made by pathologists during recent years, there remain still many unanswered and interesting questions concerning the etiology of lymphangiectasis. The term lymphangiectasis is a broad one, and is considered usually to include only ectasiæ of a subacute or chronic nature.

The etiology of this symptom, for as such we must consider it, in some conditions seems very evident, but in others is very obscure. Its occurrence is frequently attributed to mechanical or obstructive interference to the flow of lymph, more careful observation finds this explanation unsatisfactory and recognizes other etiological factors.

Among the obstructive causes may be mentioned: (1) A contracting scar following an injury in which the lymphatic dilatation may occur weeks after the trauma. (2) The destruction of large areas of lymphatics by suppuration of an entire group of lymphatic glands or by extirpation of the same, or occurring as the result of destruction caused by extensive phlegmon. (3) Direct trauma with extensive maceration of soft structures has also been recognized as a causative factor. Lymphatic dilatation is not rarely due to the presence of tumors, as a result either of pressure by the new growth or of the secondary involvement of the lymphatic glands. With the appearance of an exuberant callus of the forearm, a chronic lymph stasis of the hand has been seen to occur, which subsequently disappeared. Lymphangiectasis following these causes is, however, usually temporary, an equilibrium being later established by means of anastomotic circulation.

Among the intralymphatic causes of this condition must be included inflammatory conditions of the endothelium, resulting in occlusion and obliteration of the lumen, such as follow repeated attacks of lymphangitis or erysipelas. This variety of lymphangiectasis is not infrequently seen involving the upper lip, eyelids, nose, or ear. Complete obstruction in an entire lymphatic district has been seen to occur from primary proliferation of the endothelium. Chronic infectious processes, such as tuberculosis, may so alter the lymphatic channels as to cause a distal lymph stasis. And parasites, the filaria sanguinis of the tropics, by occlusion may cause the same symptom complex.

In view of these facts it might be supposed that a stasis and retension of lymph from mechanical pressure could cause a dilatation of the lymphatic vessels for a time, but in such a rich network of intercommunicating plexuses, a collateral anastomosis would occur in much less time than in the venous circulation. On the other hand, the fact must not be lost sight of that the pressure under which the lymph flows is very much less than that in the veins. Furthermore, according to the experiments of Magendie, Cohnheim, and others, circulatory obstruction to the large trunks in the lymphatic circulation, even ligation of the thoracic duct, is not always followed by an ectasia of distal tributaries, nor, according to Lesser, does lymphangiectasis follow extirpation of the chief lymphatic trunk of an extremity.

For these and other reasons many investigators are of the opinion that the determining etiological factor of lymphangiectasis is in the wall of the lymphatic vessel itself, not a passive but an active process, excited, perhaps, in many instances by a preceding pathological condition.

Whitehead contributes an exhaustive discussion on this subject to the *British Medical Journal* of March 29 and May 3, 1902. The first case of his series was one of molluscum fibrosum of huge dimensions, in which the entire arm from the wrist to the shoulder was involved in the tumor. This huge mass was elephantoid throughout, the lymphatic œdema being limited, however, to the growth and in no way affecting the hand. In the author's opinion we need not look beyond the growth itself in our search for the causes of the lymphangiectasis, and he explains the lymphatic distension either by an obstruction in the lymphatic vessels draining the growth or by an increased rate of lymph secretion.

Furthermore, it is probable that the retarded outflow of lymph, either to its own presence or from irritating characters it may assume upon stasis, causes an overgrowth of the subcutaneous elements, and more particularly of connective tissue, and so itself becomes responsible for the elephantoid overgrowth.

THE SERUM TREATMENT OF ACUTE AND CHRONIC ARTICULAR RHEUMATISM.

The salicylates are useful, indeed indispensable, remedies in the treatment of rheumatism, but they are not the absolutely certain specifics that it was hoped they would prove to be when they first came into notice. Even when they seem to exert a curative effect, convalescence is apt to be prolonged, and the patient gets up from his bed far from a well man. It is natural, therefore, that a watch should still be kept for other and more satisfactory methods of treatment, and since the belief has become so general that rheumatism is a germ disease, the hope has arisen that a specific serum might be obtained which would supply the defects of salicylic acid.

Menzer, in an article in the *Zeitschrift fur Diatetische und Physikalische Therapie*, Vol. VI., No. 4, ascribes favorable results in the treatment of these cases to the injection of a streptococcus serum especially prepared for the purpose. The cultures obtained from the tonsils of rheumatics are not attenuated by passage through animals and then used for the immunization of larger animals, but are kept, as nearly as possible, in their original form by cultivation on ascites fluid to preserve their virulence, and then are injected, in graduated doses, into larger animals. The serum thus prepared is not antitoxic, but antibacterial, and its introduction into the body supplies the latter with bacteriolytic agents. The injection of the serum, therefore, reinforces the natural reactive process of the body. Its action at first is to increase the inflammation and temperature, but later it facilitates defervescence, and in the healthy produces no reaction whatever. Its use in twenty cases showed that it was without effect in diminishing pain or fever, or modifying the usual clinical sequence of events, but as soon as defervescence occurred the patients were fully convalescent and no relapses were observed. The duration of the fever averaged five or six days; that of the temperature, six or seven days, and the first day out of bed was usually the fourteenth. Chronic cases, in particular those that had already resisted the salicylates and other methods of treatment, were cured, or greatly benefited in from two to three weeks. No untoward by-effects were observed, except slight redness at the site of injection and occasional swelling of the adjoining glands.

Bolo Wounds.

Among the novelties which the acquisition of the Philippines have brought to our notice one of the least desirable in its effects is the bolo, the weapon of the native Tagalog. This is an ugly sort of a knife, varying in size and shape among different tribes, some resembling the machete or cutlass of the West Indies, others being long, straight, and sharp pointed, with a single or double cutting edge. The weapon is not so effective as a Winchester at long range, but in close encounters it inflicts some ugly wounds.

In the *Journal of the Association of Military Surgeons* for August, Dr. Carl de Wolf Brownell, U. S. N., relates his experience with ten cases of bolo wounds in Spanish soldiers and sailors under treatment at the native hospital in Cavite. The wounds were all of the upper part of the body. Six of the men had scalp wounds, one a wound of the scalp and side, one of the forehead and forearm, one of the forearm alone, and one had suffered a clean amputation of the corpus. All except the puncture in the side and the amputation were simple incised wounds, but long and deep. But two required operative interference: (1) In the case of the amputated hand, it was necessary to sacrifice the lower extremities of the radius and ulna to obtain flaps. (2) The wound of the right forearm resulted in a secondary hemorrhage from the radial artery calling for ligation.

Before coming to the hospital, formerly a convent, these patients had been from one to four days without treatment, and the conditions at the hospital were most unfavorable. There were not enough cots for the patients, and many had to lie on the bare floor; the wards were filthy, overcrowded, and ill-ventilated; the food consisted of a meager allowance of rice with a little boiled beef; the dressings were unclean and infrequently changed. As might have been expected, all of these wounds suppurated; yet all of the patients ultimately made good recoveries. None of the wounds, with the exception of the amputation at the wrist, would have been at all serious, if properly dressed at first.

Dr. Brownell makes the further observation, of general though not of medical interest, that, to offset the eleven Spaniards with bolo wounds, there was not one Filipino among those in the hospital with a bayonet wound; and the suspicion may be entertained that these wounds were inflicted after surrender and not during an engagement.

The Pathogenesis of Gastric Hemorrhage.

The hæmatemesis that occurs as a symptom of gastric ulcer or cancer needs no explanation, and neither does that resulting from portal obstruction, but many cases are met with in which ingenuity and imagination of the clinician are sorely taxed to find a rational explanation of the bleeding. The report, by Nitzsche (*Deutsche Zeitschrift fur Chirurgie*, June, 1902), of a case of gastric hemorrhage occurring in appendicitis seems to throw light on the pathogenesis of some of these instances.

Nitzsche's patient was a man of sixty-two years, who, after having for several years had symptoms of chronic appendical disease, finally developed an acute attack with gangrene of the appendix, abscess, and general peritonitis. When first seen the condition was already too advanced to permit of operation, and the patient's prostration was further increased by the vomiting of large amounts of fresh blood. The autopsy confirmed the diagnosis of the abdominal condition, and the stomach was was subjected to careful study to determine the cause of the hæmatemesis. Numerous miliary necroses of the mucous membrane were found which had evidently been produced to a great extent by the autodigestive action of the gastric juice, and had caused sufficient destruction of the capillaries and venules to permit the massive loss of blood described. The author's interpretation of the affair is that the products of absorpton from the purulent and necrotic foci in the abdomen were carried to the stomach either through the general circulation or else by retrograde transmission through the omental veins. These septic matters were taken up and excreted by the gastric cells, as is usual with most poisons, but some of the cells succumbed to the intensely toxic nature of the poisons passing through the epithelial layer, and minute necroses were formed. These, in turn, were at once attacked by the gastric juice, and larger ulcerations, with their attendant hemorrhage, were produced.

The case is an unusual one, but affords an explanation that no doubt is applicable to many of these cases of hæmatemesis of obscure etiology.

A Congress to Repress the White-Slave Trade.

A congress is to be held in October at Frankfort to consider the best means of suppressing the international traffic in women, which has attained proportions that are appalling. The *Commercial Advertiser* says that a preliminary meeting took place at Paris not long ago, and the facts brought to light proved to be so horrifying as to make the advisability of joint governmental action extremely plain.

For obvious reasons, the particulars of this traffic have not been generally made public yet enough has become known to justify the strongest measures for its abolition. The *Frankfurter Zeitung* says that this trade in women has become as well recognized and as thoroughly organized as was the trade in negroes a century ago. It has its agents, its centers of distribution, and its exchanges. In fact, the *Commercial Advertiser* adds, it has cast a network of systematized infamy over the civilized world, and apparently there is nothing save concerted action on the part of the different governments that can destroy it.

It is not clear why Frankfort has been selected as the meeting place of the congress. Brussels has had several congresses this summer, one on the prevention of venereal disease; and if this congress for the suppression of traffic in women were held in Brussels, under the patronage of the King of Belgium, it would at least be near a source of much potential information on the subject of its discussions.

News of the Week.

Health Matters in the Philippines.—The efforts of the Medical Department of the Army have resulted in a great diminution in the prevalence of dysentery which is one of the scourges of the islands. The enforcement of strict sanitary measures, including the boiling of all drinking water, rules for bathing, and especially the washing of the hands before handling food, has caused the disease almost to disappear. In dealing with cholera, however, the health department of the islands has had a much harder task. There is not only the soldiers to reckon with, who are under discipline and can be forced to observe hygienic rules, but the entire mass of ignorant and superstitious natives and Chinese must be made to conform to the sanitary regulations. The health service of the Manila Government is overwhelmed with the work that has fallen upon it, and the health officials in all the interior towns are in the same plight. The epidemic is not confined to the low country towns, but has been under headway in Dagupan and the mountain towns north of there for a month. The number of deaths in the provinces ranges from 350 to 450 daily. There are on an average from fifty to seventy new cases daily in Manila, and nearly as many deaths. Part of the difficulty arises from the superstitious idea of the natives who believe the disease is a visitation from heaven, and not to be resisted. It has several times happened that bodies of men and women who have died of cholera have been concealed by the natives for several days before the health authorities have found them. Another difficulty in contending with the epidemic is the inefficiency of the Filipino doctors. When working under Americans they are useful, but independently they soon fail. They will not carry out instructions and connive with the natives to conceal new cases. The latest reports being the unwelcome news that the disease is increasing. Three hundred and forty cases were reported outside of Manila on the last day of August, and the totals reported up to that date were 27,929 cases and 19,640 deaths from the disease. All transports leaving Manila for the United States are kept in quarantine in the harbor five days before being allowed to sail.

Food of the City Poor.—In the second quarterly report of the New York Commissioner of Public Charities, recently made public, Mr. Homer Folks says that during the last year of the former municipal administration the diet furnished to the inmates of the almshouse was reduced greatly below the amount required for the nourishment of the aged and sick. The breakfast consisted solely of bread and coffee, and the supper of bread and tea throughout the year. But there is now provided in addition for the breakfast and supper, a half-ounce of butter daily for each inmate, a half-ounce of syrup daily for each inmate, two ounces of oatmeal or rice on Saturday mornings and one ounce of prunes on Sunday afternoons. The dinner remains as before, except that the quantity has been increased.

Sanatorium for Consumptives at Lisbon.—It is stated that the Queen of Portugal has recently given $20,000 for establishing a hospital for tuberculosis near Lisbon.

Large Bequests to Charity.—The late Mrs. Katherine Barron Aultman of Canton, Ohio, bequeathed by her will $327,000 of her estate, valued at $350,000, for charitable and benevolent purposes. She gave $100,000 to the Aultman Hospital in Canton and $100,000 for the establishment in the same town of a home for aged, indigent women.

Accidental Death in a Private Hospital.—A woman patient in a private hospital in this city was killed one afternoon last week by falling down the elevator shaft. She had been etherized preparatory to operation for pelvic disease, and was being taken in the elevator to the operating room on an upper floor when, by a strange mischance, her cot was tipped out as the elevator was passing a landing where the door was open, and, as the car continued to ascend, fell back and down the elevator shaft, when the woman's skull was fractured.

Reform at the Morgue.—The management of the morgue in this city has been reorganized by the Commissioner of Public Charities, in order to prevent mistakes which have occurred from time to time in the past in the delivery of bodies, and also to prevent scandalous collision on the part of the employees with rapacious undertakers. It frequently happened that one of a small group of undertakers, learning from some employee of the department of the death of a patient, would call on the relatives, secure the death certificate through misrepresentation or through ignorance on their part that they were authorizing him to take charge of the body, and then take charge of the remains and either insist on conducting the funeral or extort a payment for "services" already rendered.

Board Accommodations for the Madrid Congress.—An office has been opened at Madrid to secure accommodation for members who propose to attend the Fourteenth International Congress of Medicine which will be held next April. Applications should be made direct to the secretary, Bureau des Logements, Faculté de Médecine, Madrid. Intending visitors to Madrid should not delay too long in making application, for if the attendance is as large as is now anticipated there will hardly be sufficient accommodation for all.

Arrest for Not Reporting Smallpox.—The health officials in Brooklyn are proceeding against physicians in that borough who fail to report to the Board of Health all cases of notifiable contagious diseases occurring in their practice. One physician was arrested last week on a charge that he had failed to report several cases of smallpox which he had been treating. The accused pleaded not guilty but was held for trial.

The Health of Virchow is reported to be in a precarious condition. He was at Harzburg in the Harz Mountains until last Sunday, when he was removed to Berlin. No one except the members of his family and the doctors have been allowed to see him for several weeks. It was believed until quite recently that he was making satisfactory progress toward recovery, but the *Deutsche medicinische Wochenschrift* of last week announced, on information obtained from the physicians who are treating him, that the improvement of the week before had not been maintained and that his strength was unmistakably failing. But his interest in human affairs shows no abatement, and only a few days ago he accepted the offer of the honorary presidency of the new German Society for the Exploration of Anatolia.

A Medical Candidate for Governor of California.—Dr. George C. Pardee of Alameda was nominated for Governor of California by the Republican State Convention in Sacramento on August 27. Dr. Pardee is an ophthalmologist, a graduate of the University of Leipsic in 1885. Possibly, if he is elected, he will be able to recognize the cases of plague occurring in Chinatown of San Francisco, to the existence of which the authorities have until now so obstinately closed their eyes.

Navy Department, Bureau of Medicine and Surgery, Washington, D. C.—Changes in the medical corps of the navy, week ending August 30, 1902: August 22.—P. A. Surgeon W. H. Bell detached from the *Chesapeake* and ordered to duty as a member and recorder of a board of medical officers Naval Academy, Annapolis, Md., thence home to wait orders. August 26.—P. A. Surgeon F. L. Benton, part of order of May 27, detaching from *Columbia*, revoked.

Stony Wold Sanatorium.—The cornerstone of the Stony Wold Sanatorium at Lake Kushaqua is to be laid early in September, when a number of the officers, directors, and members of the various auxiliaries of the charity will be in the Adirondacks to attend the ceremony. The foundations of the main building of the sanatorium and one dormitory are almost completed, and work on the upper stories will begin shortly. The institution is in an ideal spot. The buildings are near enough to the station to be seen from the trains, and are situated on a beautiful lake surrounded by mountains and woods of pine, balsam, and fir. A number of entertainments given at Loon Lake, Big Moose, and elsewhere in the Adirondacks this summer added several hundred dollars to the building fund.

Decline in the British Birth Rate.—According to figures recently published in London, France is not the only country in which the birth rate is below the normal. The statistics show also a marked decline in the English birth rate. London shows a decrease since 1881 from 27.4 to 20.6 per 100 of married women under the age of forty-five years. The decline is most noticeable in the fashionable quarters of the capital, while the slum areas, such as Stepney, Shadwell, and Bethnal Green, are almost stationary. Outside of London the decline amounts to 25.8, against 30.3 in 1891.

Contest over Possession of a Hospital.—The Mayor and the Board of Health of Jersey City are struggling for the control of the City Hospital. This hospital has always been under control of the Health Board, which is also the Police Board. But last winter the State Legislature passed an act creating a Board of Trustees, and authorized these Trustees, who were to be appointed by Mayor Fagan, to take possession of the hospital and also of the funds set apart for its maintenance. Dr. McGill of the Board of Health opposed the transfer on the ground that the act creating the Trustees was unconstitutional, because it only applied to Jersey City. A few days ago he obtained from Justice Collins a rule to show cause why a writ of certiorari should not issue, restraining the Mayor and the Board of City Hospital Trustees from taking possession of the hospital. Despite the notice that the rule had been granted. the Mayor and the Trustees took possession of the hospital on Thursday of last week, but reconsidered their action on the following day and returned the hospital to the control of the Health Board. The Supreme Court will review the acts of the city authorities in the premises some time this month.

New Physical Culture School for Teachers' College.—Plans have been filed with the Building Bureau by Parish & Schroeder, architects, for a new physical culture school for the Teachers' College of Columbia University. The new building will be five stories with basement and an attic. In the basement will be several hand-ball courts, bowling alleys, and a large swimming tank. The first story will contain a lecture room, reading and seminary rooms, and the laboratory and a large reception parlor. Class rooms and exercising parlors for men and boys will occupy the second story, and the third story will have exercising rooms and bathing rooms for women and girls. The fourth and fifth floors will be devoted to the big gymnasium, and in an attic story will be fencing rooms with galleries for spectators. The building is to cost $200,000.

A Strike of Trained Nurses.—Twenty-four of the thirty-five trained nurses employed at the Worcester, Mass., Insane Asylum have struck for shorter hours and because they did not like the treatment accorded them by the Superintendent. The trouble is not of recent origin, but has been brewing for many months. The nurses say that they are obliged to be on duty more than twelve of the twenty-four hours every day, and that they have but eight hours off duty during the week.

Notification of Malaria.—The Board of Health has prepared a circular to be sent to practitioners in this city, requesting them to report to the board all cases of malarial fever under their care. "It is the earnest desire of the Department of Health," this circular reads, "to acquire all possible information as to the occurrence and distribution of malaria in New York City, with a view to its eventual stamping out, and physicians are therefore requested to notify the department of all cases of malarial fever coming under their observation. Information is desired regarding the location of the fever, so that, as far as possible, proper measures may be taken to correct the insanitary conditions which produce it." No facilitate the desired notification of malaria, special postal cards have been prepared, and a supply of these cards will be sent to any physician on request. In return for such co-operation on the part of physicians, the Department of Health will make free microscopical examinations of the blood for malarial parasites, whenever requested to do so by the physician in attendance on a suspected case.

Fire in a Hospital.—A blaze was started last Saturday, in the New York Infirmary for Women and Children, by the ignition of some gauze that was being sterilized, but, by the presence of mind of the nurses, a panic among the patients was averted. The nurses were notified and were sent to their stations, but the fire was extinguished before any of the patients learned of the accident.

Typhoid Fever is prevailing to an unusual extent in several cities of the country. Washington and Chicago being among the most afflicted. In the former city there were over 250 cases of the disease the last week in August, and in Chicago 129 deaths from typhoid fever occurred during the first three weeks of that month.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S HEALTH—THE HOSPITAL FUNDS—YEOMANRY HOSPITALS—LATIN FOR PRELIMINARY EDUCATION—DEMAND FOR M.D.'S—VACCINATION LEAGUE—ANOTHER TROPICAL EXPEDITION—CANCER FUND—COST OF LONDON LUNATICS.

LONDON, August 15, 1902.

The coronation completed, the final bulletin appeared on Sunday morning just to say his Majesty bore the strain perfectly well, experienced but little fatigue, and had passed a good night. The King and Queen drove to the thanksgiving service on Sunday morning. As if to emphasize his recovery and complete fitness for work, the King resumed on Monday his royal duties to the full extent. Audiences, privy councils, investitures, reviews, and so on succeeded each other and occupied much of his Majesty's time until yesterday when he returned to Cowes and, as if to show himself as well as ever, immediately paid a visit to the Empress Eugenie on board her yacht.

Among the early functions of the week the King received the Lord Mayor, Viscount Dungannon, and Sir Savile Crossley, who presented the coronation gift of £115,000 subscribed by all classes, including nearly 20,000 donations from the working class—mostly in pence. They stated that there would be a further balance on closing the accounts, and that increased support, had also been secured in this coronation year for King Edward's Hospital Fund as well as for the Sunday and Saturday Funds.

The King expressed his pleasure that the gift embraced offerings from poor as well as rich, and his great gratification that progress had been made this year toward the attainment of his object in originating the fund; that object was to free the London Hospital from debt. His Majesty then handed the gift to the Prince of Wales, President of the fund, to be applied to its augmentation.

The report of the Council of the Sunday Fund was presented on the 5th inst. The income to date was £59,000, and the Lord Mayor anticipated that before the financial year closes (October 30) the total will surpass any previous year. It was agreed to distribute £57,800 between 204 institutions—four more than last year. The Lord Mayor called attention to the recommendation of the committee that no part of the grants should be spent on bricks and mortar. He said that a large proportion of the money was subscribed by the poorer class, and they, naturally, expected it to be spent on the patients themselves.

Monday was a red-letter day for all connected with the Yeomanry Hospitals which did such good service in South Africa. The Queen, who was accompanied by several of the royal family, distributed the war medals It took about an hour to do this, for there were more than thirty surgeons, forty nurses, and some 200 of the hospital staff. The presentation was made in the garden of Devonshire House, where the Duke afterward provided refreshments for the recipients and other visitors.

You would scarcely anticipate any difference of opinion on the queston of Latin being retained as a subject of preliminary education in so ancient a corporation as the Royal College of Physicians, which still calls its meeting a comitia. Still less would you expect to find Fellows of the venerable college ready to bow in this matter to the newly-organized university, which has at present had time to do nothing except pass some resolutions—one of which, as I have already informed you, is to make Latin optional—yet both these unexpected things occurred at the last comitia.

A resolution was brought forward that it is desirable Latin should continue to form part of the medical student's preliminary education The action of the university senate was dealt with gently, and the special value of Latin for medical men, as well as its importance as an intellectual disciplin, and the broadening influence of a knowledge of a previous civilization were shown. The college was urged to set the example of a high standard in the matter. Thereupon opposition was expressed Dr. F. Taylor admitted all that had been said in favor of Latin, and then, by a remarkable *non sequitur*, said the decision of the university senate was well-advised, because of the special fitness of the university to decide what are the proper subjects for preliminary education. The colleges, he declared, are not in so good a position to determine matters of this kind. He then moved to proceed to the next business, a proposal seconded by Dr Norman Moore, but not at once adopted, and the discussion was adjourned.

If Latin is to be banished by the reorganized university as effectively as Greek was before its reconstitution, we may, perhaps, look forward to a time when pharmacists may offer us lessons in writing prescriptions as freely as they have been doing in therapeutics.

The petition of the Licentiate, and members of the two Royal colleges who desire the opportunity of obtaining a university degree, has been referred to a conjoint committee of the two colleges recently authorized to consider the possibility of a connection with the London University for certain purposes.

The Imperial Vaccination League, the formation of which I announced to you, has begun its work with an appeal for the necessary funds. Its object is to get the country protected against epidemic smallpox as thoroughly as Germany is. The Duke of Fife is President.

The Liverpool School of Tropical Medicine is sending out yet another expedition—the eighth. It will start on the 23d inst. under Drs. Dutton and Todd for the Gambia and French Senegal.

Toward the £100,000 required for the Cancer Research Fund, £35,000 has already been obtained.

Increase of cost of metropolitan lunatics, together with a decrease in their number, is being commented on. The excess is attributed to an increase of the staff, and people ask why increase of staff should coincide with decrease of patients. Augumented salaries in these circumstances also give rise to questions.

Progress of Medical Science.

The Boston Medical and Surgical Journal, August 28, 1902.

Cases of Prostatectomy, with Remarks on the Operation.—Paul Thorndike reports nine cases with but one death. Of the eight cases which survived the operation, six were cured, a cure meaning the complete removal of all obstructing tissue, practically no residual urine, and comfort of the patient. The writer formulates his conditions founded on a study of these cases, as follows:

(1) Great relief can be given to all patients suffering from symptoms due to obstructing enlargements of the prostate, either by palliative or by operative means. (2) The time to resort to operative measures is just as soon as palliative treatment, carefully executed by competent hands, has failed to give relief; (3) Complete prostatectomy is always the operation of choice, because it is the only operative procedure which cures or gives *uniformly* good results, when successfully performed in proper cases; (4) The best time for its performance is just as soon as palliative efforts have failed, or are manifestly impossible of execution, and before secondary changes in the bladder and kidneys, due to long-continued obstruction, have taken place; (5) In those cases which come for surgical relief so late in the development of the pathological conditions that the bladders and kidneys are extensively diseased, and the patient is manifestly exhausted by long-continued suffering, other less certain and perhaps less severe measures may be advised, instead of a complete prostatectomy; but such a decision can only be and must always be made by the surgeon for the individual case, and cannot be made the subject of a generalization.

Smallpox; Its Medical Treatment.—Michael Kelly says that smallpox is a disease which affects the entire system, and the physician's duties in regard to it are, therefore, many and varied. For the treatment of those in whom the disease is diagnosed an isolation hospital is the proper place, but it should be a retreat in which the physician himself would willingly be confined if necessary, or to which he would send a member of his family. Smallpox patients are not criminals or outcasts, and should not be treated as such. Strong, ambitious, trained nurses, recently vaccinated, and not afraid of the disease, should be secured if possible, as the nursing required is too laborious for delicate or timid nurses. No special treatment is indicated for the incubation period, except to prevent patients from doing anything which might debilitate them for the disease about to develop; the author has made one or two attempts to modify the disease by vaccination at this stage, with apparently some benefit, but the cases so treated are too few for any general conclusions to be based on them. In the stage of invasion, on the tenth to the fifteenth day of the incubation period, rest in bed is indicated. An abundance of fresh air is absolutely necessary in keeping down the mortality. The temperature of the room should not be above 70° or much below 60°. Solar light should be excluded as completely as possible, since it is reasonably certain that its access to the face is largely productive of the pitting left after severe cases. Inexpensive dark window curtains will serve this purpose. The headache, backache, and other distressing symptoms of this stage yield readily to four or five grains of phenacetin in a little sherry or brandy, and repeated every two or three hours as indicated. The same formula, supplemented by moderate doses of the bromides and chloral, is useful for the fever and delirium accompanying the period of postulation and suppuration. Gastric irritability is relieved by sucking small pieces of cracked ice or by small sips of iced lemonade. Poultices or hot water applications to the stomach or back should not be used, as they make the effects of the oncoming eruption more marked and lasting. Smallpox is a profoundly exhausting disease, and tonics are indicated at this stage and throughout its entire course. Only easily digestible, yet nutritious, food should be offered. Milk, eggs, animal broths, and an abundance of pure cold water or lemonade are acceptable. Mild laxatives may be given in the early stage, and continued at intervals throughout the course of the disease. Stimulants are useful additions to the sustaining treatment at any period. The pain and tension in the skin, and the itching which develops as the eruption becomes vesicular and pustular, can be relieved by the application to the parts of cloths wrung out of cold or hot water, according to the patient's choice, and often changed, as it is evidently the moisture which produces the soothing effect. As this stage advances, the nose, mouth, soft palate, and throat suffer from the eruption, and gargles of chlorate of potash give marked relief, or even better is a careful rinsing of the mouth by the nurse with a piece of clean linen dipped in a 1 to 20-per cent. solution of boric acid. A saturated solution of boric acid in rose water is most grateful sprayed from an atomizer over any afflicted part of the body. The intense itching is relieved by a mixture of olive oil and lime water, to which a little carbolic acid or thymoline is added. At the height of the secondary fever, when the patients are too sore to stand immersion baths, daily bichloride sponge baths may be given. The writer had success in one case from the use of antistreptococcus serum, by means of which he was enabled to tide the patient over the dangerous time of rupture and desiccation of the pustules. The case was an unusually severe one of confluent smallpox. On the eleventh day of the eruption, and therefore two or three days before rupture and desiccation of the pustules, the patient had an evening temperature of 105.5° F. The face, arms, forearms, hands, legs and feet were intensely swollen and œdematous, and the patient was profoundly apathetic. The writer injected subcutaneously, under strict antiseptic conditions, into the tissues of the back 10 cc. of antistreptococcus serum; two similar injections at intervals of twenty-four hours were made into the forearm and thigh respectively. In about twelve hours after the first injection the œdema about the eyelids began to subside, and the patient could move his eyelashes; a similar change took place about the mouth, and the profound apathy rapidly abated. The breathing and pulse also improved. In a few hours after the last injection the morning temperature was normal. It was fully sixteen days later, however, before the patient ceased to have an afternoon temperature of a degree or a degree and a half. He finally made a good recovery, and developed no abscesses nor sores at any time. After the suppuration and secondary fever have subsided, the patient should receive two or three antiseptic baths at intervals of twenty-four hours. He is then freshly dressed and removed to an uninfected part of the building, or, if the weather will permit, to a tent outside the grounds, where the antiseptic bathing is continued for three days more. Although varioloid occasions very little suffering in itself, and rarely calls for more than a day or two in bed, the laws of quarantine, disinfection, and fumigation should be as strictly enforced as in smallpox, as the disease may be spread in its worst form from a case of simple varioloid.

Journal of the American Medical Association, Aug. 30, 1902.

General Nervous [Manifestations in Relation to the Jaws and Teeth.—George V. I. Brown considers that the habit of grinding and clenching of the teeth, a hyperkinetic condition of the muscles of mastication, may in some instances be an etiological factor in functional nervous disorders or, more often, perhaps only a symptom. One of the simplest means of relief, in such cases, is the application of a hard rubber plate, with soft velum rubber border, extending over the occlusal surface of the teeth. The palatal portion gives a sense of firmness and security, and the soft rubber covering to the crowns of the teeth makes grinding or serious injury by undue irritation impossible. It need only be worn at night, and thus gives very little serious inconvenience to the patient if carefully adjusted. He reports nine cases showing the advantage of the method of treatment practised by him.

A Subsequent Report of a Case of Carcinoma Discharged as Hopeless and Reported as a Failure.—William Allen Pusey refers to a case, published five months ago, of extensive carcinoma, involving all the structures in and around the right orbit. It was exposed to the action of the *x*-rays, but the treatment was discontinued during the second month because the tumor increased and excruciating localized headaches, as well as acute inflammation of the whole involved area, appeared. Five months later, however, it was found that the mass that had occupied the orbit had shrunken, allowing the lids to close. There were a few small nodules on the nose near the inner canthus, but otherwise the patient was in excellent condition. The case shows that the effects produced by the *x*-rays persisted for months after discontinuance of treatment, and were sufficient to cause the disappearance of a tumor, and at least the symptomatic relief of a case which upon the basis of all experience could end only in death within a short time.

Oral Hygiene.—George F. Eames discusses the methods that he considers best adapted to produce a healthy condition of the mouth and teeth. The patient on rising should rinse the mouth several times with water and follow this by brushing the teeth for three minutes, using brushes, powder and washes selected by the dentist. The teeth should be brushed in all directions, including a rotary motion, with the object always of removing any foreign substances clinging to their surfaces. The brush should be wet with an antiseptic wash, and plenty of powder should be used. The gums should also be brushed, but for this purpose a brush with rubber bristles is best, using it wet either with an antiseptic wash or with vaselin. ℥i, menthol grs. iii. If the condition of the mouth requires it, the gums may also be rubbed with the tips of the fingers on which this preparation has been placed. Besides toothpicks, to be used after meals, the patient may resort to the stick and pumice. The tongue is to be cleansed, when necessary, by means of a brush with rubber bristles, but never with the stiff hair bristles which have been used for cleansing the teeth. When the breath is impure and the cause is not to be found in the teeth and surrounding parts, the tonsils should be inspected, and if pockets exist in the faucial tonsils, they should be cauterized and the organs reduced in size, if necessary. If adenoids are present, they should be removed. The nose should also be examined, and polypi or catarrhal conditions should be treated. Inflamed gums are treated by douches of various forms which conduct water at a temperature of 110°F. to the mouth. Such douches have been devised by the author.

The Medical News, August 30, 1902.

Suture of the Solid Viscera.—In considering this subject the writer, R. C. Coffey, refers especially to the liver, but the same principles apply to the spleen and kidney. He describes his method as follows: Two sutures are used; one being applicable to an incision which does not penetrate the liver entirely, and the other is applicable to wounds in which the liver is severed through and through. One he calls the *Y*-suture and the other the *X*-suture. The *Y*-suture is placed as follows: A round, curved needle, at least four inches long, armed with catgut or silk, is passed through the catgut support to the bottom of the incision, comes out on the other side, passes through another catgut support, re-enters through the support of the same side, goes back parallel to the other stitch and comes out through the support from which we started, making a quilt suture. A suture is then passed from the opposite side of the liver, either straight through or indirectly, as may be convenient, includes the two threads at the bottom of the cut in its loop, comes out on the bottom of the liver and again both ends passing through a single catgut weave are tied in the form of a quilt suture, thus drawing the other suture well into the bottom of the cut. The first suture is now tied, and any amount of pressure can be used, for the line of pressure is not against the suture, but is upon the catgut supports. Thus the bottom of the wound is brought in absolute apposition, and any amount of pressure desired may be used. This may not bring the surface of the liver in as close contact as is desired, therefore, a second quilt suture is passed through the edges of the support, nearest the wound, simply taking in the capsule. In this way the tissues are absolutely brought in contact, and as much pressure can be brought to bear in closing a wound of the liver as in any other part of the body. In closing a wound of the liver which extends entirely through its substance, a modification must be used. Instead of the single suture which goes into the bottom of the liver, a second quilt stitch is passed through both sides on the bottom, the same as the *Y*-suture above, interlocking the two sutures to the center of the wound. In this way the pressure is brought to bear in a very effectual manner. For the benefit of those who are working along this line, the writer suggests that the needle should be round, full-curved, and fully four inches long, while the counter-stitch may be made with a simple darning-needle or any kind of a long straight needle.

The Complications and Sequelæ of Acute Croupous Pneumonia.—After an exhaustive review of the literature of this subject, the authors, H. A. Hare and Arthur Dare, came to the conclusion that the complications and sequelæ of croupous pneumonia, independent of the cases due to mechanical causes, are best studied and classified as pneumococcic infections. Pathology has not aided us in discriminating as to whether the complicating conditions which are detailed occur primarily with the initial invasion of the organism, or whether we are confronted with a general re-infection dependent upon blood contamination with the pneumococcus. In studying these complications and sequelæ, the authors group them into certain classes and divisions and present them in a tabular form that makes them easily remembered. The series is composed of six classes, as follows. The first class is made up of the serous membranes:

Class A.

Serous membranes	Pericardium	Serous and purulent pericarditis.
	Pleura	Serous and purulent pleuritis and that affecting the diaphragmatic pleura.
	Endocardium	Endocarditis. Malignant endocarditis. Ulcerative endocarditis, endocarditis, with or without meningitis, or cerebrospinal meningitis.
	Synovial membranes	Serous arthritis. Purulent arthritis. Osteoarthritis.

The infection by the pneumococcus may cause pathological changes in the central nervous system by the action of the toxins on the nerve centers.

Class B.

(*a*) Cerebral and cerebrospinal system . .	Cerebral pneumonia. Meningitis. Meningitis due to pressure of exudate. Cerebrospinal meningitis. Hemiplegia. Paralysis. Cerebral abscess. Aphasia.
(*b*) Toxic action on the Nerve centers.	Delirium. Mania. Convulsions. Cardiac asthenia, resulting in delayed resolution, abscess and gangrene. Brachial neuritis. Bilateral polyneuritis. Trophic disturbances (herpes zoster). Temperature disturbances (hyperpyrexia) (subnormal ranges). Albuminuria and nephritis.
(*c*) Neurotic tendencies	Retention of urine. Tetanoid and choreiform phenomena.

Changes in the blood and intravascular formations.

Class C.

(*a*) Intravascular (thrombosis and embolism)..........	Pulmonary gangrene, abscess and bronchiectasis. Spontaneous gangrene of lower extremities. Embolism of right lenticulo-optic arteries. Phlegmasia alba dolens. Renal and splenic emboli. Embolism of the brachial veins.
(*b*) Hemic changes . . .	Purpura hæmorrhagica. Hæmoglobinuria.

Class D.

Infection of glands and glandular structures	Parotitis. Suppurative parotitis. Bronchial adenitis. Submaxillary adenitis. Thyroiditis. Orchitis. Ovaritis and abscess. Hepatitis.

Class E.

Infection of middle ear	Otitis media Purulent otitis media.

Class F.

From mechanical interference..........	Œdematous laryngitis. Fatty tumor of right auricle. Jaundice, from obstruction of the bile-ducts. Dilatation of right heart from pulmonary obstructions (?) or toxic myocarditis. Delayed resolution and induration from cardiac asthenia.

Pulmonary Syphilis.—James M. Winfield says that, reasoning from the conflicting opinions of physicians, there seems but little doubt that syphilis does invade the lungs almost as often as it does the other viscera, and that the reasons why evidences of it are so seldom found are perhaps: (1) The difficulty in differentiating it physically from tuberculous phthisis; (2) The possibility of syphilis and tuberculosis co-existing; and (3) The complete cure of the syphilitic lung lesion. He recapitulates the symptoms as follows: The disease is more often seen in females; bronchial catarrh; dyspnœa, often distressing; scanty and blood-stained expectoration, becoming profuse and purulent as the disease progresses; sputum never contains tubercle bacillus; pain is referred to the scapular region and can be aggravated by pressure over the sternum; night sweats uncommon; little, if any, elevation of temperature; emaciation not a prominent feature; the presence of periosteal thickening of the clavicle; signs of bronchial stenosis; consolidation and cavity formation. The writer then reports the case of a woman who after a long sojourn in the mountains and every kind of treatment for tuberculosis, including injections of antituberculous serum, was finally cured by vigorous antisyphilitic treatment. The correct diagnosis in this case was finally arrived at by bacteriological examination of the sputum and failure to find any evidences of the pathognomonic germs of consumption.

New York Medical Journal, August 30, 1902.

Nutritive Infusions.—Southgate Leigh describes a plan he has devised of injecting nutriment into the circulation. To be injected under the skin, the food must be sterile, nutritious, easily absorbed, and liquified; easily obtained and readily prepared. These requirements are met by a saline solution of egg albumen. The implements necessary are a simple infusion apparatus, consisting of a glass funnel with rubber tubing attached, a large aspirating needle at the end of the tubing, and a bottle of saline tablets, the formula of which is given.

A Successful Late Laparotomy for Gunshot Wound of the Intestine; Remarks on Suturing.—W. J. Pettus reports a case the interesting points of which were the length of time that elapsed between the receipt of the wound and the operation, thirty-one hours; also the almost entire absence of shock after such a serious injury. The perforations in the intestines were so large and ragged that their closure by suturing the edges parallel to the longitudinal direction of the gut would have seriously impaired the caliber, so they were sutured transversely, as recommended by Mikulicz and Heineke.

The Administration of Chloroform and Ether.—Helen Hughes discusses the relative advantages of chloroform and ether as general anæsthetics, the methods of inducing anæsthesia, the accidents liable to occur, and the treatment to be adopted in such cases. In man the seat of greatest danger is, with chloroform, in the heart, and with ether, in the respiration. In all cases where there is no contraindication the bulk of testimony is in favor of ether, but there are occasions where the life of the patient depends on the proper selection of the anæsthetic. A patient may have a heart that indicates chloroform, but the respiratory organs may be in such a condition that it becomes a matter of choice between two evils, or a weak heart may be accompanied by diseased kidney, making ether nephritis to be feared. Atheromatous vessels may preclude the use of ether where other conditions call for it. This latter condition is one in which chloroform can be used in the first stage and the narcosis continued with ether.

The Education and Development of Neurotic Children.—Graeme M. Hammond believes that the neurotic predisposition can be effectually eradicated by a proper course of physical training, conjoined with proper hygienic surroundings. With careful attention to the diet, sleep, various bodily functions, fresh air, and proper clothing, in addition to systematic and long-continued physical culture, there should be no remains of a neurotic predisposition as the child enters into manhood. The physical culture of such children should be carefully conducted; where a moderate amount of exercise builds up, too much exercise breaks down. The age and physical condition of each child must be taken into consideration, and such exercises, preferably outdoor, should be followed as circumstances permit. Whatever those exercises may be, the proper point is their continuance with regularity for years. Practical experience has shown that by the methods suggested children of undoubted neuropathic tendencies may, without the shadow of a doubt, develop into perfectly healthy men and women.

American Medicine, August 30, 1902.

Immunity and Articular Rheumatism.—Edmond R. Moras says that although there is an almost universal opinion that rheumatic fever, instead of conferring immunity, actually increases the disposition to the disease, his personal experience has been that one attack of acute articular rheumatism confers local immunity against another, whether the so-called individual disposition be increased or not. The writer asserts that acute articular rheumatism of any given joint or joints confers protection to such joint or joints against another attack in the same sense or degree that typhoid fever "protects" Peyer's patches against a second invasion, and that therefore there would seem to be no plausible reason for rejecting the assumption that, in a case of rheumatic fever, in which every joint had been typically affected, and complete recovery had ensued, the patient would be strictly immune as regards future attacks. Several cases are cited in proof of the author's claim, and he concludes his paper by stating that of still greater value is the negative evidence secured from every patient who happened to have articular rheumatism more than once. In no instance could he find that acute, subacute, or chronic articular rheumatism, when once fully recovered from, ever attacked the same joint or joints again.

The Effect of Rest upon the Progress of Septic Infections.—A. J. Ochsner says that although it is generally theoretically admitted that absolute rest is a most important part of the treatment of septic infections, he has observed that in practice this condition of rest is but rarely secured, and but seldom systematically striven for, except in the treatment of inflamed joints. He reviews the history of fifty-two cases of infection of the hand, treated in hospital, and extending over three years. In all these fifty-two cases there was not a single death, although many of the patients were brought to the hospital in a very septic condition, with high temperature and pulse, and frequently delirious. All those who came under treatment before incisions had been made recovered without deformity or stiffness of the fingers The treatment consisted in obtaining as nearly as possible perfect rest for the extremity, by placing the patient in bed, applying a large dressing, composed of sterile gauze and absorbent cotton, saturated with a mild antiseptic solution, the solution employed most commonly being hot saturated solution of boric acid, to which one-third, by volume, of strong commercial alcohol had been added. The whole dressing was covered with oiled silk or rubber cloth. Even in cases in which only the end of a finger was involved the entire arm to the shoulder was included in the dressing, making motion of the extremity almost impossible. The author says that although the hot, moist antiseptic dressings are probably beneficial in themselves, he is positive that the enforced rest is of equal value. In proof of this he observed frequently that an examination accompanied with much manipulation would invariably result in an increase in the affection, and that unnecessary movements during the changing of dressings would result in the same increase in the septic conditions. What is true in the case of infection of a finger tip is also true of infection of any other part, and the same principle obtains in acute peritonitis resulting from infection from the vermiform appendix, the fallopian tube, the gall-bladder, or an ulcer of the stomach. During the war in South Africa the surgeons found that, in penetrating wounds of the abdomen, if the patient was wounded while hungry and no food was given by mouth, quite a large proportion recovered, while of those in whom the alimentary canal was not kept absolutely at rest none recovered. The writer concludes his paper by saying that many other instances of this principle can be mentioned, such as the result of strapping in the treatment of mastitis during the beginning of the attack, the use of the splint or plaster-of-paris casts in inflamed joints, strapping of the chest with rubber adhesive straps in pleurisy, or bandaging the eyes in conjunctivitis. In short, that absolute rest should be the cornerstone in the treatment of all forms of inflammatory conditions in any part of the body.

Chronic Carbon Monoxide Poisoning and Carbonyl Hæmoglobinuria.—Thomas J. Yarrow reiterates his statement, first made two years ago, that chronic carbon monoxide poisoning occurs more frequently than is imagined, and is responsible for many obscure conditions which often remain an unsolved puzzle in the practice of every physician. He says that the large increase in the use of gas for cooking purposes will add to the evil, and that physicians should be prepared to make a diagnosis of this toxic condition as readily as they do of the acute form. He alludes to the fact that people engaged in placing gas-fittings in houses soon lose their sense of smell as regards the odor of gas, unless it escapes in large amounts, and says that in the same way people living in the house with a constant small leakage soon grow accustomed to its presence and cease to notice it. Carbon monoxide, as is well known, forms a very stable chemical combination with hæmoglobin, so that blood once impregnated with this deadly gas loses its power as an oxygen-carrier to the tissues of the body. The compound which is formed is of a bright florid crimson or purplish-red color, totally unlike normal blood, which is more of a yellowish-red hue. Individuals acutely poisoned with carbon monoxide show this peculiar color in their complexion It is the strong affinity that carbon monoxide possesses for hæmoglobin that renders recovery almost impossible in cases of severe poisoning by it. In the chronic cases the carbon monoxide coexists in the blood with oxygen, so that the hæmoglobin still retains a crippled function of carrying oxygen to the tissues. When an individual is exposed to a small but constant quantity of this gas, as from a leaky gaspipe or drain, the effect upon his health is soon apparent. The symptoms, though vague and misleading, may be summed up as follows: Anæmia, frontal headache (worse in the morning on arising), anorexia, tinnitus aurium, vertigo, foul taste in the mouth (sometimes expressed as "gassy"), abdominal pains, very often colicky in character, constipation, and persistent disorder of digestion. The patient is weak, he "never feels well," although much improved when in the fresh air, which fact should excite suspicion as to the cause of his illness. The chronic form differs markedly from the acute, as in the former type the florid countenance is seldom or never seen. The author believes it may be accepted as a fact that the chief injurious effect of the inhalation of illuminating gas is due to the carbon monoxide, the other constituents playing but a subsidiary rôle. Methane or marsh-gas, the firedamp of the mines, is not considered poisonous when mixed with air, and carbon dioxide probably plays but little part, as it is nearly all removed in the purification. After a report of two cases, the writer concludes by saying that chronic poisoning by illuminating gas should never take place, if proper precautions are taken to see that the fixtures are impermeable to gas, and if the valves are turned off completely.

Philadelphia Medical Journal, August 30, 1902.

Amyotrophic Lateral Sclerosis; Report of a Case.—E. J. French reports the case of a farmer, sixty-one years of age, whose symptoms were typical of amyotrophic sclerosis. The disease ran a comparatively rapid course, ending fatally fifteen months after the first symptoms were noticed. It is not improbable that chronic alcoholism was a causative factor.

The Positive Diagnosis of Meningitis, Particularly Tuberculous, by Means of Lumbar Puncture.—Alfred Hand, Jr., emphasizes the value of lumbar puncture as a diagnostic means in meningitis. The changes which occur in the cerebrospinal fluid as a result of this disease are diminution or absence of sugar, increase of albumin and, except in simple serous meningitis, the presence of leucocytes, bacteria, and frequently endothelial cells. When meningitis is suspected, lumbar puncture will definitely determine whether or not it exists and, if the proper technique is observed, it will enable us to tell in the vast majority of cases whether the process is tuberculous or not.

The Treatment of Pulmonary Tuberculosis.—William A. Caldwell says that it is well, before beginning treatment, to remember (1) That tuberculosis is a preventable disease—by destruction of the excretions known to contain the bacilli, and by keeping the organs and tissues of the body at their highest physiological function; (2) That it is a curable disease, as is shown by the reports of many sanatoria in every part of the world and by post-mortem statistics; (3) That there is no specific climate, although some climates have greater healing influences, and that it may be successfully treated in all climates; (4) That there is no specific medicine, only medicine which favorably influences the disease; (5) That to obtain the best results, an early diagnosis is necessary. We should not depreciate the great value of a sputum examination, but aim to make its positive findings confirmatory rather than diagnostic. He discusses the prophylaxis, the hygienic and dietetic management, and the treatment, symptomatic and general, by drugs. The principles of the hygienic-dietetic treatment are: (1) The patient lives continuously in the open air; (2) His nutrition is maintained by all available means, at the highest point; (3) Rest, suitable to the patient's condition and the stage of the disease; (4) All means consistent with the patient's condition are used to harden the tissues and render them impervious to the influence of the tubercle bacillus.

The Lancet, August 23, 1902.

A Case of Post-Operative Hæmatemesis.—Arthur H. Buck reports the case of an elderly spinster who was operated on for a complicated pelvic disorder. Thirty-six hours after the operation the patient vomited a large quantity of altered blood and a second similar quantity four hours later; the temperature fell to subnormal, but the pulse was not affected. The vomiting continued another day, but was finally controlled by repeated doses of liquor chloride of adrenalin and of calomel.

Reflex Movement of the Auricle of the Ear.—E. Donaldson observed, on insufflating into the meatus of a patient, some powdered boric acid through an ear speculum without holding the auricle, that at each puff the auricle moved distinctly forward to the extent of about one-eighth of an inch. He found that he also could produce this reflex movement by blowing air from a small india-rubber bag into the auricle in the neighborhood of the external meatus. He was careful to exclude voluntary movement, and movement that was only part of a more general scalp movement.

An Unusual Fracture of the Superior Maxilla.—Franklin Cox had occasion to treat a case in which the left superior maxilla was found to be fractured—the line of cleavage running along the roof of the mouth in the line of the intermaxillary suture, the two middle incisor teeth being almost out, and the mucous membrane being torn for one and a quarter inches in the line of fracture. Upward it ran obliquely to a point about a quarter of an inch above and external to the left ala of the nose, and then descended in a downward and outward direction to a point between the second upper bicuspid and the left first upper molar. The skin over the fracture was not lacerated so much as one would have thought probable, but there was a deep wound, laying the bone bare, and extending from the middle line of the upper lip about a quarter of an inch below the nose upward and outward to the left for about one and a half inches.

Heart Disease in Children.—A. E. Sansom considers what he calls the chief condition of heart disease in children, the rheumatic heart of childhood. Under this heading he includes (1) the temporarily swollen or enlarged heart of rheumatism; (2) the heart of rheumatic pericarditis; (3) the heart of rheumatic endocarditis with resulting valvular disease, severe or extensive; and (4) the heart of slow, insidious endocarditis, inducing mitral stenosis. In childhood the heart phenomena—not complications—of rheumatism are very much to the fore; there may be pericarditis, endocarditis, or the swollen heart of rheumatism, without any signs to show that there are arthritic phenomena present. Arthritis should not, therefore, be taken as an index of rheumatism which is not essentially, but only adventitiously, a joint process.

Three Cases of Banti's Disease.—James Barr gives abstracts of three cases that he has observed in males, aged respectively forty-eight, forty-two, and thirty-eight years. Each one met with a more or less serious accident to his abdomen some years before the occurrence of the present disease. The blood-pressure was low in all the cases, this no doubt being due to vasomotor paresis of the splanchnic area; the abdominal viscera were engorged, while the vessels of the rest of the body were comparatively empty. In all the cases there was a low form of chronic peritonitis with marked friction fremitus, but without any febrile temperature. In two of them there were ascitic and pleural effusions, but the complete disappearance of the fluid in one of them after a couple of tappings showed that the ascites was not due to the cirrhosis, and in the other case at the operations the liver was found to be fairly normal. In the third case the albuminuria indicated renal engorgement, and the well-marked erythromelalgia of both feet showed further vasomotor paresis. In all cases there was marked oligochromæmia. The author holds the view that Banti's disease is probably due to a vasomotor paresis of the splanchnic area, either in whole or in part, and that this paresis arises from disease of the visceral sympathetic ganglia. As a consequence, there is great engorgement of the abdominal viscera, especially of the spleen and liver, increased hæmolysis, with consequent oligochromæmia and oligocythæmia. The increased blood-supply to those organs eventually leads to fibrosis and lessened function.

Deutsche medicinische Wochenschrift, August 7, 1902.

Scalding or Burning of the Ear.—Treitel reports two cases, and shows wherein the symptoms are different from those which accompany traumatic injuries of this organ. The chief differences are, first, that in scalds or burns the destruction of the drum and congestion of the surrounding mucous membrane are much more extensive than in traumatism. This extensive destruction is brought about by a necrosis due to the heat. It is especially characterized by the small amount of pain to which it gives rise, and its speedy regeneration, so that, as a rule, within three or four weeks after the accident the repair is complete. The second peculiarity of this form of injury is the marked loss of hearing which accompanies it. This is much more marked than in traumatism. In those cases in which the destruction of tissue is not too extensive the return of hearing is usually complete.

Bovine and Human Tuberculosis.—Max Wolff records three series of observations in contradiction to Koch's views regarding bovine and human tuberculosis. The first series were made upon a case of primary intestinal tuberculosis which occurred in a man sixty-three years of age and which was fatal. The lungs and bronchial glands were never involved, but the mucous membrane of the small intestine, the peritoneum, the spleen, and the mesenteric glands showed many tuberculous lesions. Two guinea-pigs were inoculated subcutaneously with portions of the tuberculous spleen. Both of these animals were killed within seven or eight weeks following the inoculation, and showed the presence of numerous tuberculous lesions. A perfectly healthy five months' old bull calf was then subcutaneously inoculated with portions of the tuberculous organs of these guinea-pigs. This calf previous to inoculation had failed upon several tests to give the tuberculin reaction. One month after inoculation the calf gave a fairly well-marked tuberculin reaction, and three months thereafter this reaction was very marked. This calf was then killed and at autopsy the characteristic local and general lesions of bovine tuberculosis were found. This series of observations conclusively proves that the original tuberculous lesions present in the patient were produced by bacilli which were capable of producing lesions of bovine tuberculosis in the calf, and show without doubt that man is susceptible to bovine tuberculosis. The second series of experiments relates to the frequency of tuberculous infection through the intestinal tract without the development of local lesions therein. In these observations guinea-pigs were used and were fed with both human and bovine tuberculous bacilli. Many of these animals subsequently developed tuberculous lesions in their various organs without ever showing any tuberculous intestinal lesions whatsoever. In view of these results, it is certain that the widespread opinion which holds that intestinal tuberculous infection must be accompanied by intestinal lesions is entirely erroneous, and that consequently the chief premises upon which Koch founds his views are deceiving. The third series of observations relates the susceptibility of calves to infection with human tuberculous bacilli. For this purpose a healthy calf was taken which gave no tuberculin reaction. This calf was inoculated with a mixture of sputa obtained from several phthisical patients. At the site of inoculation an abscess developed, the pus of which contained many tubercle bacilli. Forty-eight days after inoculation the animal gave a marked tuberculin reaction. Five weeks later, however, this reaction had entirely disappeared. The animal was then killed, when it was found that none of its internal organs was tuberculous, but that at the site of inoculation typical tuberculous lesions were present. This experiment shows that calves are not entirely refractory to human tubercle bacilli, as claimed by Koch. These experiments taken in toto absolutely disprove Koch's views with respect to bovine and human tuberculosis.

Berliner klinische Wochenschrift, August 11, 1902.

A Review of Carcinoma from a Pathologico-anatomical Standpoint.—W. Riechelmann says that the increase in the frequency of carcinoma is to be ascribed to three causes: (1) The increased number of persons who live to the age at which this disease is most frequent; (2) Improved methods of clinical diagnosis; (3) The more abundant employment of anatomical methods of diagnosis. In view of these facts, it is questionable whether the increase in the frequency of this disease, which has recently been so widely proclaimed, is not apparent rather than real. The cachexia in carcinoma is due to three factors: (1) Reduction in the consumption or assimilation of food; (2) Ulceration and sloughing of the tumor; (3) Number and location of metastases.

Agglutination of the Pest Bacillus.—Aladar Anjeszky and Johann Wenhardt, as the result of experimental research, announce the following conclusions: (1) The pest bacillus is agglutinated by normal horse serum, but not in dilutions above 1 to 10. (2) Pest serum in dilutions below 1 to 5 agglutinates not only the pest bacillus but also other bacteria. (3) The blood of normal individuals and those suffering from tuberculosis if in a feverish condition does not agglutinate the pest bacillus. (4) Normal rabbit serum does not agglutinate the pest bacillus, but such an agglutination is quickly produced by the serum of rabbits which have been immunized with pest serum. (5) The urine of normal individuals does not agglutinate the pest bacillus, but the urine of such persons who have been inoculated with pest serum does so agglutinate. (6) The serum of rabbits which have been inoculated with Haffkine's fluid does not agglutinate the pest bacillus. (7) Haffkine's fluid is suitable for agglutination tests, but the reaction is not so pronounced as when living pest bacilli are employed.

Münchener medicinische Wochenschrift, August 12, 1902.

Operative Treatment of "Plastic Induration" of the Corpora Cavernosa Penis.—E. Galewsky and W. Hubener report the first case of "plastic induration" of the corpora cavernosa penis which has been operated upon with permanently good results.. The patient was forty-seven years of age and gave a history of syphilis of twenty-three years' standing. The "induration" had been present for about six months, during which time it had increased in extent so that coitus had become impossible. The "induration" was evidently of traumatic origin. It has been unsuccessfully treated, both locally and internally, by the means of various iodine and mercurial preparations. Upon operation the indurated tissue was removed and the wound closed with catgut sutures. Primary union took place. It is now two and one half years since the operation was performed and no recurrence has taken place. A microscopical examination of the tissue removed showed that it was composed of colloid like fibromatous tissue containing very few connective-tissue cells and sparingly supplied with blood vessels

Disappearance of the Patellar Reflex in Pneumonia.—Hugo Luthye refers to Pfaundler's recent article upon this subject and says that, in his own experience, such reflexes have been absent not only in children, but also in persons of all ages. This absence may be uni- or bilateral. As a rule a total absence of the knee phenomenon is shortly followed by a marked reduction in the vitality of the patient Since an absence of the patellar reflexes is frequently encountered in any of the various infectious diseases, its value in the diagnosis of pneumonia is very doubtful, notwithstanding Pfaundler's opinion.

Etiological Relations between Chorea Minor and the Infectious Diseases, Especially Rheumatism. George Koster reviews the literature and gives the statistics relative to 121 cases of chorea which came under his observation. Of these 121 cases in eighty-six there was a combination with some acute infectious conditions. In seventy instances this combination was with some manifestation of rheumatism. In sixty-three the rheumatic attack preceded the chorea, in three the two diseases appeared simultaneously, and in four the chorea was primary. These figures show conclusively that a close relation exists between these diseases. The exact pathological foundation of this relation is not clear at the present time, notwithstanding the various theories which have been advanced with respect thereto. Many unsuccessful attempts have been made to cultivate from the blood of choreic patients microorganisms which are regarded as causative of rheumatism (streptococci, staphylococci, etc.) Until this shall have been successfully accomplished the direct infectious nature of this relation cannot be regarded as demonstrated.

Production of Hæmolytic Amboceptors by Serum Inoculation.—Paul Theodor Müller reports a new series of experiments along this line. This author has previously shown that a number of normal sera possess anti-hæmolytic properties under certain conditions. Thus normal guinea pig's serum possesses such an anti-hæmolytic property when added to a mixture of guinea-pig and rabbit blood; but this is only shown when such normal guinea pig's serum has been previously heated to 55°–60° C., or, in other words, made inactive. The author believes that this is due to the fact that the non-heated serum contains anti-hæmolytic substances which are united to thermo-labile components, and thus rendered inactive until these components are destroyed by heat. If this reasoning is sound it should be possible to produce by animal inoculation with the inactivated serum anti-bodies which should nullify the action of the same while the inoculation of the active serum should not give rise to such anti-bodies. By a series of inoculations the author shows that in reality this is the case and that the inactivated guinea-pig's serum possessed anti-hæmolytic properties because it contained receptors which are similar to those present in guinea-pig erythrocytes, and upon suitable animal inoculation for the same reason it gives rise to amboceptors which are active against such guinea-pig erythrocytes. The amboceptors therefore, which are produced by the suitable inoculation of inactivated guinea-pig serum, are hæmolytic for the erythrocytes of the guinea-pig, and will prevent the anti-hæmolytic action of the inactivated guinea-pig serum.

French and Italian Journals.

The Resection of Arteries.—Edoardo Salvia carried out a series of experiments on dogs, donkeys, and sheep, resecting their arteries, and removing the portion operated on for purposes of examination from five to thirty-five days later. One fact ascertained was that the lesions vary greatly according to their situation. Another interesting point was that absorption of the silk sutures occurred through the agency of giant cells. The behavior of the leucocytes varied greatly in the different cases. Operations on small animals were less satisfactory than in large ones, because of the difficulty in keeping the canal of the smaller vessels pervious. In the large animals, the operation was perfectly successful, all the tissues—with the exception of the elastic fibers—having shown complete restoration.—*Giornale Internazionale delle Scienze Mediche*, July 31, 1902.

Inguino-Crural Herniæ of the Cæcum, with Incomplete Sac. Léon Bérard and Paul Vignard, in discussing this subject, state that the prognosis of herniæ of the cæcum in general, and more particularly of the herniæ with an incomplete sac, ought always to be guarded, even without consideration of the periods of strangulation. These herniæ are most often observed in adult subjects, more or less obese, or having relaxed abdominal walls, so that a large hernial mass is always liable to pass through the rings. These patients are very apt to be affected with some bronchial trouble. Generally herniæ of the large intestine are difficult to operate upon. There is danger of opening the cæcum, which is mistaken for the sac. Adhesions also add to the difficulties of operation. It is a most interesting and delicate problem to restore the adherent loop without compromising its vitality.—*Gazette des Hôpitaux*, August 2, 1902.

Obstetrical Intoxication of a New-born Child.—Fieux reports the case of a young primipara who at term had a prolonged labor. There was premature discharge of the waters, and Champetier's bag was employed. After sixty-three hours of labor a living infant was extracted by means of forceps. At no time during the labor had the fœtus expelled meconium. The heart beat was not weakened. Eighteen hours after birth the infant cried without ceasing; it was very restless. There developed on the back a large patch of erythema. It had not swallowed anything, and there was no umbilical infection. Hot enemata were given and purgatives were administered, which caused the discharge of fetid fæces. Recovery was rapid. The disorder was evidently an infection of intestinal origin. This had started *in utero* and was favored by the length of the labor.—*Journal de Médecine de Bordeaux*. August 3, 1902.

Myeloid Osteosarcoma of the Inferior Extremity of the Radius.—Jaboulay describes the case of a man, the lower third of whose right radius had been destroyed by a myeloid sarcoma. The arm had been treated by incision and curettage of the neoplastic masses. The hand was unstable after this operation, and in order to give it support, the wound was well tamponed with sterilized gauze. These tampons were left in place for six months. Solid bony growths had sprung up all around the tampons. The writer concludes that in cases of myeloid sarcomata of the ends of the long bones of the extremities, it is not wise to amputate nor even to resect, but simply to incise and to fill up the neoplastic cavity with tampons of sterilized gauze. These will give rise to an irritation which will end in the growth of bone, and this will reunite the ends of the diseased bone.—*Lyon Médical*, August 3, 1902.

Fibroma of the Abdominal Wall.—Caubet reports a case of fibroma of the abdominal wall, which developed in a woman of thirty years during the course of her third pregnancy The tumor was ovoid, and as large as a hen's egg. The anterior surface was very adherent to the small oblique muscle, while its posterior surface lay against the subperitoneal fat without any adhesions. The tumor appeared to develop at the expense of the transversalis muscle and its aponeurosis. Each pole of the tumor had a pedicle. The internal pedicle was slender and about 12 cm. long. It passed in front of the bladder and was inserted on the posterior surface of the pubis. The other pedicle was short and thick and was attached to the iliac crest. The two pedicles were fibrous and not vascular. They appeared to be prolongations of the connective tissue capsule which enveloped the tumor, and not an outgrowth of the tumor itself. The histological structure of the tumor was that of a pure fibroma.—*La Presse Médicale*, August 2, 1902.

Generalized Osteosarcomatosis.—Griewank reports a case of this kind. The patient was forty-eight years old. The family history was negative: the patient had suffered from pleurisy nine years before. The present trouble had begun nine and one-half months before he entered the hospital, when one day, on making a slight effort, he felt a sharp pain in the region of the right tenth rib. In a few days he took up his work again. But some days later he had the same pain on the opposite side in about the same place. Still later, he suffered great pain in his left leg along the course of the sciatic nerve. He had great difficulty in walking. He was treated for sciatica and gradually improved. Then there appeared on his head and lower jaw indolent tumors, which continued to grow. He then suffered pain at the internal extremity of the left clavicle. The tumors on his head gave a parchment-like sensation. Finally, owing to a slight effort made by the patient, the humerus was fractured. This was undoubtedly spontaneous and is easily explained by the state of malnutrition of his osseous system.—*Journal de Médecine de Bordeaux*, August 3, 1902.

A Rare Form of Arterial Lesion.—Antonio Cesaris-Demel describes a case in which the primary lesion occurred in the elastic fibers of the vascular walls of the large and the medium-sized arterial trunks. In the abdominal aorta and in its principal branches there was a secondary lesion consisting of a solution of continuity in all three of the vascular layers, with interstitial and extravascular infiltration of blood. There was no degeneration, whether fatty, amyloid, or hyaline of the vascular walls. A study of the case led the author to exclude from the etiology any mechanical, septic, or toxic influence, or any disturbance of embryonal origin. The primary lesion appeared to be a special form of degeneration due to a disturbance in the trophic centers, as shown by the passivity of the purely destructive process, which was unaccompanied by the slightest sign of inflammatory reaction. It effected the elastic fibers only of the arterial walls, and did not extend to any other elastic tissue in the body. This case sustains the theory advanced by Reklinghausen and others, that aneurysms may be due to primary and isolated rupture of the elastic fibers of the vascular walls, independently of any previously existing inflammatory or degenerative changes.—*Archivio per le Scienze Mediche*, No. 3, 1902.

Melanotic Tumor of the Skin.—Vittorio Valle reports the case of a man of twenty-one years who had a superficial tumor situated on the anterior aspect of the thorax which measured about 10 cm., horizontally, and 6 cm., vertically. It was not smooth, but blackberry like in shape, of a slaty gray and shining color. A second, smaller tumor was situated just above it, and an enlarged gland, the size of a walnut, surrounded by smaller swellings, could be felt in the axilla. The patient refused operation, but a small portion of the growth was excised and examined microscopically. The conclusions reached from the examination were: (1) The confirmation of the fact that a melanotic tumor of rapid development may originate from a pigmented mole, mechanical or chemical irritation (in this case, treatment by silver nitrate) may bring about this result; (2) The neoplastic melanotic cells are probably found by the transformation of cells that were originally indifferent, while the adult cells disintegrate; (3) In this tumor the pigment took its origin in the middle of the cell in the form of granules, and in the adult cells it was found dissolved in the plasmatic fluid. The author is unable to decide whether the case is one of melanotic sarcoma or of epithelioma.—*Annali di Medicina Navale*, June, 1902.

The Rational Treatment of Diabetes.—A. Lorand first discusses what result is to be looked for in the treatment of diabetes. He gives as his opinion that diabetes is a malady which can never be radically cured. The sugar may be caused to disappear from the urine, but after having obtained this result, we have only caused the disappearance of one symptom of the disease. The constitutional vice, the morbid condition ,still persists in other forms. On this basis, every strong emotion, every indiscretion in diet, will resuscitate anew the diabetic syndrome. He speaks of patients from whose urine every trace of sugar had disappeared for a time only to reappear again. The object of treatment then of these patients should be to procure for them as long a period as possible in which they do not eliminate sugar and to keep them in as comfortable physical condition as possible. He considers hydrotheraphy as the most valuable therapeutic measure—the use of mineral waters. Diet, muscular exercise, baths, rest from all work, and certain drugs are also recognized. But the most valuable treatment is the preventive treatment. It is of more value to discover a case of beginning diabetes than it is to diagnose a great number of cases of grave diabetes. For to the first patient you can promise a long life, while for the second you can only prolong for some years a life full of suffering. —*Annales de la Société Royale des Sciences Médicales et Naturelles de Bruxelles*, 1902.

Double Wound of the Heart by a Ball; Suture, Cure.—In the service of Launay was a young man of twenty-six years, who was wounded by a revolver in the region of the heart. Three hours afterward percussion revealed a great abnormality in the entire left half of the thorax. On this side the respiratory sounds were not perceptible, and the heart beat was feeble and muffled. From time to time, clapotage could be heard. A penetrating wound of the left pleura and of the heart was diagnosed. Operation was at once performed, and a large opening made in the left thorax. The pleural cavity was filled with air and blood. This came from a pericardial wound near the apex of the heart. The pericardium was incised and the heart was beating violently, and there was a wound in the anterior surface of the left ventricle, from the orifice of which the blood poured out at every diastole. This was easily sutured with catgut. The orifice of exit of the ball in the posterior surface of the left ventricle near its base was also sutured. The pericardium was then cleansed of clots and a drain was placed in the lower part. The pleura was cleansed and a drain was inserted here. The two drains were attached to the wall and the wound sewed up. At the end of forty-eight hours the drains were withdrawn; the stitches were taken out on the eighth day. In a short time the patient had entirely recovered. This is a most unusual case, the serious wound being followed by recovery.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, August 3, 1902.

Sarcoma of the Kidney.—This case was in the service of Poncet, and was reported by Romme. The patient was a man of twenty-six years with a negative family history, with the exception of an aunt who died some years ago with cancer of the breast. The first illness that the patient had ever suffered from was two years ago, when the lower part of the femur was amputated for an osteosarcoma. He was supposed to be entirely cured, and his health remained good until a year ago He then began to suffer in his left lumbar region. Three months ago a tumor appeared in the left side, which was tender on pressure. A median laparotomy was performed, and the patient was informed later that the tumor was inoperable. He sought other advice and entered the Hôtel-Dieu. He complained of pain in the abdomen and in the loins, especially on the left side. This pain was not very severe. There was a large tumor in the left renal region. It was hard and slightly movable with respiration; but it was easy to obtain renal ballottement. Aside from the pain, there were no functional symptoms in particular. There was no hæmaturia, and the urine was not abnormal. Finally, there developed on the left side a varicocele, which was very marked. The general health began to decline, but there were no signs of generalization. The liver seemed to be normal and the patient did not cough. Sarcoma of the kidney was diagnosed, and the tumor was removed, and the diagnosis was proved to be correct. The case is interesting on account of recurrence taking place in the kidney, and on account of the absence of urinary symptoms.—*Lyon Médicol*, August 3, 1902.

Book Reviews.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY, Fifth Edition. By R. A. WITTHAUS, A.M., M.D New York: Wm. Wood & Co., 1902.

THE present edition of Dr. Witthaus' book presents a number of modifications from the preceding works in the following particulars: The sections devoted to organic and inorganic chemistry have been condensed; that devoted to laboratory technique has been omitted, while a separate section has been added dealing with the important subject of physiological chemistry. Though the book is termed a medical student's manual, there are many chapters in which some of the matter is hardly within the grasp of the average medical student. This is applicable more particularly to the sections on organic and inorganic chemistry, which is dealt with in considerable detail and in contrast to the simplicity of the chapter on physics. This, however, in no wise detracts from the value of the book as a medical student's manual, since the too advanced sections may be omitted, and it raises it to the level of a sufficient textbook for the student of chemistry.

In this edition the author has supplied for the practitioner a ready reference to concise information concerning the alkaloids, albumins, ptomains, etc, together with the details of numerous laboratory methods for the detection of normal and abnormal ingredients of the body fluids in an exhaustive and lucid manner, and has quite kept the subject up to the spirit of modern medical thought.

Books Received.

While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.

APPLIED SURGICAL ANATOMY. By GEORGE WOOLSEY, M.D., 8vo. 521 pages. Illustrated. Philadelphia: Lea Brothers & Co. Price, cloth, $5. net; leather, $6 net.

THE DISEASES OF THE NOSE, THROAT, AND EAR. By CHARLES PREVOST GRAYSON, M.D., 8vo. 540 pages Illustrated. Lea Brothers & Co. Price, cloth, $3.50 net.

The Digestion of Bacteria. Turro, by exposing cultures of anthrax bacilli to various animal products, arrives at certain conclusions as to the digestive power of the latter on microorganisms. The organs were taken from the ox or hog on the day of slaughter, were finely minced, and the juice was expressed. It was found that the juice so obtained from the thyroid, kidney, and muscle completely digested at least 10 per cent. of its weight of a one-day culture of anthrax bacilli in from one to three days, a temperature of from 35 to 38° C being maintained. By the addition of 2 per cent. of sodium fluoride the digestive process was not impeded, but the absence of contamination by other bacteria was assured. A mixture of the white and yolk of egg possessed digestive powers that increased with time. The first indication of the chemical change in the anthrax bacillus was its loss of affinity for the basic dye of Gram's method, while the less advanced was the digestive process the more deeply it stained with eosin. The end product of the bacteriolysis was a slimy material of gray color. From a chemical standpoint bacteriolysis seems to be a hydrolytic process, the enzymes in question attacking the organism either by erosion from without or by imbiition according to their degree of solubility and diffusibility. Freshly-cultivated organisms were found by Turro to be less resistant to the zymotic action than those that had stood for a certain length of time or had been treated with mineral acids or by heating.—*Centralblatt fur Bakteriologie.*

Hemorrhage into the Spinal Cord During Pregnancy.—Alexander Bruce gives the following resumé of the principal symptoms in the case. Onset at fifth month of pregnancy, during an act of vomiting, of sudden pain in the back and trunk, with paralysis of the lower limbs and trunk muscles, paralytic retention of urine, constipation and great dypnœa; sensation absolutely lost below xiphosternum; paralysis flaccid during rest of life; loss of left, persistence of right knee-jerk; extensor response to tickling sole; disappearance of deep reflexes after six days, and slight reappearance of them ten days later; slight temporary weakness of both hands; rapid formation of bed sores; painless and unconscious birth of twins at seventh month; death from bronchitis and exhaustion At autopsy hemorrhages into the spinal cord were found, due to small tumors already existing in the cord, but giving rise to no symptoms. The occurrence of parturition in cases of anæsthesia and paraplegia are extremely rare. Amand Routh has collected six, and concludes that if the lesion is in the lumbar region the uterus may begin the labor automatically, but cannot complete it; if above the lumbar region, the act can be completed, showing that the reflex mechanism in the lumbo-sacral region is sufficient of itself without any voluntary assistance. The case reported supports the latter conclusion, and also shows that the sensory path from the uterus enters the cord in the lumbo-sacral (or possibly lower dorsal) region.—*The Scottish Medical and Surgical Journal.*

The Use and Abuse of Tobacco.—Robert E. Coughlin concludes from his researches that in convalescents we should prohibit the use of tobacco until strength is fully restored. In all functional heart cases, in impotence and sexual decline, look into the patient's tobacco history. In some persons tobacco has no bad effects, even when consumed in large amounts. When it gives an agreeable feeling of comfort it does no harm, but possibly good. It should not be used by the growing youth nor by women, on account of their susceptible nervous symptoms. In their order of harmfulness the different ways of using tobacco may be set down as follows: snuff-taking, chewing, cigar smoking, pipe smoking, and cigarettes. The trouble with cigarettes is that smokers are apt to inhale, and are constantly lighting a fresh cigarette, sometimes using as many as fifty in one day.—*New England Medical Monthly.*

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Seventieth Annual Meeting, Held at Manchester July 29, 30, 31, and August 1, 1902.

(Special Report to the MEDICAL RECORD.)

(Continued from page 353.)

SECTION OF SURGERY

MR. JAMES HARDIE, PRESIDENT, IN THE CHAIR.

Wednesday, July 30—First Day.

A Discussion on Inoperable Cancer.—Mr. HENRY MORRIS of London opened this discussion. Cancer was defined as malignant disease in the widest sense, and the term inoperable as applicable to all cases beyond the reach of the knife. The local origin of cancer was now universally accepted. So long as we were ignorant of the true cause of cancer so long would all methods of treating inoperable cancer be essentially empirical and the reported cures be incapable of explanation.

The various methods of treating inoperable cancer were considered seriatum

Serumtherapy by means of Coley's fluid, at present only curative in a limited proportion of cases of spindle-celled sarcoma, had probably a more extended range in the future when other toxins or blends of toxins might be discovered applicable to various types of malignant disease.

The injection of cancroin, of cholesterin, and of various forms of soap, and the process of freezing had not been found satisfactory. Dr. Beatson's treatment—double oöphorectomy and the administration of thyroid extract—was based on scientific induction. It was, however, not only restricted in its field of application, but uncertain in its results, so that it was doubtful if it would take a permanent place in the treatment of cancer. Mr. Morris did not approve of its being employed in early cases as an adjunct to operation since the influence of oöphorectomy was neither stable nor permanent, and it was better, therefore, kept in reserve in case of recurrence.

The physical methods of treating cancer by means of light, Röntgen rays, and high frequency currents were purely empirical, and were evolved from the good results obtained in the treatment of lapses. The comparative merits of the Finsen light and of the Röntgen rays were considered in relation to Rodent cancer. The reported cures of cancer of the jaw, breast and uterus by means of high frequency currents, were too recent to afford a basis for judgment as to the merits of this method of treatment.

In conclusion, it was contended that the boundary between cases of operable and inoperable cancer needs to be adjusted from time to time, that it was open to question whether certain operations now performed for cancer should not be given up or restricted, and finally that further investigations into the nature and causes of cancer were required in order that the treatment of the disease might be placed on a scientific basis.

Dr. BEATSON of Glasgow referred to the capriciousness of cancer and to the undoubted occurrence of spontaneous cure of the disease. While a firm believer that the best treatment of cancer was removal by means of the knife wherever possible, the results already obtained in combating inoperable forms of the disease were decidedly encouraging for the future. He had found phenacetin the best drug for the relief of pain, and he was a strong believer in the administration of small doses of thyroid whenever this agent could be borne. Concerning oöphorectomy, the best results had been obtained in patients over forty years of age, and the menopause was no contraindication to its employment. Its influence was quite uncertain and in the presence of visceral metastares it was of no value. He did not believe in the parasitic origin of cancer.

Mr. THOMAS BRYANT of London recorded his experience of the treatment of inoperable cancer by means of Röntgen rays and reported a number of cases in which remarkable improvement had taken place. The cases included examples of cancer of the rectum, uterus, and upper jaw. Great skill and care were required in carrying out the treatment.

Professor WILD of Manchester discussed the subject of inoperable cancer from the standpoint of the physician. He had seen nothing but harm result from the administration of thyroid, and he had seen no benefit from arsenic, even when given in enormous doses. Opium was the best drug for the relief of pain, and hyoscine was a valuable substitute to break or prevent the morphin habit.

Mr. BROOK of Swansea showed photographs of cases of mammary carcinoma in which remarkable improvement had followed the use of Röntgen rays. He also referred to cases of epithelioma of the lip of the rectum in which they were of no value.

Mr. PAUL BUSH of Bristol had never seen any permanent benefit from the use of the Röntgen rays.

The discussion was continued by Mr. F. B. Jessett, Dr. Bogot Ferguson, Dr. Drage, Dr. Herbert Snow, Dr. Manders and Dr. McFeely. The discussion occupied three hours, the entire time at the disposal of the section for the day.

Thursday, July 31.—Second Day.

MR. SOUTHAM, VICE-PRESIDENT IN THE CHAIR.

Treatment of Tuberculous Disease of the Testis, Vesiculæ Seminales, Prostate, and Bladder.—Sir THOMAS MYLES opened this discussion. The pathological relationships of tuberculous disease in these various organs were briefly reviewed. From the point of view of treatment, cases of *testicular tuberculosis*, the speaker said, might be classified into the following groups:

1. Cases in which there were one or two small nodules in the epididymis in individuals otherwise in perfect health. In these, partial operations were recommended, the disease being removed without regard to anatomical structure. In the event of failure to cure, the whole organ should be removed.

2. Cases in which isolated nodules were present along with disease in the seminal vesicles and prostate. Such cases while quite amenable to operation were rarely benefited to an extent which would make such operations justifiable.

3. Cases of extensive testiculous disease with sinuses, but without infection of the prostate or vesicles, were best treated by complete excision of the organ.

4. Similar cases, complicated by disease in the prostate and vesicles, should be left to nature, or the testis might be removed in the expectation that thereby the general health might benefit.

5. Cases in which both testicles were involved made the most severe call on the judgment of the surgeon. Each case was to be decided on its own merits, but the fact remained that in spite of its social and mental disadvantages, double castration, was sometimes indicated, in order to save a life which was valuable to others as well as to the owner.

6. Cases in which there existed tuberculous disease in the lung or elsewhere in the body were exempted from local operative interference. Regarding tuberculosis of the bladder, the speaker was opposed to surgical interventions except in so far as it might be required for the alleviation of symptoms. Primary tuberculous disease of the seminal vesicle was practically never met with. When associated with disease in other parts of the tract, the removal of the vesicles, although quite practicable, was very rarely indicated.

Professor SENN of Chicago adopted a conservative attitude toward the question of operation in genitourinary tuberculosis. The surgeon was apt to forget the curability of these lesions by means of general treatment. He was a strong believer in the use of iodoform.

Dr. FERD. C. VALENTINE of New York maintained that there was an association between gonorrhœal and tuberculous lesions of the genitourinary apparatus, but this view was not accepted by the other speakers.

Mr. Jordan Lloyd of Birmingham laid stress on the necessity of distinguishing between genital and urinary types of tuberculosis, and declared himself in favor of radical operative treatment, although he admitted the possibility of spontaneous cure.

Mr. Southam of Manchester had observed very satisfactory results from double castration even in cases in which the prostate and vesicles were also implicated.

Mr. Rutherford Morrison of Newcastle approved of removal of the testicle because it afforded rest to the diseased vesicle. He had never seen any good from iodoform in tuberculous lesions.

Two Cases of Chronic Pancreatitis Treated by Laparotomy.—Mr. Edmund Owen reported these cases. The chief point raised was whether the benefit from operation depends on opening and draining the gall-bladder when this is found to be distended.

Mr. Griffiths of Swansea had had a successful case in which he had drained the gall-bladder.

Sir Thomas Myles also had had a successful case in which he had opened and then closed the gall-bladder.

Mr. Balziel of Glasgow had had two successful cases; in one he had not drained the gall-bladder, while in the other he had removed a stone from the pancreatic duct,

Mr. Rushton Parker presented statistics of 300 operations for tuberculous glands performed during the last thirty years.

The Value of the Imperfectly-Descended Testicle.—Mr. McAdam Eccles read a paper of great interest on this subject. Most stress was laid on the advisability, when operating for the conditions and finding it impossible to bring the testicle down into the scrotum, of returning it into the abdomen, for although it would never form spermatozoa it would probably supply the so-called internal secretion.

Gallstone Operations.—Mr. Rutherford Morrison described the results of operation in forty-three cases of gallstones. He recommended the employment of an incision commencing in front at the junction of the upper and middle thirds of a line drawn from the ensiform to the umbilicus and extending to a point below the apex of the twelfth rib.

Friday, August 1.—Third Day.

Extirpation of the Prostate for Senile Enlargement.—In opening this discussion, Mr. Freyer described and eulogized his own method by the suprapubic route, and recorded the details of seven cases in addition to those already published, making in all twenty-one cases. One patient of the latest series had died on the ninth day. All the prostates removed were exhibited, and made an imposing show on the platform table. Regarding the debated question of the prostatic capsule, his idea was that the organ was composed of two separate prostates or lobes, each having its own distinct capsule intimately blended with the prostatic tissue, while outside there was a common fibrous sheath derived from the vesical fascia. The enucleation was effected between the capsule and the fibrous sheath.

Dr. Alexander of New York, with the aid of a series of enlarged photographs hung on the screen, gave a demonstration on certain points in the surgical anatomy of the enlarged prostate. He maintained that the enlargement which caused obstruction of the urethra chiefly proceeded from the lateral lobes, and that the best method of attacking it was by the perineal route. Having performed a median perineal section and opened the membranous urethra, the prostatic urethra is dilated with the finger. The mucous membrane over one or other lateral lobe is torn through with the finger nail which enters the line of cleavage between the capsule and the sheath and enucleates each lobe in succession from behind forward. There was the least possible damage to the urethra and surrounding structures, and the wound approaches the surgical ideal. There was no incontinence unless the sphincter at the neck of the bladder was destroyed.

Dr. Parker Syms of New York advocated the perineal route and recorded a series of twenty-one cases of extirpation without a death. He demonstrated an inflatable rubber retractor, which, when introduced into the bladder through the perineal wound and inflated, enabled me to pull down the prostate, making it more accessible and reducing the hemorrhage to a minimum.

Mr. Reginald Harrison exhibited his own specimens removed by operations and declared himself to be in favor of the perineal route. The damage to the deep urethra was an important objection to the suprapubic operations.

Sir William Macewen referred to the work of McGill of Leeds, recalling the pioneer work which that surgeon had done in developing the operation of suprapubic prostatectomy. Personally, he was inclined to favor the perineal route as being easier and comparatively bloodless, as entailing less risk of damage to the urethra, and as affording efficient drainage in septic cases.

Mr. Freyer, in reply, maintained that his own operation was the best, and complained that his work had not received that recognition which it deserved.

The discussion was followed with great interest by a very large audience, the impression gained was one of impartiality toward the two methods of extirpation.

Non-malignant Affections of the Stomach Treated by Gastroenterostomy.—Mr. Balziell of Glasgow reported a series of thirty cases of this nature. The posterior operation was performed in all but four cases, the anterior being performed in one case by selection and in the others of necessity, because of extensive adhesions preventing access to the posterior surface of the organ. Only one patient succumbed after the operation.

Transverse Incision of the Peritoneum in Median Laparotomies.—W. Poten describes a method of opening the peritoneal cavity, which he has found very advantageous in such an operation as hysterectomy for carcinoma when extensive dissection is necessary. The usual median incision is carried down to the peritoneum, and the edges of the wound are well retracted. The peritoneum is then stripped from the abdominal wall at the lower portion of the incision well out to either side, which is readily done, owing to the large amount of loose areolar tissue present in this situation. The entire anterior parietal peritoneum of the lower pelvis is thus exposed, and is now incised transversely just above its line of reflection from the bladder. An apron-like flap of peritoneum results, which when the intestines have been allowed to slip up out of the way in the elevated-pelvis position, is carried back to the posterior abdominal wall, and is sutured to the rear of the pelvis and across the rectum just below the sacral promontory. The intestines are now completely excluded from the field, and, if desired, the table may be let down and the rest of the operation be done extraperitoneally. After the necessary excision of the uterus and parametria has been performed the pelvic cavity is closed in by uniting the cut edges of the vesical and rectal peritoneum, while above this a space is left bounded below by this line of suture and above by the connective tissue side of the parietal peritoneum. The advantages of the method are that the peritoneal cavity remains shut off during the operation, thus diminishing the chances of infection, the intestines are not exposed to the air and the consequent cooling, nor to the mechanical insults of the use of abdominal pads, so that the risks of shock are greatly diminished, and there is less chance of the development of postoperative ileus, and finally, after the greater cavity has been shut off, the inconvenient elevated-pelvis position may, to a large extent, be dispensed with.—*Centralblatt fur Gynakologie*

Clinical Department.

A CASE OF PERITONITIS OF UNKNOWN ORIGIN.

By JOHN G. SHELDON, M. D,
TELLURIDE, COLO.

A WELL-DEVELOPED laborer, thirty-five years of age, was suddenly seized with a sharp pain in the abdomen. This happened about 4 P.M. while he was digging an irrigating ditch. The pain was of a colicky nature for five or six hours; then it became continuous and was located in the lower part of the abdomen. During the second night of his illness, the patient felt easier and slept some. On the third day his pain was worse and continued to increase in severity till I saw him—four days after the onset of his trouble. The patient had chilly feelings during the first few hours of his sickness, but he had had no definite chill. He vomited once —twelve hours after the onset of the pain—and had hiccoughs throughout the fourth day of his illness. His bowels were constipated but moved, on the third day, in response to a large dose of castor oil. Urination was normal. The patient stated that his entire abdomen was painful and tender and although his trouble at times seemed unilateral he believed that the right side had been more uncomfortable than the left.

Two years previously he was confined to his bed for ten days, suffering from pain and tenderness in the right side of the abdomen, accompanied by fever and some vomiting. Four years ago the patient had a similar—though less severe—illness. Other than these two attacks of sickness, he had always been well excepting a slight attack of rheumatism—ten years ago—and an occasional bad cold.

Examination, four days after the onset of the illness, was as follows: Cheeks and eyes sunken. Tongue diffusely and heavily coated. Pupils equal and react normally; no icterus. Temperature, 101° F; respiration, 22; not labored or jerky; expansion and excursion equal and normal. No friction fremitus felt. Voice fremitus normal. Auscultation showed the presence of coarse râles over the right lower lobe posteriorly, but otherwise the lungs seemed normal. The heart was not enlarged or displaced. No thrills or murmurs could be detected. The pulse was beating 120 per minute—small and hard but regular. The second sounds of the heart were not accentuated. The abdomen was slightly distended; was diffusely rigid and tender. No peristalsis could be felt or heard. The appendix region did not seem more tender than did the corresponding region on the left side. The right rectus muscle was not more tense than was the left. No movable dulness was found. The liver and spleen seemed normal, as did the genitals, extremities, lymphatics, and nervous system. Rectal examination was negative. The rectum was ballooned but the prostate seemed normal and no mass could be detected in the abdomen. Neither could the presence of ascites be determined even when the patient was in the sitting posture.

A diagnosis of peritonitis was made and—as I had never seen a case of primary peritonitis—I looked for the cause of the peritoneal involvement. Gall-bladder disease, gastro-intestinal ulceration, and disease of the genito-urinary system seemed improbable. The history of the two attacks of sickness led me to suspect the appendix as the starting point of the peritonitis in this case. Against appendicitis stood the fact that the appendix region had not been more painful or more tender than any other part of the abdomen. However I advised a laparotomy and expected to find the appendix the cause of the peritonitis.

On opening the abdomen, the small intestines and to a less extent the ascending colon and the parietal peritoneum were seen to be reddened, injected, œdematous and covered with a fibrinous exudate. A slight amount of sero-sanguinous fluid but no pus was present in the peritoneal cavity. The position of the appendix was less involved than that of the small intestines. The distal end of the appendix was curled upon itself and showed scar tissue and evidences of a previous but not a present inflammation. The ileum showed no evidences of involvement of Peyr's patches, that is. I could find no thickening or induration in the region corresponding to their location. The bladder was not enlarged, and no solid particles could be felt in it. No localized thickening or induration could be felt in the stomach walls. No areas of fat necrosis were seen; and no tumor was found in the region of the pancreas.

On two occasions during the operation some of the small intestines escaped from the wound. They immediately became distended and were replaced with difficulty. I removed the appendix, not knowing what else to do, filled the abdominal cavity with saline solution, and left a gauze and a rubber drain in the wound.

An enema consisting of castor oil and magnesium sulphate, each one ounce, with some glycerin and water, was given shortly after the operation. Two bowel movements were obtained about eight hours later. The patient gradually grew weaker. His pulse became more rapid and his temperature became higher. Twenty-four hours later he developed a cough and expectorated blood. The attending physician informed me that there were many râles over the lungs but that he was unable to find any consolidation.

The man died forty-eight hours after the operation. I was not present at the autopsy. The physician who made the examination informed me that he found the entire peritoneum involved in the inflammation and that some thin bloody pus was present in the peritoneal cavity. The lower lobe of the right lung showed many small areas of consolidation. The intestinal walls showed no ulceration, no gastric ulcer was found, and the pancreas and kidneys appeared normal to him. The remainder of the examination revealed nothing abnormal. This case occurred under conditions that rendered it impossible for me to study it in a satisfactory manner from a clinical, pathological, or bacteriological standpoint. The few facts, that we know concerning it suggest that it might have been one of idiopathic peritonitis.

There is considerable doubt, in the minds of some men, whether such a condition as primary peritonitis occurs. Terminal peritonitis, occurring in patients suffering from chronic diseases, is not uncommon; but primary virulent infection of the peritoneum of a healthy individual is certainly rare—if it ever occurs.

Martin reports a case of peritonitis that occurred in a man who yearly, for ten years, had had some manifestations of rheumatism. The man died of peritonitis after being ill two days and no obvious cause could be found to explain this rapidly fatal infection of the peritoneum. This case is generally spoken of as one of rheumatic peritonitis. Fifteen recorded cases of rheumatic peritonitis have been collected by Spillman and Vanzinotty. Some of these cases were rheumatic; nine of the patients died. None of them will stand critical examination. It is possible that the case herewith reported was one of rheumatic peritonitis. Salicylate treatment was not used.

Influenza is occasionally mentioned as a cause of peritonitis. Ameiss (*American Journal Obstetrics*, April 4, 1899) believes that influenza may be followed by peritoneal involvement. There is no reason for believing that influenza played any part in causing the death of the patient whose case I have described. It is true that he complained of respiratory symptoms, but these did not correspond to the symptoms of influenza and no cases of influenza had occurred in the locality where the patient lived.

I do not believe that the lung involvement, in the case herewith reported, was the cause of the peritonitis. The abdominal symptoms were well developed before the respiratory symptoms appeared and there was no evidence, at operation or post mortem examination, to show that infection had extended to the peritoneum from the lungs.

There are cases of acute peritonitis reported, where the pathological changes in the peritoneum have been due to bacterial invasion and where no infection atrium could be determined. S. West (Clinical Society Transactions xlx 1896, p. 36); and Watson Cheyne and Southam (*Medical Chronicle*, July, 1892, p. 217) have recorded examples. In cases of this character, it is probable that the microorganisms causing the peritonitis came from the intestinal tract. H. P. Hawkins (St. Thomas' Hospital Reports, 1892) has found microscopical abscesses in the walls of appendices that appeared normal to the naked eye. He believes that the appendix is responsible for some of the cases of so-called idiopathic peritonitis. If this had been the condition, in the case herewith reported, the peritoneum in the region of the appendix should have been more involved than that in more distant parts of the abdominal cavity. This was not the case.

The most plausible theory to explain so-called idiopathic cases of peritonitis is that the microorganisms pass through the intestinal wall, without producing any observable lesion, and attack the peritoneum.

Werden (*Archives des Sciences Biologiques*, St, Petersburg, Bd. 11, 5, 1894) claims that infection of the bladder may take place from the intestines, and succeeded in producing cystitis, in animals, by occluding the rectum and the urethra. Reymond (*Annales des Maladies des Organes Genitourinaires*, April, 1893) has shown that, in dogs, the uro-bacillus liquifaciens of Krogius is not only capable of penetrating the bladder wall but can, also, pass through the intact peritoneum without producing any microscopical lesion.

Infection of the peritoneum from the intestinal tract, seems to be the most reasonable explanation for the occurrence of the peritonitis in the case herewith reported.

A CASE OF MATERNAL IMPRESSIONS.

By HUGH B. CAFFEY, M.D.

Mrs. B., aged twenty-two years, married eleven months, became pregnant about January 1, 1901, and miscarried on July 6 of the same year. On March 6, 1901, her husband. who was a coal miner, was brought home to her with his back broken by falling slate while at work. Upon his arrival at the house, Mrs. B., in her excitement, threw her arms around him and when they were removed, the right one was stained with blood, the sight of which caused her to faint. The husband was completely paralyzed below the waist, and bedsores soon developed on the back, the buttocks, calves of the legs, and heels. Mrs. B. was constantly with her husband and had full care of him, dressing his bedsores, etc.

As previously stated, she miscarried on July 6 (four months after the injury to Mr B.) The child was a male, weighed about five or six pounds, and lived at least twenty minutes. There was a distinct ridge on the back just about where the father's back was broken and had partially united; there were almost perfect bed-sores, corresponding to those of the father; its right arm was splotched with blood spots the same as the mother's had been; and one of the father's feet had a peculiar tendency to turn out, which was also very noticeable in that of the child after it was laid out.

The points of special interest in this case are (1) the number of marks and their perfectness as to location and extent, and (2) the time at which the impressions must have been made, about the second month of pregnancy.

CHLOROSIS IN A CHILD NINE YEARS OLD, COMPLICATED WITH ESTIVO-AUTUMNAL MALARIA.

By E. M. SILL, M.D.,
NEW YORK CITY.

ASSISTANT ATTENDING PHYSICIAN TO BELLEVUE AND THE NORTH-WESTERN DISPENSARIES, CHILDREN'S DEPARTMENT.

B. A., nine years of age, was brought to me complaining of pain in the abdomen, loss of appetite, and constipation, and for the past two months she had had irregular chills and fever, with drowsiness and headache.

On physical examination I found marked pallor of the skin and mucous membranes, tongue somewhat coated, facial expression dull, and spleen slightly enlarged and quite tender.

A microscopical examination of the blood was made, and the malarial parasite of the estivo-autumnal variety was found. There was punctate hæmophilic degeneration of some of the red blood corpuscles, with "brassy" corpuscles, marked poikilocytosis, nucleated red blood cells, etc., with 39 per cent. hæmoglobin and the red blood cells numbering 5,030,000, showing it to be a decided case of chlorosis.

Holt of New York and Rotch of Boston say chlorosis occurs in young girls about the age of puberty, but Taylor, in "Keating's Encyclopedia of Children's Diseases," tells us it can occur under the age of twelve years.

This seems to me to be a primary chlorosis, and not secondary to the malaria, as, if it had been due to the malaria there would have been a destruction of the red cells and consequent diminution of their number, although Marchiafava and Bignami admit that mild paroxysms of malaria, when properly treated, may fail to reduce the number of red cells, "yet such cases must be exceedingly rare.'

Craig, in his work on estivo-autumnal malaria tells us there is a progressive loss of hæmoglobin in the tertian form.

Possibly this might have been one of the rare cases of secondary anæmia, but certainly the combination of symptoms and the age of the child make the case of interest.

The child had had no previous treatment, but was then put on iron, quinine and arsenic, and is now improving rapidly.

350 W. Forty-sixth Street

New Instruments.

SUPERHEATED COMPRESSED AIR IN THE THERAPEUTICS OF CHRONIC CATARRHAL OTITIS MEDIA.

By GEORGE W. HOPKINS, M.D.,
CLEVELAND, O.

Superheated air as an agency in the treatment of chronic catarrhal otitis media in some of its most obstinate forms has long since passed the experimental stage. The claims made for it by the author in a recent issue of this journal (June 1, 1901) were based upon four years of experimenting with this treatment upon a number of typical cases. That superheated air will yield a varying, and, at times, remarkable degree of improvement, when skilfully employed in suitable cases, in conjunction with such other measures as may be indicated, there can be no doubt.

The chief obstacle to its successful employment has always been the fact that it was difficult to introduce superheated air into a cavity like the ear, which would not permit the free passage of a current of hot air to its "blind end"—the membrana tympani—where the heat was most needed. Before the desired temperature could be secured at the tympanum the heat would become unbearable on the auricle. Most of the heat was, of necessity, wasted, and any hot air which reached the tympanum merely reached it accidentally, so to speak.

The natural obstacle in this direction was increased in magnitude by the necessity for packing the canal with gauze to prevent burning. Nor could these obstacles be overcome by employing a different heater of the prevailing type. All of the heaters now manufactured, to the knowledge of the author, are of the "natural-draft" type, in which most of the heat must, of necessity, be wasted in order to secure perfect combustion, and if any attempt be made to drive the heat through any resistance, such as a closed cavity, like the ear affords, the heat will immediately travel in a volume through paths of less resistance—the draft holes. Consequently we are powerless to direct the heat where we would, at will.

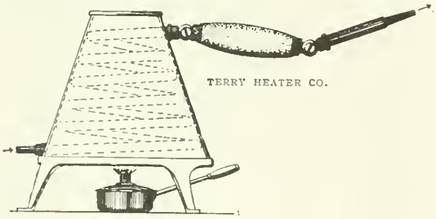

Fig. 1.

This obstacle may be overcome, in a small way, by perforating the "sleeve," or conductor, freely near its distal end, but, at best, even this constitutes a very crude form of treatment.

Nevertheless, despite these readily apparent disadvantages, the old heating appliances and old methods have yielded such splendid results as were never attainable by other agencies.

A far better way has been found, however, and it is made available by a heater recently constructed for the author, along entirely different lines. This heater has been made for me in three types, as illustrated, deriving their heat, respectively, from alcohol, gas, and electricity, the choice of instruments depending upon convenience.

The heater, in its various types, derives its superiority from the fact that it heats compressed air and delivers it to the patient, under pressure, at the desired point only, and the air cannot escape at any other point.

The alcohol heater (Fig. 1) consists of a metal cone, around the inside of which is wound a tapering coil of copper tubing. Beneath it is an alcohol lamp, which heats the coil to a high temperature in a few minutes.

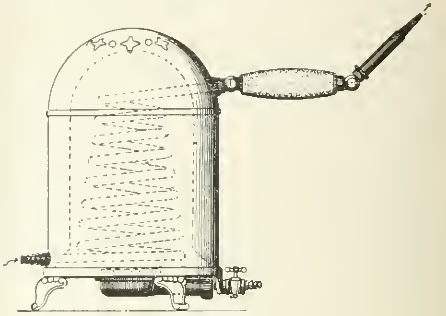

Fig. 2.

Compressed air from a tank, pump, or bulb enters the heating coil at the bottom, through rubber tubing, and leaves it at the top through a metallic tube having an ear-tip of vulcanized fiber, shaped similarly to an ear speculum.

The delivering tube has two rotating joints, which make it readily adaptable to any position of the patient, and the vulcanized fiber ear-tip does not become inconveniently hot, even when the hottest air is passing through it. This heater is far superior to those of the old type, but has a much smaller capacity than either the gas or the electric heater of the new type.

The gas heater (Fig. 2) consists of a blue-flame heater, over which is set a similar, but larger coil of copper tubing. The compressed air enters and leaves the coil in the same manner. It has a large capacity, is economical in cost of operation, and gives splendid results.

The electric heater (Fig. 3) is the ideal appliance of this ideal type. It takes the current from the 110-volt lighting circuit through an ordinary lighting socket and plug, and can be used on either the direct or the alternating circuit. It consists of an air-tight cylinder, holding within it the electric heating

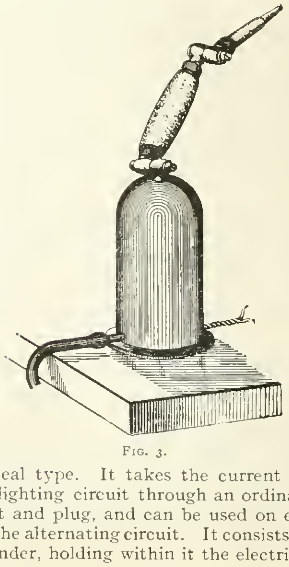

Fig. 3.

wire coil (Fig. 4). A nickel-plated hood surrounds it and the intervening space is packed with asbestos. The wires enter the cylinder at the bottom through a bushing, and, as the cylinder is perfectly air-tight, it serves the purpose of a coil of copper tubing, and makes the latter unnecessary.

Compressed air enters the cylinder at the bottom and leaves it at the top in a manner similar to their other heaters of this type. Air passing through this appliance acquires its maximum temperature in eight minutes—a rate of elevation which is just about right—and the heater is an ideal one in every respect.

With either the gas or electric apparatus an enormous volume and degree of heat can be secured at will. The results secured by employing a heater of this type are incomparably better than the good results secured from heaters of the old and crude type. Heaters of the new type have a direct, definite, and positive action. They embody safety and convenience in every detail and yield certain results, because the compressed air which they heat must escape, with more or less force, at the exact spot desired and cannot escape at any other point.

So great is this advantage that compressed air heaters will, perhaps, ultimately entirely replace the old "natural-draft" heaters.

Several seemingly peculiar facts must be borne in mind in employing compressed-air heaters: (1) When the appliance becomes hot and air exit is through a small opening, as in an ear tip, the temperature of the air is proportional to the rate of flow or degree of air pressure. Strange as it may seem, the air temperature may be increased one hundred degrees by increasing the air pressure five pounds, or, conversely, the temperature may be decreased by lowering the pressure. This fact enables us to regulate the temperature at will by merely increasing or decreasing the volume of air entering the heater; (2) The air temperature drops very rapidly after the air leaves the exit-nozzle, and in order to secure the maximum heat the part under treatment must be as near the nozzle as possible and still allow room for escape of the used air, if a blind cavity like the ear is under treatment.

As to the results which may reasonably be expected from the judicious and skilful employment of this agency with good appliances in cases of chronic catarrhal otitis media, it may be said:

1. That as an exclusive treatment it is rarely of much value in bad cases.

2. That when indicated and judiciously employed, in conjunction with other measures of recognized value, it will give results which would be utterly impossible without its aid.

3. That when employed with care it is absolutely safe unless contraindicated.

4. That it is of little value in old subjects who have extensive labyrinthine involvement.

5. That it stimulates absorption of articular deposits, removes atrophy, and relieves rigidity of the tensor tympani.

6. That it acts more favorably on the ossicular chain than on many other articulations, because of their exceptional proximity to the surface.

7. That arteriosclerosis, serous effusions into the tympanum, and perforations of the tympanum are usually contraindications, and always contrai. indications to the inexperienced operator.

Technique.—The ear selected for treatment is carefully examined and found to be perfectly clean and dry. A light pad of gauze (two thicknesses) is placed over the ear, and with an ear speculum the gauze is pressed deeply into the canal. The ear-tip of the heater is then carried well into the canal, leaving only room enough between the tip and the tympanum for the escape of the used air.

The electricity is then turned on, or the gas ignited (as the case may be), and the compressed air is admitted to the cylinder under about five pounds' pressure. It is well to give a ten or fifteen-minute séance, increasing the temperature gradually until the limit of toleration is reached. The temperature steadily increases without further adjustment until the heater reaches its generating limit at that air pressure, and if the patient tolerates the temperature well, it may be further increased by raising the air pressure to seven, eight, or even ten, pounds in most cases. One cannot be guided by thermometers in giving these treatments, and hence they are not employed on the new heater described. The only guide which can safely be followed is the individual toleration of the patient. But it is well to remember that the more slowly the temperature is raised, the higher temperature the patient can endure without discomfort.

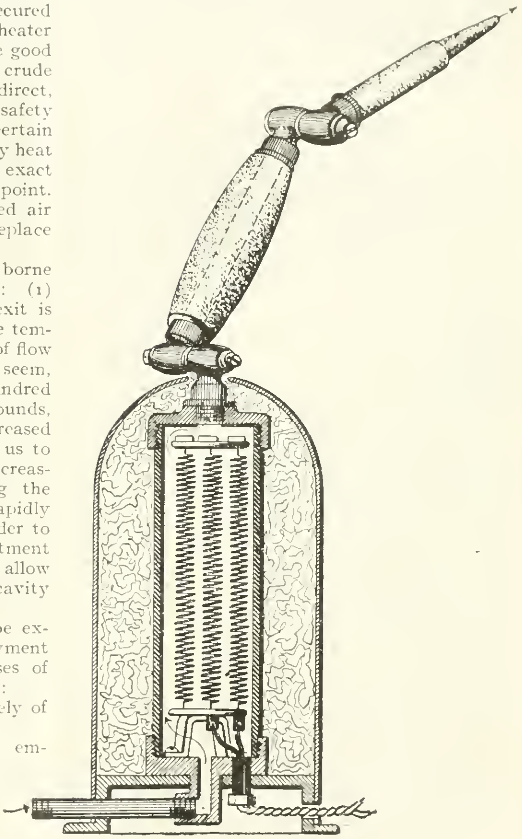
Fig. 4.

Treatments are best given three times a week for from three to twelve months.

Every case must be treated as a whole. He who neglects the appropriate treatment of the nasopharnyx is doomed to disappointment.

Antiseptic washes must be used. All abnormal conditions must be rationally treated. Constitutional measures, when indicated, must not be neglected. Inflation of the Eustachian tube with a warm stimulating vapor from some good apparatus is usually imperative.

It is well to practise Eustachian inflation and vibratory massage of the middle ear with medicated vapor from the vaporizer after each hot-air treatment, being particular that the vapor is warm. A warm vapor is easily secured by connecting the compressed air heater in series with the vaporizer, sending the compressed air first through the heater and then through the nebulizer.

Attention to all detail brings most gratifying success.

A gradual and continuous improvement in hearing and relief of tinnitus may be expected under these circumstances.

A single detail neglected may cause absolute failure.

1016 New England Building.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 30, 1902:

	Cases.	Deaths.
Measles	59	2
Diphtheria and croup	186	23
Scarlet fever	83	6
Smallpox	6	1
Varicella	7	..
Tuberculosis	227	153
Typhoid fever	204	24
Cerebro-spinal meningitis	..	2

The Milk Commission of the Medical Society of the County of New York.—The following detailed account of the work of the Milk Commission is published in the *Archives of Pediatrics*: The commission, which has now been in existence for some two years, was given the possibility of success by the coöperation of the Rockefeller Research Fund, which aided this work at an expense of fifteen hundred dollars. It was originally designed to attempt to improve the quality of some of the better supplies of milk in New York. It has gradually broadened its scope, so that now it is controlling a considerable amount of bottled milk sold in New York, and is, moreover, supported entirely by the dairymen who benefit by its labors. The commission, consisting originally of four members, was enlarged in December, 1901, by the addition of six other members, the active work of the commission being deputed to an executive committee of five. The members of the commission are Drs. Walter L. Carr, Henry D. Chapin, Abraham Jacobi, Alexander Lambert, Wm. P. Northrup, Wm. H. Park, Geo. M. Swift, Joseph E. Winters, Edward K. Dunham, Chairman, and Rowland G. Freeman, Secretary.

Two grades of milk come under the supervision of this commission. The lower grade is termed *inspected milk;* this milk is designed to be produced in a cleanly and sanitary manner without imposing upon the producer any expensive care which was not considered absolutely necessary. The requirements for the production of this milk are stated below, and it will be observed that a good quality is insured by the requirement of 4 per cent. butter-fat, while a hundred thousand bacteria are allowed in summer and sixty thousand in the winter months. This bacteriological standard is merely tentative: it is believed it can be considerably reduced. It should also be observed that the granting of the certificate for inspected milk depends upon an inspection of the dairy by the commission's inspector as well as the bacteriological examination of the milk, and that both the inspection and the bacteriological examination must be satisfactory in order that a certificate be granted. The requirements for inspected milk are as follows:

1. The Barnyard: (*a*) It must contain no manure in summer and none in contact with the stable in winter. (*b*) It must be well drained and kept reasonably clean.

2. The Stables: (*a*) The ventilation and light must be sufficient for the number of cows stabled, so that the barn shall be light and the air never close. (*b*) The floor shall be of wood or cement. (*c*) The ceiling shall be tight, if a loft above is used. (*d*) Basins, hand brushes, clean water, soap and clean towels shall be provided in the barn or adjacent dairy room. (*e*) The stable shall be whitewashed in the fall, and in the spring if necessary. (*f*) A sufficient number of lanterns shall be provided to allow the milking to be carried on properly. (*g*) Clean the ceiling and sidings once a month. (*h*) The beddings shall be shavings, sawdust, dried leaves, cut straw, or other material that meets with the approval of the commission. (*i*) The soiled bedding must be removed daily. (*j*) The manure must be removed daily from the stalls and open manure gutter. If a covered manure-gutter is used, it must be kept in a sanitary condition. (*k*) The application of land-plaster or lime on the floor daily is recommended. (*l*) Sweep the entire floor outside of the stalls daily at least an hour before milking is begun.

3. Water Supply: Pure water must be used for all purposes. It must be accessible and abundant.

4. The Cows: (*a*) Discard milk containing mucus or blood and that from any diseased cow. (*b*) Reject milk from any animal forty-five days before and six days after calving. (*c*) The food given must be suitable both in amount, and kind and must not give a disagreeable flavor to the milk. (*d*) Keep the cows clean on flanks, belly, udder, and tail. (*e*) Clip long hairs about udders, and clip the tail sufficiently to clear the ground. (*f*) The cows must be kept from lying down between the cleaning and milking. The best means of accomplishing this is by throat latches. (*g*) Clean the udder thoroughly before milking.

5. The Milkers: (*a*) No milker or assistant shall have any connection with the milk at any stage of its production if he has any communicable disease, or if he has been exposed to scarlet fever, diphtheria, typhoid fever, or smallpox. (*b*) After having everything prepared for milking, thoroughly wash the hands with soap, water, and brush, so that they may be clean when milking is begun. (*c*) The hands and teats must be kept dry during milking. If they become moistened with milk, they must be wiped dry with a clean towel. (*d*) Suitable clean outer garments, such as overalls and jumpers, must be put on before milking.

6. Utensils: (*a*) Strainers, whether metal, gauze, or cotton, must be absolutely clean when used for straining milk. (*b*) All dairy utensils must be absolutely clean and free from dust.

7. The Milk: (*a*) The milk must not be adulterated in any way. (*b*) It must average 4 per cent. of butter-fat. (*c*) Cooling must be begun within thirty minutes after the milking. The temperature of the milk must be reduced to 55°F. within two hours after milking, and to 50°F. within three hours, and kept below that temperature until delivered to the consumer. (*d*) When delivered to the consumer the milk must not average over 100,000 bacteria per cubic centimeter from May 1 to September 30, and not over 60,000 bacteria per cubic centimeter from October 1 to April 30. If the commission's requirements are fulfilled, the bacteria will not be in excess of the number permitted.

8. Inspections: (*a*) The farms which furnish "Inspected" milk must always be open to inpection by the commission. (*b*) Samples of milk must be regularly submitted for bacteriological examination once a month.

Some of this milk may be bought in New York at wholesale for about five cents a quart, while at retail it sells in bottles for eight cents a quart, the ordinary price for milk that is produced without scientific supervision

A higher grade of milk called *certified milk* may also receive the approval of the commission. In order to receive this label the dairyman must produce milk containing, on the average, not more than thirty thousand bacteria per c.c., he must carry out all the precautions required for the production of inspected milk, and must also sterilize all dairy utensils before each milking, must remove the manure from the stalls twice daily, must groom each cow daily, and wipe the udder with a damp cloth before each milking. The full requirements for the production of this milk are as follows: (1) The Barnyard The barnyard should be free from manure and well drained, so that it may not harbor stagnant water. The manure which collects each day should not be piled close to the barn, but should be taken several hundred feet away. If these rules are observed not only will the barnyard be free from objectionable smell, which is always an injury to the milk, but the number of flies in summer will be considerably diminished These flies in themselves are an element of danger, for they are fond of both filth and milk, and are liable to get into the milk after having soiled their bodies and legs in recently visited filth, thus carrying it into the milk. Flies also irritate cows, and by making them nervous reduce the amount of their milk.

2. The Stable: In the stable the principles of cleanliness must be strictly observed. The room in which the cows are milked should have no storage loft above it; where this is not feasible, the floor of the loft should be tight, to prevent the sifting of dust into the stable beneath The stables should be well ventilated, lighted, and drained, and should have tight floors, preferably of cement. They should be whitewashed inside at least twice a year, and the air should always be fresh and without bad odor. A sufficient number of lanterns should be provided to enable the necessary work to be properly done during dark hours. There should be an adequate water supply and the necessary wash-basins, soap, and towels. The manure should be removed from the stalls twice daily, except when the cows are outside in the fields the entire time between the morning and afternoon milkings. The manure gutter must be kept in a sanitary condition, and all sweeping and cleaning must be finished at least twenty minutes before milking, so that at that time the air may be free from dust

3. Water Supply: The whole premises used for dairy purposes, as well as the barn, must have a supply of water absolutely free from any danger of pollution with animal matter, and sufficiently abundant for all purposes and easy of access.

4. The Cows: The cows should be examined at least twice a year by a skilled veterinarian Any animal suspected of being in bad health must be promptly removed from the herd and her milk rejected Never add an animal to the herd until it has been tested with tuberculin and it is certain that it is free from disease. Do not allow the cows to be excited by hard driving, abuse, loud talking, or any unnecessary disturbance. Do not allow any strongly flavored food, like garlic, which will affect the flavor of the milk, to be eaten by the cows Groom the entire body of the cow daily. Before each milking wipe the udder with a clean damp cloth, and when necessary wash it with soap and clean water and wipe it dry with a clean towel Never leave the udder wet, and be sure the water and towel used are clean If the hair in the region of the udder is long and not easily kept clean, it should be clipped. The cows must not be allowed to lie down after being cleaned for milking until the milking is finished A chain or rope must be stretched under the neck to prevent this All milk from cows sixty days before and ten days after calving must be rejected.

5. The Milkers: The milker should be personally clean He should neither have nor come in contact with any contagious disease while employed in milking or handling milk In case of any illness in the person or family of any employee in the dairy, such employee must absent himself from the dairy until a physician certifies that it is safe for him to return. Before milking, the hands should be thoroughly washed in warm water with soap and a nail brush and well dried with a clean towel On no account should the hands be wet during the milking. The milking should be done regularly at the same hour morning and evening, and in a quiet, thorough manner. Light colored washable outer garments should be worn during milking. They should be clean and dry, and when not in use for this purpose should be kept in a clean place protected from dust. Milking stools must be kept clean. Iron stools, painted white, are recommended.

6. Helpers other than Milkers: All persons engaged in the stable and dairy should be reliable and intelligent. Children under twelve years of age should not be allowed in the stable during milking, since in their ignorance they may do harm, and from their liability to contagious diseases they are more apt than older persons to transmit them through the milk.

7. Small Animals: Cats and dogs must be excluded from the stables during the time of milking.

8. The Milk: The first few streams from each teat should be discarded, in order to free the milk ducts from milk that has remained in them for some time and in which bacteria are sure to have multiplied greatly. If in any milking a part of the milk is bloody or stringy or unnatural in appearance, the whole quantity of milk yielded by that animal must be rejected, if any accident occurs by which the milk in a pail becomes dirty, do not try to remove the dirt by straining, but reject all the milk and cleanse the pail. The milk pails used should have an opening not exceeding eight inches in diameter Remove the milk of each cow from the stable immediately after it is obtained to a clean room and strain it through a sterilized strainer. The rapid cooling of milk is a matter of great importance. The milk should be cooled to 45 degrees within one hour. Aeration of pure milk beyond that obtained in milking is unnecessary. All dairy utensils, including bottles, must be thoroughly cleansed and sterilized. This can be done by first thoroughly rinsing in warm water, then washing with a brush and soap or other alkaline cleansing material and hot water, and thoroughly rinsing. After this cleansing, they should be sterilized with boiling water or steam and then kept inverted in a place free from dust

9. The Dairy: The room or rooms where the bottles, milk pails, strainers and other utensils are cleaned and sterilized should be separated somewhat from the house, or when this is impossible have at least a separate entrance, and be used only for dairy purposes, so as to lessen the danger of transmitting through the milk contagious diseases which may occur in the home. Bottles, after filling, must be closed with sterilized discs, and capped so as to keep all dirt and dust from the inner surface of the neck and the mouth of the bottle

10. Examination of the Milk and Dairy Inspection: In order that the dealers and the commission may be kept informed of the character of the milk, specimens taken at random from the day's supply must be sent weekly to the Research Laboratory of the Health Department, where examinations will be made by experts for the commission, the Health Department having given the use of its laboratories for this purpose. The commission reserves to itself the right to make inspections of certified farms at any time, and to take specimens of milk for examination. It also reserves the right to change its standards in any reasonable manner upon due notice being given to the dealers

This certified milk is sold by the different poducers to consumers at prices varying from ten to twelve cents a quart.

The work of the commission is for the most part done by one inspector paid by the commission, who visits the dairies, renders a typewritten report on the conditions found, examines the milk bacteriologically under the supervision of Dr. William H. Park, at the research Laboratory of the Health Department.

The charges made to the farms furnishing certified milk vary from eight to fifteen dollars per month, while the farms furnishing inspected milk, being usually in groups surrounding a creamery, pay only a dollar a month and certain expenses.

Concerning the success of the work of this commission, it may be stated that the dairymen who have been producing milk under the supervision of the commission appear to be well satisfied with the increase in business and higher price which they receive for the milk on account of the security offered to the consumer by the certificate, and have all apparently paid gladly the monthly fee charged by the commission. At the present time twelve dairies, representing 600 cows, are producing certified milk, while five dairies, representing 700 cows, are producing inspected milk. Several dairies have applied for the certified grade and several for the inspected, who are now improving their dairies so that they may be considered satisfactory by the commission.

The Use of Narcotics in the Treatment of Insomnia in the Early Stages of Insanity.—Dr. Henry Rayner has published a paper on this important subject in the July number of the *Journal of Mental Science*. The fact that the deprivation of sleep produces more distress and a more speedy fatal termination than deprivation of food is proof of the predominant need of sleep by the brain and body. In cases of insomnia of some duration there is, says Dr. Rayner, a general disorder of nutrition, and this is nowhere more marked than in the cases of incipient or threatened insanity in which wasting rapidly follows upon insomnia. The drugs generally used in procuring sleep, such as morphia, chloral, and sulphonal, adds Dr. Rayner, have an injurious effect on the nutrition of the body, and their dosage has to be increased to secure sleep if the drug has to be used for protracted periods. Such disadvantages, however, can be avoided by using prolonged baths and gentle massage as a sedative and hypnotic measure, as they not only induce sleep but improve bodily nutrition by promoting elimination of waste products. Narcotics, it is also argued, depress the cardiac, vasomotor, and respiratory centers. The beneficial effects of narcotics, however, appear to be undoubted, but these effects are regarded by Dr. Rayner as being obtained at the expense of the brain, the nutrition of which gets slowly impaired by the use of narcotics. "My individual experience has led me gradually to discard the use of narcotics altogether in narcotic dosage, and to use them only at rare intervals in the hypnotic form, and then only in the form of bromide or of alcohol." Dr. Rayner points out that many practitioners are too prone to use morphia or opium when insomnia exists, and that the temporary benefit which follows as regards the restoration of sleep is often neutralized by the injurious after-effects resulting from the use of this drug. In the discussion which followed the reading of the communication at a general meeting of the Medico-Psychological Association in London, Dr. G. Fielding Blandford stated that the use of hypnotics was often imperative in the insomnia of early or threatened mental disorder, and that the benefit was very great and material., Paraldehyde had in his experience always proved a safe and excellent hypnotic. Dr. G. H. Savage emphasized the importance of procuring sleep in such cases if the threatened mental breakdown was to be averted, and stated that opiates and hypnotics were absolutely necessary. Hydrotherapy also was a valuable aid to procuring sleep in restless and agitated patients, and where mental distress was extreme he had seen the best results follow the administration of large doses of narcotics. Dr. Fletcher Beach concurred in the view that hypnotics, especially sulphonal, were beneficial in cases of insomnia, whether from nervous or mental disturbance, but he thought that a proper diet was also an adjunct to sleep.—*The Lancet.*

Ballooning for Anæmics.—Dr. Naugier of Paris, in a paper read at a recent meeting of the Académie de Médecine, made astonishing claims as to the tonic and blood-forming effects of balloon ascensions. A two hours' voyage in the air, he declared, causes a marked increase in the number of the red corpuscles, and the condition persists for ten days after an ascension. Five such ascensions in the course of six or seven weeks, he said, are more beneficial to an anæmic than a sojourn of three months in the mountains. The good effect begins to be felt almost immediately, and a lengthened stay in the air is of no value, and in the case of many is actually detrimental in causing nervous irritation.

Dr. Naugier urged that the municipal council be asked to provide a large balloon, capable of taking to the upper air daily fifty patients who are too poor to afford a change of climate.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S Marine Hospital Service, during the week ended August 30, 1902·

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, San Francisco	Aug. 10–17	8	
Colorado, Denver	Aug. 8–16	1	
Illinois, Chicago	Aug. 16–23	4	
Indiana, Indianapolis	Aug. 16–23	3	
Louisiana, Shreveport	Aug. 16–23	3	
Massachusetts, Boston	Aug. 16–23	8	3
Cambridge	Aug. 16–23		1
Lawrence	Aug. 16–23	2	
Missouri, St. Joseph	Aug. 16–23	16	
St. Louis	Aug. 17–24	1	
Nebraska, Omaha	Aug. 16–23	4	
New Hampshire, Manchester	Aug. 16–23	1	
New Jersey, Camden	Aug. 16–23	3	
Jersey City	Aug. 17–24	1	
Newark	Aug. 16–23	6	
Passaic	July 26–Aug. 23	2	
New York, Buffalo	Aug. 16–18	4	
New York	Aug. 18–25	5	[illegible]
Ohio, Cleveland	Aug. 16–23	50	[illegible]
Pennsylvania, Allegheny	Aug. 16–23	2	
Altoona	Aug. 16–23	1	
Erie	Aug. 16–23	6	
Johnstown	Aug. 16–23	4	
McKeesport	Aug. 16–23	3	
Philadelphia	Aug. 16–23	3	
Pittsburgh	Aug. 16–23	9	1
South Dakota, Sioux Falls	Aug. 16–23	1	
Utah, Salt Lake City	Aug. 16–23	1	
Wisconsin, Milwaukee	Aug. 19–26	1	

SMALLPOX—FOREIGN.

Canada, Quebec	July 26–Aug. 16	3	
Great Britain Dublin	Aug. 2–9	1	
Glasgow	Aug. 8–15	1	
Leith	Aug. 2–9	1	
London	Aug. 2–9	21	4
India, Bombay	July 22–29		8
Calcutta	July 19–26		1
Karachi	July 20–27	1	1
Russia, Odessa	Aug. 2–9	4	

YELLOW FEVER.

Brazil, Amazon Valley	July 24	(Raging	
Colombia, Panama	Aug. 11–18	3	1
Dutch Guiana, Paramaribo	July 1–30	1	[illegible]
Mexico, Coatzacoalcos	Aug. 8–16	9	2
Vera Cruz	Aug. 8–23	39	[illegible]

PLAGUE.

Egypt, Alexandria	Apr. 14–Aug. 6	70	[illegible]
Tukh, District	May 2–Aug. 6	39	[illegible]
India, Bombay	July 22–29		[illegible]
Calcutta	July 19–26		[illegible]
Karachi	July 20–27	20	15
Russia Odessa	July 26	(Officially [illegible]).	

CHOLERA.

China, Niuschwang	July 5–12	98	[illegible]
Tientsin	June 30–July 14	190	[illegible]
Egypt, general	July 15–Aug. 6	981	[illegible]
Alexandria	To Aug. 6	5	4
Assiout District, including Moucha	July 5–Aug. 6	459	[illegible]
Cairo	July 22–Aug. 6	464	[illegible]
India, Bombay	July 22–29		4
Calcutta	July 19–26		4
Karachi	July 20–27	25	[illegible]
Japan, Fukuoka, Ken	To July 28	287	[illegible]
Hiogo Ken	July 29	(Presen	
Kanagawa Ken	July 29	1	
Kumamoto	July 29	(Present.	
Nagasaki	July 29	"	
Saga Ken	July 29	"	
Tokyo Fu	July 29	?	

Medical Record

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Original Articles.

THE SURGICAL TREATMENT OF CHRONIC BRIGHT'S DISEASE.

By J. A. SCHMITT M.D.,
NEW YORK.

MODERN medicine develops a growing tendency to take diseases out of the hands of the physician and assign them to the domain of the surgeon. Cholelithiasis and appendicitis, for instance, formerly exclusively treated by internal medication, have gradually become favorite objects for operative procedures. It is not mere recklessness, relying on antisepsis, that prompts surgical interference, but the commendable desire to help where medical treatment has not availed. It would be erroneous to believe that the responsibility is simply shifted from one branch of medicine to the other; on the contrary, the physician has the more to exhaust his diagnostic resources and to 'refine his ability of discrimination in order to determine the expediency of an operation. In the diseases mentioned above, the presence of some tangible object, of some pathological substratum, as of a stone or of pus, renders the propriety of surgical measures evident. There is, however, a group of diseases in which the benefit of an operation has been discovered accidentally and in a strictly empirical way. Laparotomy, undertaken for removal of a supposed ovarian cyst, revealed instead a tuberculous peritonitis, the subsequent cure of which was ascribed to the surgical intercession. Abdominal section for peritoneal tuberculosis has now become a well-established method of treatment, although the explanation of its curative effect is based on hypothetical propositions.

The history of surgical treatment of chronic Bright's disease offers similar features; it is both interesting and instructive to follow the development of the idea that renal disturbances, which have heretofore been considered the exclusive province of the physician, could be successfully attacked by surgical means. R. Harrison,[1] in 1896, reported a few cases in which he laid bare the kidney under the impression of finding a calculus or pus. An exploration failed to discover any obvious cause for the symptoms, which consisted of colicky pains, hematuria, and albuminuria. He was surprised, however, to find that the operation was followed by a disappearance of all the symptoms and a final complete recovery of the patients. He attributed the symptoms mentioned to an increased intrarenal tension consequent upon congestion and inflammation within the kidney. He[2] advocated, as a means for relief, either renipuncture or division of the renal capsule proper—capsular nephrotomy—under the following conditions: (1) Suppression of urine with alarming symptoms, as in scarlatinal nephritis; (2) Progressive signs of kidney degeneration, as shown by the persistence or increase of albumin; (3) Where a marked disturbance of the heart and circulatory apparatus arises in the course of inflammatory renal disorders.

Although Mr. Harrison is of the opinion that both kidneys are usually involved, he considers a division on one side sufficiently effective, as "the sympathies existing between the two organs are such as to cause impressions exercised upon one to be reflected on the other; the relief of tension in one organ aids the other; it restores the balance of the urinary excretion when this has been diminished or entirely suppressed."

A somewhat different standpoint is taken by Dr. J. Israël[3]. In a number of cases where renal hematuria and colicky pains were fruitlessly subjected to medical treatment, he cut down upon the kidney, to which the disturbances had been referred, in anticipation of a stone or new growth. Instead of finding the suspected cause, he discovered various inflammatory processes, sometimes involving isolated portions of the kidney, and then, again, the whole organ in the form of a diffuse interstitial or parenchymatous nephritis. As a result of the operation, the majority of the patients were relieved, not only of hematuria and colic, but also of other concomitant nephritic symptoms, as albuminuria, scanty excretion of urine, and frequent micturition.

Israël[4] distinctly disavows any intention to treat nephritis or chronic Bright's disease surgically; he attacks these diseases only when they give rise to otherwise intractable symptoms of hematuria and colic, which, furthermore, must be traceable to one side only. He contends that the favorable influence of the renal division upon inflammatory renal processes, whatever their nature may be, could be satisfactorily explained by the relief of the organ from congestive swelling and increased tension. Increased intrarenal pressure, brought about by congestive swelling within an unyielding capsule, interferes with and even suppresses blood circulation and urinary excretion. He explains the disappearance of all the renal symptoms, though only one kidney has been operated upon, by assuming the existence of a unilateral nephritis.

So far two features in this controversy strike us as novel—first, that chronic nephritis may be unilateral, and, second, that it is curable by operation. There might have been a reasonable doubt as to the true character of chronic nephritis in the cases above reported, but Dr. G. Edebohls[5] of this city dispels any uncertainty by the straightforward announcement that chronic Bright's disease is curable by operation. His deductions are based exclusively upon observations of cases operated upon for movable kidney. He was surprised to find patients, who were afflicted with movable kidney and chronic nephritis at the same time, completely relieved, not only of the symptoms due to the renal displacement, but also of those produced by the nephritis. He drew the conclusion[6] that the displacement of the kidney was directly responsible for the existence of Bright's disease, and that operative correction of the former would cure the latter. He therefore placed chronic nephritis on the list of indications for nephropexy. As a result of further observations, however, he advanced[7] the theory that the curative effect of nephropexy upon chronic Bright's disease is brought about by an adhesive inflammation, which, in establishing collateral circulation, supplies the diseased kidney with new blood vessels. In order to cure Bright's disease it is, therefore, only necessary to create such adhesive inflammation, with consequent vascular connections, artificially by surgical procedure. The presence or absence of renal dislocation is irrelevant, and is of importance only so far as to change the method of operation; in the former nephropexy, in the latter bilateral decortication is resorted to. Dr. Edebohls also dwells on the frequent occurrence of unilateral nephritis. Dr. A. Pousson[8] relates the history of two patients, the one suffering from uræmic attacks, hematuria, and pain, the other from hematuria which led to extreme anæmia. On the latter he performed nephrectomy, on the former, division of the left kidney, which on cystoscopic examination was found to be diseased. From an analysis of twenty-three cases, operated upon by different surgeons, he arrives at the conclusion that surgical intervention—nephrotomy or nephrectomy—may be indicated: (*a*) In chronic nephritis, complicated with hematuria; (*b*) In chronic nephritis, complicated with nephralgia; (*c*) In subacute infectious nephritis; under this head he classes R. Harrison's patients; (*d*) In acute infectious nephritis; miliary abscesses of the kidney and movable kidney with pyelonephritis are comprised in this division.

It may, perhaps, interest the reader to listen to Dr. Pousson's arguments with regard to the unilateral seat of chronic nephritic processes and the favorable influence of surgical intervention upon them. There can be no doubt, he says, that in the overwhelming majority of cases the infectious renal lesions, be they acute or chronic, are bilateral. But is it likewise so at the commencement of the infection? and may this not be gradual? It has been sufficiently demonstrated that bacteria may pass through the kidney without causing any lesion and that they or their toxins exert a deleterious influence only under certain conditions of receptivity of the renal parenchyma. The uneven distribution, the disproportionate degree of the lesions, and the difference of their development may also be features in favor of the unilateral seat of beginning chronic nephritis.

Like Mr. Harrison, Pousson attributes the disappearance of hematuria and nephralgia to the decrease of intrarenal tension after cortical incision. By dividing the rigid capsule proper, the elasticity of the renal parenchyma is restored, the circulation regulated, and the secretion of urine reestablished. He also assumes the existence of a sympathetic nephritis analogous to the sympathetic ophthalmia, and maintains that an improvement of one kidney carries with it an improvement of the other, and a change for the worse on one side reacts on the other in a similar way. The division of the renal parenchyma produces, furthermore, an abundant flow of blood which favors an elimination of microbes and their toxins, removes epithelial ditritus, and thus frees the passage of the tubules for an unimpeded urinary flow. To bring about these beneficial effects for a longer period, a protracted drainage of the renal wound should be maintained.

In a later communication Pousson[9] gives an account of five patients, presenting either the symptoms of parenchymatous or of interstitial nephritis. One died after renal division had been performed; another was suffering from hematuria, pain, and uræmic symptoms, which necessitated nephrotomy of the right kidney; as the Brightic symptoms reappeared a short while afterward, nephrectomy was performed, and three years after the patient's health was perfect. Of more interest are the histories of the last three patients, on whom unilateral nephrotomy with drainage had been performed, for the sole purpose of combating various Brightic disturbances, *i. e.* albuminuria, dyspnœa, vomiting, œdema, associated with a considerable decrease in the amount of urine and urea. One patient appeared well five months after operation.

In the other two cases the symptoms returned, though the beneficial effect of the operation was apparent in the increase of urine and urea, and the disappearance of uræmic symptoms. Two of those patients were presented at the meeting of the "Société de Médecine et de Chirurgie de Bordeaux" on January 31, 1902. The one operated upon July 3, 1901, was in perfect health, and showed only traces of albumin, while the amelioration in the other, operated upon August 1, 1901, was considerable, in spite of the presence of albumin and casts in the urine.

As will be seen from a study of this brief historical account, the idea of operating for chronic Bright's disease was evolved differently: in England, France, and Germany it originated from observations of patients operated upon for renal hematuria and pains; in this country of patients operated upon for movable kidney. Let us now see to what extent we may accept the many reports and explanations as evidence that chronic Bright's disease may be unilateral and curable by surgical measures.

It is an occasion for regret that Dr. Edebohls draws his deductions from observations on movable kidney. Displacement of the kidney may give rise to a variety of disturbances, among which the appearances of albuminuria with casts should be mentioned as having a significant bearing on our subject. Whether it be the result of venous stasis from compression of the renal veins or of urinary retention from kinking of the ureter, is a question in regard to which there is difference of opinion, but all agree that the disappearance of albumin after operative fixation should be credited to this procedure. Even when movable kidney is complicated with true Bright's disease, we may reasonably assume that the displacement constituted a predisposing cause. In this respect Dr. Edebohls[10] himself may be quoted—"If displacement of the kidney gives rise to congestion, why may not the latter condition occasionally progress to inflammation?" And again: "Mobility of the kidney will probably be found as playing a very important part in the causation of chronic nephritis. Just as probably the therapy of chronic nephritis, in so far as the latter be found to be dependent upon and connected with movable kidney, will become surgical." As I indicated above, Dr. Edebohls has since changed his views. Women, generally, with their manifold and often dormant genitourinary disorders are less suitable objects for demonstrating successes in the surgical treatment of chronic Bright's disease. Any inflammatory process in the pelvis is apt to creep along the ureter and extend to the perirenal tissue, causing chronic perinephritis and pyelitis with their sequelæ. When we add to such agencies the occasional infection from the adjacent colon and the disorders within the urinary tract, and consider that any local process, as stone, new growth, or pyelitis, may cause a chronic nephritis, we cannot wonder at the great number and varieties of disturbances which are complicated with albuminuria and casts, but have not the significance of Bright's disease. Coincident diseases, as movable kidney, pelvioperitonitis, hypertrophic prostate, pyelitis, etc., should rather not be utilized, in order to get a clear field for the question to be decided. It is regrettable that so many of the published cases lack in details essential for a correct judgment. R.

Harrison's original reports, for instance, are so painfully deficient in particulars as to leave us in doubt what the real pathological condition of the kidneys might have been. Dr. Edebohls[11] includes in his list of chronic Bright's disease a septic kidney with miliary metastatic abscesses, which everyone who attentively reads the account of Case 18 will recognize as such. His material comprises for the greater part movable kidneys, and the particulars offered in support of Bright's disease leave us too often in the dark as to the real nature of the disorder. It is true, Edebohls verifies the diagnosis "upon the critical test of actual inspection and palpation of the kidney at the time of operation," but we shall discuss later how far we may accept his propositions in this direction.

A. H. Ferguson[12] reports two cases of women, who were operated upon for intense pains referred to the region of the kidney. Decortication afforded relief from pain. A microscopical examination of a section from the cortex of the kidney, removed during operation, showed interstitial nephritis in both instances. Apart from the pains, these patients had no other symptoms of Bright's disease. It is unjustifiable to infer from the microscopical findings of a particle of the cortex the condition of the whole kidney. We may easily be led to the diagnosis of Bright's disease where only a circumscribed focus of inflammation in the cortex is present. R. Guitéra's[13] classes under the head of chronic Bright's disease a case which could more appropriately be designated as pyelonepritis secondary to a prostatic hypertrophy.

In the face of such indiscriminate mixture of all sorts of kidney diseases, it would be well to keep in mind the essential features of chronic Bright's disease. All authorities are now fairly well agreed that it is of hæmatogenous origin, *i. e.* noxious substances, whatever their nature or the cause of their formation may be are circulating in the blood and pass through the kidneys. It depends upon the virulence of the injurious material, the frequency with which it is poured into the current, and the vitality of the renal tissue-cells and the duration of the disease, how serious the renal lesion will be. There is no reasonable ground to suppose that the lesion occurs on one side only, though the intensity of the inflammatory process may be varying in both kidneys and in different portions of the same kidney. The question of the unilateral seat of chronic Bright's disease has been raised by the surgeons to explain the cure of patients who had been operated upon on one side only. Dr. J. Israël cautiously uses the term chronic nephritis. Indeed, many of his cases reveal localized renal inflammation, explainable by local irritation, such as cystitis, perityphlitis, or pelvioperitonitis, and no objection may be made to the use of such a general designation, so long as it is not promiscuously employed for true Bright's disease. In fact, where Irsaël's reports impress us with the existence of Bright's disease, the benefit of unilateral operation was either transient or the autopsies revealed characteristic lesions on both sides. Dr. Edebohls' subjects the kidneys, while they are exposed in the wound, to inspection and touch, and draws the inference that the kidney is healthy when nothing pathological presents itself to these senses. As renal inflammation may have progressed far without any demonstrable surface changes, Dr. Edebohls' assertion as regards the frequency of unilateral chronic Bright's disease cannot be accepted as conclusive. Chronic Bright's disease comprises two principal types, each with distinct and well-outlined features. A brief consideration of these may be the more profitable because of its absence in many reports bearing on the subject under discussion. There is one type in which the urine is scanty, concentrated, of high specific gravity, rich in albumin and formed elements; anasarca, dropsical effusions, and uræmic symptoms are present; the daily amount of urea is lessened; pallor and puffiness give to the face a characteristic appearance. At the beginning circulatory disturbances are absent. We are justified in bringing these symptoms in connection with the presence of a large white or a large red—usually mottled with red and white—kidney. The inflammatory process is diffuse in the double sense of the word: it involves parenchyma and interstitial tissue, and is scattered over the whole organ. Whether the the parenchymatous or interstitial alterations preponderate can only be determined by microscopical examination, as every possible degree of combination between these two may exist. Contrary to Edebohls' contention, the impossibility of inferring the relative extent to which the various elements of the renal structure are involved from the macroscopical appearance of the surface of the kidney must be particularly emphasized. Even in the large white kidney, as Leyden has pointed out, the inflammatory changes of the interstitial tissue may predominate.

Not infrequently the exterior surface of the large white or red kidney presents irregular elevations, due to atrophy of interstitial tissue. Even clinically we may be able to recognize an atrophic stage of the large kidney (secondarily contracted kidney). Anasarca and dropsical effusions disappear; circulatory disturbances and hypertrophy of the left ventricle make their appearance; the urine becomes copious clear, poor in albumin and formed elements, of low specific gravity, and after a longer or shorter period assumes again the changes peculiar to the large kidney. There is another important type of chronic Bright's disease, in which the urine is abundant, clear, pale, of low specific gravity, showing hardly any albumin and formed elements. Anasarca and dropsical effusions, pale and puffy complexion are wanting, but circulatory disorders and hypertrophy of the left ventricle well marked. Uræmic symptoms and retinitis albuminurica are usual accompaniments The daily excretion of urea is lessened. These symptoms correspond with the genuine or small granular kidney. Here also both organs and all the elements of the renal structure are involved, but with the very prominent characteristic that at the onset a cicatrization of the interstitial tissue takes place.

In concluding the sketch I have drawn of the principal varieties of chronic Bright's disease, mention should be made of their frequent coincidence with amyloid degeneration and the modification of the clinical symptoms incident to it. Are we able to differentiate the various types of chronic Bright's disease by ocular and digital examination? To a certain extent and with some restrictions, yes! Formerly our conceptions about the appearance and condition of bodily organs were principally based upon observation after death; modern surgery has placed us in a position to see and feel the living organs in health and disease, although the advantages gained thereby seem to have been exaggerated. Naturally, the method of exploring living organs is restricted, and many a disorder, while thus escaping detection, may be revealed at autopsy by a more exhaustive and a more reliable examination. The above criticism applies with particular force to the inferences drawn from the gross appearance of surgically-exposed kidneys, especially if only deprived of their investment instead of being cleft into halves. Diseased kidneys, it is true, which present characteristic features of the large white or mottled, or the small granular, kidney may be easily recognized as such. If in connection with these changes depressions on the surface or small cysts are demonstrable, deductions as to the shrinkage of interstitial tissue, the constriction and dilatation of sections of the uriniferous tubules may be drawn without meeting objection. But if these changes occur singly and without any other noticeable surface alterations, the utmost caution in interpreting such processes must be exercised. A renal cyst, for example, may occur in otherwise healthy kidneys and be congenital, or the remnant of a previous nephritis which has healed. Similar restrictions should be placed on the explanation of depressions on the renal surface; a previous infarction, a past inflammation upon healing give rise to cicatricial depressions; even shallow fissures, remnants of the fetal construction may be confounded with depressions, due to atrophy of interstitial tissue. Thickening and firm adhesions of the renal capsule proper, with localized discolored areas in the cortex may just as well be the consequence of an inflammation from without as from within. Everybody familiar with the pathology of the kidney will bear me out in the statement that the small granulations in the primarily-contracted kidney are sometimes difficult to distinguish from multiple metastatic abscesses, and these latter again from miliary tubercles; furthermore, it is impossible to decide by mere inspection whether in a given case a grayish white discoloration is produced by a fibrous, amyloid, or fatty degeneration.

A mere surface inspection affords us but little information as to the condition of the kidney substance within; the great number of diseases which originate in the pelvis and the medullary substance is removed from our observation. I mention, for instance, the urate deposits, which occur chiefly in the pyramids, and give rise occasionally to extensive inflammatory processes before any changes are visible in the cortex. In fact, any local process is apt to cause chronic nephritis in the broad sense of the word. To rely on the touch and to deduce from an increased resistance the nature of the intrarenal process involves a great deal of guesswork. From the facts just adduced it is evident that mere inspection and palpation of the kidney may fail to reveal a great number of pathological conditions within, and, on the other hand, lead us to give undue importance to surface-alterations. It must not be forgotten that the surgeon in handling the kidney is frequently hampered in his judgment by the profuse bleeding. The kidney while displaced and exposed on the skin begins to swell and to assume a deep-bluish color and responds to any attempt to strip off the capsule proper with obstinate parenchymatous bleeding, which can be checked only by placing the organ in its place again. At all events it would be more judicious simply to register the pathological findings and to refrain from forming a definite diagnosis from them.

Even after cleavage of the kidney, which doubtless affords a better insight, lesions, if not located in the plane of the incision, may easily escape discovery. Dr. Zondek[14] has convincingly demonstrated that a careful search even after splitting the kidney may fail to reveal the presence of a stone, if this be concealed in an adventitious calyx, and that nothing short of an exhaustive examination of the kidney after removal from the body could succeed in detecting the calculus as the real cause of hæmaturia, pain, and inflammation. Dr. Pels-Leusden[15] reports a case of a woman suffering from renal hæmaturia. On splitting the right kidney, the surface of which appeared perfectly normal, nothing pathological would have been detected if in handling the kidney a small particle had not been accidentally detached, which, on microscopical examination, proved to be a malignant growth. After removal of the kidney, it required a most attentive inspection to detect minute, villous excrescences in the depth of some of the calices. Dr. Edebohls' ingenious theory of establishing an anastomotic circulation through adhesions between the kidney and its surroundings offers so many points for discussion that a brief consideration may be in place. Adhesions with formation of anastomoses cannot be created at the will of the operator; occasionally they are so dense and devoid of blood vessels as to frustrate the purpose of supplying new blood to the diseased organ. And even granted the formation of new bloodvessels, is there any probability that these invade the renal substance and enter into capillary anastomosis with the circulatory sytem of the kidney? What assurance have we that these supposed newly-formed capillaries do not succumb to the same pathological process in which the organ is involved? Besides, numerous sections of the kidney—in the large red, for example—are in a highly congested condition, and do not require an artificial blood-supply, others reveal the glomeruli obliterated, the tubules collapsed, and the different constituents of the organ, as in true granular kidney, in such a state of atrophy as to be beyond repair. The conception of restoring parenchyma thus destroyed to functional activity by artificial blood-supply cannot reasonably be allowed, and the argument to protect a part by surgical interference from without while the noxious material is imported from within, seems to me extremely hypothetical. We might even go further and contend that the kidney, supposing that vascular communications through the adhesions take place, is in greater danger, as it is flooded by deleterious substances from both sides. Dr. Edebohls refers to similar conditions obtained by the operation for cirrhosis of the liver, which consists in the establishment of anastomoses between the omentum and the anterior abdominal wall, and of adhesions between the spleen and the lateral wall, and the upper surface of the liver and the diaphragm. Such adhesions with collateral blood vessels act merely mechanically by relieving the venous stasis in the portal circulation; they have no healing effect whatever on the diseased liver-tissue. No surgeon has so far ventured the assertion that he could cure cirrhosis of the liver by the Telma-Morison operation, he is generally very happy to see, as the result of his interference, the patient relieved from ascites.

Although Dr. Edebohls' views with reference to the surgical cure of chronic Bright's disease require confirmation in many particulars, the impetus he has given to further investigations cannot be too highly valued. Many questions agitated by Dr. Edebohls call for renewed investigations. One of the interesting questions to be determined relates to the formation of adhesions carrying a new blood-supply to the diseased kidney. This could be cleared up by experiments on animals, whose kidneys have been decorticated. After a reasonable time the animal should be killed, the renal and artificial blood vessels be injected, and microscopical sections through kidney and adjacent adhesions be made, to demonstrate the presence of anastomosis in the healthy kidney; like researches, to ascertain such relations in the diseased kidney, could obviously be made only after the death of the patient, on whom decortication for chronic Bright's disease had previously been performed. Another not less instructive but much-mooted question refers to the unilateral seat of chronic Bright's disease. A methodical ureteral catheterization and a chemical and microscopical examination of the separated urines should be made in each case. Hitherto the diagnosis of unilateral chronic Bright's disease has been attempted along various lines. I have previously pointed out that the results of ocular and digital exploration of the living kidneys have only a positive diagnostic value: to declare a kidney healthy because of the absence of any gross alterations on the surface is not permissible. Instances where patients regained their health after unilateral operation have been cited as proof that chronic Bright's disease may afflict only one kidney. But there is little foundation for this notion, autopsies do not confirm it, nor does a careful study of the cases on record: either they can more reasonably be interpreted as being of local origin, or they are only temporarily benefited and assume sooner or later their fatal course.

Only one exception has to be admitted, namely: urate deposits consequent upon "uric acid diathesis." They may even disappear after the betterment of the patient's constitution. But when they cause chronic Bright's disease they present, indeed, additional evidence that this disorder is of toxæmic nature and involves both kidneys.

It is tempting to reason that *incipient* Bright's disease may, perhaps, occur unilaterally and, therefore, be more easily checked by surgical means. It is well known that lesions with functional impairment of the renal organ will give rise to retention of waste products, chemical changes, and impoverishment of the blood, which themselves act again deleteriously on the renal tissue. Thus a circulous vitiosus is created. Is it possible to inhibit the extension of the pathological process to the other side, or, as this question applies with equal force to chronic Bright's disease generally, in which we naturally expect both kidneys to be afflicted, have we any ground for the belief that the progressive character of the disease may be arrested by an early operation? Unfortunately, the majority of cases of chronic Bright's disease start insidiously, with a pronounced chronic and progressive character. Irreparable lesions may have taken place long before the first symptoms come to the notice of the physician; not infrequently an impaired vision or uræmic symptoms are the first signs to attract attention. Surgical intercession would, indeed, frequently be belated without any fault of the practitioner. The best opportunity to follow the development of the disease at the outset is afforded by acute Bright's disease after scarlatina, or any other infectious disease. Such acute cases tend toward recovery even after a considerable time, and the practitioner could hardly be expected to follow any other than conservative plan of treatment. At any rate, the surgeon sees only well-advanced stages, as in practice the physician will recommend operation only as a last resort, when all other expedients have failed.

But let us assume, the surgeon intervenes at an early phase, how many objections against the claim of success may be raised with regard to the possibility of spontaneous cure, of recurrence, of diagnostic errors—in short, with regard to all the questions, intimately connected with the theme under discussion.

In recent years cryoscopy, *i. e.* the determination of the freezing point of the blood serum and urine has been employed as a means to ascertain the functional efficiency of the kidneys in health and disease. These cryoscopic investigations go far to throw light on the present subject and are of sufficient interest to warrant a brief presentation of the essential facts.[16] The freezing point of distilled water is 0° C.; the more concentrated a solution, the lower is its freezing point. Blood serum of a healthy person freezes at 0.56°; urine at from 1° to 2°. In chronic Bright's disease the blood serum becomes more concentrated, and its freezing point is lowered to 0.6° and more. On the other hand, the urine becomes less concentrated and its freezing point is raised, approaching values nearer to zero.* Supposing a person is suffering from some renal disorder, as hematuria, or pain, and presents a blood serum with a freezing point of, let us say, 0.65°, we may justly assume an impairment of the function of both kidneys, although catheterization of the ureters and a separate examination of the urine have, at the time of investigation, shown only one side to be affected. If one urine specimen is normal and the other contains albumin, casts, blood, etc., the diagnosis of a unilateral process as stone, pyelonephritis, or tuberculosis, may positively be made, provided the freezing point of the blood serum is normal. Dr. Kümmell[17] has, on ureteral catheterization, found both kidneys to be implicated in every instance of chronic Bright's disease. Dr. F. S. Strauss[18] arrives at the same conclusions.

I have so far dwelt on the different views as to the surgical treatment of chronic Bright's disease. It remains to inquire whether in fact a case of this disease has definitely been cured by operation. If we take into consideration only such cases where the urine analysis in conjunction with clinical symptoms has established the diagnosis beyond doubt, and if we eliminate those too recently operated as to admit of a conclusive opinion, we may safely assert that a number of symptoms has been relieved, but that chronic Bright's disease, as such, has not been cured by operation, which at best represents only a symptomatic, but never a curative measure. From a study of the published records the following conclusions may be formulated:

1. In acute infectious diseases anuria with uræmic symptoms threatening the life of the patient can be successfully combated by capsular incision or renal cleavage, which relieves congestive swelling and excess of intrarenal pressure. Operation on one side is sufficient to bring about an abundant urinary secretion, followed by a subsidence of the alarming general features. Whether the other kidney gains time to recuperate and reassume its function, or whether reflex action plays a predominant rôle, are debatable points. At all events nature seems to get along with a small portion of functionating kidney tissue.†

2. Anuria with uræmic symptoms, occurring in the course of chronic Bright's disease, has afforded an occasion for surgical procedure. To recognize such an indication on reasons which are analogous to those above mentioned is, of course, a matter of individual judgment. Temporary relief, in some

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* The freezing point of the urine is normally too inconstant to be of much value.

† Very instructive in this respect is the history Dr. Israel relates of a patient whose right kidney had been removed eight months previously for tuberculosis, and who was suddenly attacked by anuria and uræmic symptoms. The remaining kidney was split and revealed a great number of miliary abscesses; an immense amount of urine was discharged from the wound. The uræmic disturbances disappeared and patient got well again, barring traces of albumin in the urine and frequent micturition.—*Mittheilungen aus den Grenzgebieten der Medicin un Chirurgie*, 1899.

instances, had been gained—a permanent cure, however, has never been effected.

3. When the kidney has been operated upon directly for the cure of chronic Bright's disease the outcome has been a failure. The apparent benefit manifested in the disappearance of dropsy, dyspnœa. etc., occur just as regularly in the ordinary course of the treatment by medication and capillary drainage or puncture.

4. In exceptional cases colicky pains and hematuria are caused by chronic Bright's disease. Capsular incision or cleavage of that kidney to which the disturbances were traceable, has been attended by excellent results; there can be no doubt that, when medical expedients have failed, surgical interference has succeeded in checking the hemorrhages and alleviating the pains, but it does not inhibit the progress of chronic Bright's disease.[19]

5. Nephropexy may cure the ailments incident to movable kidney; it may remove albuminuria, if this be the result of local irritation, consequent upon the displacement; if, however, the movable kidney is affected by chronic Bright's disease, this affliction will remain uninfluenced by operation.

We have seen that surgeons employ different methods of operating. Dr. Harrison is in favor of renal puncture or capsular incision. Dr. Israël advocates renal cleavage, and Dr. Edebohls partial decortication in movable kidney and complete decortication in chronic Bright's disease without displacement. In three cases he claims success even from partial decortication on one side. Each one observed benefit or cure from his particular method, and it would be interesting to find out some common ground, something that is common to all the operative devices and would explain at least the symptomatic success. If I might express an opinion, the success is principally to be attributed to the local bleeding and relief of tension after incising the capsule proper. These two agencies coöperate in easing the intrarenal circulation and urinary flow, and may most effectively be brought into action by renal cleavage, though the subsequent cicatrization is bound to deprive the kidney of a part of its functionating tissue.

It has often been remarked that patients afflicted with chronic Bright's disease are, under any circumstances, doomed, and should, therefore be given every chance medical art may contrive. Not so, however, if the help proffered should prove ineffectual and an additional vexation. To enable the reader to form his own opinion of the correctness of the propositions enumerated above, and to determine for himself the many points in controversy, a careful study of the published reports bearing on the surgical cure of chronic Bright's disease is indispensable. Fortunately, the literature is not very extensive and its perusal, therefor, will not greatly tax our patience, though every case should be scrutinized and decided with reference to the facts under review. Before long the list will be enlarged and the surgical treatment of chronic Bright's disease will probably become fashionable, until mature experience and sober judgment have exposed the fallacy of the proceeding.

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15. *Centralblatt für Chirurgie*, 1902, No. 26, Beilage, p. 132.

16. Casper and Richter "Functionelle Nierendiagnostik. Berlin, 1901; contains the literature.

17. *Centralblatt fur Chirurgie*, 1902, No. 26, Beilage, p. 121.

18. *Centralblatt für Chirurgie*, 1902, No, 26, Beilage, p. 127.

19. Dr. Pel ("Mitteilungen aus den Grenzgebieten der Medicin und Chirurgie," 1901, ii, x) in explaining the favorable results of renal incision in hæmaturia and colic, lays stress on the important rôle the vasomotor and sensitive nerves of the plexus renalis are playing. The tearing and detaching of perinephritic adhesions should also be adduced as factors to which the subsidence of pains after operation may be ascribed.

135 EAST SIXTY-FIRST STREET.

WHAT SHALL WE DO WITH OUR CONSUMPTIVE POOR, BEING A DISCUSSION OF DR. KNOPF'S PAPER.

By DR. ALFRED MEYER,
NEW YORK.

UNLESS we wish to include the old Spartan method of destroying the weaklings, there are only two methods open to us in dealing with the consumptive poor. The one would be simply to leave them to their fate, and the other to provide for them such care as would at least give them the ordinary fighting chance of recovery. To leave them to their fate is almost as unethical and abhorrent as to destroy them after the old Spartan fashion; and, as a matter of fact, every civilized community has adopted, at least in principle, the method of providing free care for their consumptive poor. The difficulty the world over has been two-fold; first, that the number of cases to be cared for is so large that the provision for them has been pathetically inadequate, whether aid were extended from the public purse or by private philanthropy; and second, that large numbers are cared for so late that they must needs be classed as hopeless when they present themselves for charitable relief.

The first difficulty, that of inadequate provision, has been growing rapidly less during the past few years. Under the stimulus of Koch's discovery of the tubercle bacillus, of a reduced mortality, international congresses, national and state associations for the combat of tuberculosis, an ever-increasing amount of interest and help has been extended to this class of sufferers. In our own country the movement for State aid has spread with striking and encouraging rapidity throughout the Union, in spite of the twin bugaboos of paternalism and expense. In nearly every community a handful of professional and lay workers have been able to keep up public interest in this large and many-sided question. In this connection it is of interest to note that in Massachusetts, where the first State sanatorium for consumptive poor in the United States was established only three and a half years ago, the results have been so encouraging in the way of cure, improvement, and hygienic education of patients, that there has already been a strong pressure on the legislature to duplicate the institution in another part of the State—a striking contrast to the indifference of the public during the years of agitation that preceded the first appropriation of State funds for this purpose. The trustees, very wisely, I believe, have preferred to enlarge the existing institution from 180 to 250 patients, and by this action have exemplified for the hundredth time that pioneers in great movements are, in the end, the most conservative guides.

The second great difficulty, the advanced and hopeless stage at which many cases begin the active fight for recovery, is also growing less, because of the earlier recognition of the disease by bacteriological methods and by serum diagnosis, the increased number of physicians who are skilled in this special field, the spread among the masses of the knowledge that in its early stages it is a most curable disease, and, lastly, because of the increasing number of sanatoria and the propaganda made for them by discharged patients.

In most particulars I am in perfect accord with the reader of the paper. I wish especially to accentuate the point that a large proportion of cures may be effected without expatriation, without exhausting journeys, without breaking up of families, without great traveling expense, without a complete isolation from those who are dear to us, without the brooding homesickness that comes with the rupture of domestic ties and banishment to distant lands and strangers. The corollary of this position is the one that finally each country may solve its own tuberculosis problem at home, this being true of even the smaller political units, such as states, counties, and large cities. To make this possible the State, municipalities, and private philanthropy must vie with each other in the friendly rivalry of providing:

1. Institutions beyond city limits for the incipient and presumably curable cases of tuberculosis, of which the Bedford Sanitarium of the Montefiore Home is a good example.
2. Institutions within the city limits for advanced and presumably incurable cases, like the Blackwell's Island institution in charge of Commissioner Folks of the Department of Charities, New York City.
3. A series of separate wards in the city hospitals to act as clearing-houses for cases of doubtful diagnosis and prognosis.
4. A system of financial aid to the families of adult patients to encourage early treatment.

Institutions of the first type, sanatoria, if possible should be placed within forty or fifty miles of the great cities. Besides the general consideration in favor of such action, that cases may be cured there, the following should be remembered:

First.—Largest number of cases likely to come from there.

Second.—Convenience of access for physicians and laymen who will be charged with the medical and administrative supervision.

Third.—Nearness to base of supplies.

Fourth.—Special force of the example for the whole anti-tuberculosis movement when such institutions are placed near large cities.

Much may be said in favor of establishing farm gardens and dairies in connection with sanatoria for consumptive poor. They give healthful employment and diversion to the patients, they give them training in and taste for agricultural pursuits and diminish the probability of their return to city tenements, with its attendant danger of relapse. In addition, such employment helps maintenance of discipline among the usually large number of ambulant cases, and very materially assists an economical administration by supplying the institution with the products of the patients' own labor. The cases for such work must be carefully selected by the medical officer of the institution, as also the amount and character of the work assigned to each one, and the effect upon him watched. This method has been tried on a small scale at the Massachusetts State Sanatorium, but nowhere, I believe, on so large a scale as at the Bedford Sanitarium of the Montefiore Home, Westchester County, New York, with which I have the honor to be connected. Two years ago when the institution accommodated only twenty-five patients the following farm products were raised by the patients under the supervision of a skilled farmer: 30 tons of hay, 160 barrels of potatoes, 160 barrels of apples, 70 bushels of onions, 350 bushels of corn, 1,000 heads of cabbage, 25 bushels of beets, 40 bushels of carrots, 100 bushels of turnips, and about twenty other kinds of vegetables. Since the opening of the new buildings one year ago the number of patients has increased to nearly 150, the number capable of doing work has grown in proportion and there has been a considerable surplus of farm products over and above the immediate needs of the institution. These facts appear to me to be of great importance and worthy of a wide dissemination among those interested in both the economic and medical aspects of sanatorium management.

THE PRIMARY TREATMENT OF RAILWAY INJURIES.*

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Mr. President and Gentlemen of the Society: The above title has been chosen for the few remarks to be made before you to-day, because it seems to me that, among a body of men brought together by a common purpose as we are, the discussion of such a topic would not be inappropriate, and to some of us possibly helpful. What follows is not intended to be limited to railway accidents exclusively, but applicable, in the main, to all classes of personal injury, regardless of the manner inflicted; though railway injuries do present some interesting and almost unique features, as will be pointed out later on.

Especially, what is here said concerning *shock*—surgical shock—can be applied to practically all cases of injury of any magnitude; yet in railroad surgery, above all others—and for palpable reasons—we meet with this element most often, manifesting itself in a grave form after an apparently insignificant injury.

What is shock? Within the memory of many of you here to-day—for it has not been so many years since—you look back and recall how vague and misty were your earlier understandings of this subject. Even to-day many of our works on surgery are inclined to treat this subject superficially and briefly; yet it is an important one, and an intelligent handling of it practically is based upon an intelligent conception of its pathology.

Owing to recent researches made by painstaking investigators, aided by the microscope, our ideas of this subject have been materially enlarged and made more accurate, although we do not yet know it all—nor is it likely that we ever will.

When an injury of any gravity is done the body surface we have *shock*—the degree and amount depending upon the violence inflicted. The symptoms of shock are referable to, and explained by, the effect on the *nervous system*, and especially the spinal cord and its sympathetic connections.

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*Read before the Association of Surgeons of Plant System at their annual meeting in Savannah, Ga.

Pathologists have been able to demonstrate decided changes in the ganglionic cells of the spinal cord—a shrinkage and contraction of the nucleus—with a vacuolation of the protoplasm of the surrounding cell, the same condition that obtains after overstimulation and exhaustion of these cells. In the graver forms of shock the vasomotor centers seem particularly to suffer, and thus we are able to account for the serious derangement of the heart and the circulatory apparatus. Briefly stated, then, it may be said that shock is a state of general depression, reflexly produced by damage done the peripheral nerves and with symptoms referable, in the main, to vasomotor paralysis.

Let us distinguish between surgical shock and collapse, restricting the latter to cases in which serious loss of blood is the causative factor; for it is the exception rather than the rule in railway accidents to have serious primary hemorrhage. If the violence done the part is sufficiently grave to injure the larger vessels, we usually find them sealed, owing to the crushing of their walls.

The symptoms of shock are: a depressed and enfeebled circulation, a lowering of body temperature, a pinched and expressionless countenance, pupils varying, though usually dilated; mental apathy, and a cold and sweaty skin; and in the graver forms a relaxation of the anal sphincter. Should the head be involved instead of mental apathy we may have profound unconsciousness or mental excitability.

In the *treatment* of shock, recalling the fact that the condition is one of nervous depression, our energies should be directed toward arousing this system—both centrally and peripherally. *Centrally* this may be done by the administration of the usual agents familiar to us all, as strychnine, nitroglycerin, brandy, whiskey, aromatic spirits of ammonia, morphine, or atropine; all of which should be given hypodermatically and not by mouth, if the condition be at all serious, owing to the difficulty in swallowing and the uncertainty of absorption from the stomach. Of these agents morphine, either singly or, preferably, combined with atropine, heads the list; the dose should be from ⅛ to ½ gr., sufficiently large to get physiological action. *Peripherally*, this may be done by heat; having the patient well wrapped in blankets; by the free use of hot-water bags to the body surface and by having the temperature of the room more than comfortably warm.

In addition to these we have an agent whose action can be attributed to both its central and peripheral stimulation—namely, the saline infusion. In severe cases of shock where immediate and decided results are desired, the infusion should be given intravenously and not subcutaneously. Let us pause for a moment to consider some of its physiologic actions; for its beauty lies in the fact that much of its action is physiological and mechanical and can thus be understood. Introduced into one of the superficial veins about the elbow and with a proper hydrostatic pressure, the fluid is rapidly dissipated through the veins of the arm into the larger veins of the neck, where, owing to the negative pressure there existing, the fluid will rapidly find its way into the heart, even though the venous circulation be much impaired. Here the nerve terminals in the endocardium and the intrinsic cardiac ganglia receive stimulation, and the heart is thus aroused; the heart being aroused and, at the same time, finding a volume of fluid with which to work, distributes this agent to the various organs and tissues of the body. Thus both the central nervous system is stimulated and likewise the peripheral nerves throughout the body, including the vasoconstrictors of the arterioles, which, as we we have seen, seem to particularly suffer in shock. This combined action of a central and a peripheral stimulation is an important one and does much toward restoring the tone and equilibrium of the circulation. Besides this, we have other effects produced by this agent which are also good, such as a dehydration of the tissues; increased metabolism; increased activity of skin and kidneys; and an increase in the number of red blood cells.

The administration of the infusion intravenously is not a difficult procedure; all that is really essential is a fountain syringe, small pocket case, and a small cannula for syringe. A medicine dropper, in an emergency, answers the purpose very nicely. The arm below the shoulder should be constricted so as to make the superficial veins stand out; the vein chosen is usually the basilic or cephalic, just above the elbow. After thoroughly cleansing the overlying skin, cutting down on the vein and thoroughly isolating it from the surrounding connective tissue, a double ligature is passed underneath for the purpose of securing the vein below and above the point of opening. The vein is now opened in its longitudinal axis, the lower ligature being at once tied just below the incision into the vein; the tip of the cannula is next introduced (after first evacuating all air from tube), and the fluid allowed to flow slowly in. The time required should be about half an hour or longer. The amount used will vary with the conditions; when there has not been much loss of blood two or three pints will likely suffice; if, however, there has been much hemorrhage, more will be needed, five or six pints, or possibly more. The radial pulse is a good guide; when this grows full and strong, we have an indication that there is a beginning return to the normal condition. The temperature of the fluid is a question about which there has been some dispute. Bloodgood of Hopkins states that it should be 100° F.; Dawbarn of New York holds that it should be 120° F. The one is, I believe, too low, the other too high. A temperature of 108 ° F. or 110° F. is probably about correct. In giving it with the apparatus above described there will be a loss of two or three degrees of heat in the passage of the fluid through the tube into the veins, and the resulting temperature will not be productive of any harm. After the necessary amount has been introduced, the upper ligature should be securely tied and the wound dressed with a simple sterile dressing.

The slight rigor and elevation of temperature that often follows the use of this agent is transient and seldom proves alarming.

Having, then, by these means, brought about reaction, our next step is to act, and to act promptly; nothing is to be gained by temporizing.

For example, suppose the injury be done an extremity, if there be mangling of the tissues and crushing of the bones, as there often is, then removal of the limb is the only procedure. But not infrequently we meet with cases in which the injury sustained is a compound fracture or dislocation, with considerable damaging of the soft structures; and the question of amputation is often a very difficult one to decide. Here experience and judgment count for much, and not infrequently does the life of the patient hang upon the course pursued at this time.

In railroad surgery it should never be forgotten that the damage done the adjacent soft structures is often much greater and more extensive than we might suspect, owing either to the extreme violence of a momentary acting force as in head-end and rear-end collisions, or to the continued action of the initial violence, as in the dragging of brakemen and switchmen caught under the wheels. In my own experience I can recall one or two instances where an attempt was made to save the limb and death followed. Whereas, had the limb been removed promptly, I believe that the chances of life would have been enhanced. One especially is instructive.

The patient was a man, about forty years of age; head-end collision. At time of collision the patient was in the water-closet. The violence of the blow sent him forcibly forward, injuring both knees. The injury to the left was a compound fracture of femur just above the knee-joint, with much damage to the soft structures, the popliteal vessels not being severed. The shock was profound, taking about twelve hours to react. After reaction was established the patient was anæsthetized, the wound was enlarged and cleansed; the ends of the bone were trimmed up and adjusted and an attempt was made to save the limb. As stated before, the popliteal vessels did not seem to be seriously damaged, and for this reason especially the effort was made to retain the limb. The patient reacted fairly well from the operation, but did not improve, and it was soon manifest that the limb would have to be removed. This was done, but the patient never reacted from the second operation, dying in about five or six hours afterward.

In this case I believe that, had the limb been removed primarily, the chances for life would have been greater. There is no question that, if the damage done a limb, and especially if the injury be above the knee-joint in accidents to the lower extremity—be so severe that restoration cannot take place—then the sooner the limb be removed, the greater are the chances for recovery. For a limb in this state is a serious menace to life and unquestionably serves to perpetuate the condition of shock.

As to the point to be chosen for amputation in these cases no rigid rules should be laid down. Each case should be handled on its own merits, remembering, however, always to give the laboring man all the tissue possible, especially, if it be the hand, for here, truly, "every little bit helps." In all amputations through the foot we should ever bear in mind that the function of the foot is that of *support:* and to successfully obtain this we should have a plantar flap with a dorsal cicatrix; for this alone will give a stump sufficiently strong to support the body without pain and without ulcerations. Chas. Truax, in his "Mechanics of Surgery," makes this statement: "Avoid amputation within three inches of the ankle-joint. Do not amputate between the metatarsal bones and the junction of the lower and middle thirds of the tibia. At all other points save all you can, and you will, in every case, have done the best for your patient." This is, I think, a little radical and sweeping, for by its observance we will have to discard all the old classical amputations of Lisfranc—through the tarsometatarsal articulation of Chopart—through the mediotarsal joint; of Symes—through the tibiotarsal, and of Pirigoff—a modification of the last named. Certain it is that in most railway accidents done the foot, where the injury encroaches near the ankle-joint, there is usually so much damage done the plantar surface that amputation through the lower third of leg is the most rational procedure. When the injury is done the leg between the ankle and three inches below knee-joint, then we should go sufficiently high to get flaps that will insure primary union; for here a non-cicatrized stump is of more value in after life than an additional inch or so of leg would be. When the injury encroaches upon the knee we should endeavor to save everything possible, for whether the peg-leg or an artificial limb be subsequently used, the integrity of this joint, with even a small leverage, will be found most useful.

Above the knee the same general rules apply. It is especially in these thigh injuries that we often find ourselves forced to advance considerably higher than the injured point for a healthy flap, owing to the much larger amount of soft structures here involved.

In injuries done the upper extremity, if it be the hand or any part of the hand, save everything you can, making palmar flaps whenever practicable, because the nerve supply to the palm is greater and more highly educated than is that to the dorsal aspect. An artificial hand is, relatively speaking, of far less value than an artificial foot.

Between the wrist and elbow or between the elbow and shoulder, sacrifice if need be a little tissue to insure a good stump.

In conclusion, I would emphasize the following points:

The importance of an understanding and appreciation of the nervous phenomena of shock.

The value of the saline infusion, intravenously administered, for the relief of this condition in its graver forms.

The importance of prompt surgical interference immediately upon the establishment of reaction.

The importance of a plantar flap where the foot is involved or a palmar flap where the hand is involved. Never uselessly sacrifice tissue; never sacrifice a joint; and ever strive to leave your patient with a smooth, painless, non-contracted, non-cicatrized stump.

A FURTHER CONTRIBUTION TO OUR KNOWLEDGE OF ELECTRIC OZONATION AS A REMEDIAL AGENT, ESPECIALLY IN THE TREATMENT OF TUBERCULOSIS.*

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THE scientific student of current medical affairs is apt to look upon recent progress in the therapy of tuberculous affections as merely the result of a natural process. He regards it as only one phase of the evolution of medicine, which, as we all know, is rapidly rising to a higher plane than even we of this electric age can picture in fancy's wildest color scheme. True, we are now beginning to appreciate the value of rational therapeutic methods, and to realize that drugs alone will not cure this intractable, insidious, and pernicious morbid process, by whatever name it be known. From a time beyond which the memory of man runneth not, the beneficent influences of sunlight and the atmosphere of elevated regions have been recognized in the treatment of tuberculosis. In fact, these are about the only measures that have positively availed much. Hence the time-honored injunction, "Go to a dry and sunny climate," founded upon empiricism rather than scientific observation perhaps, though I have not the least doubt that this advice is given with the sincerest motive in the large majority of cases.

It is now commonly understood that the air of a dry and sunny region is rich in that most active form of oxygen—ozone—upon which life depends. Who of us has failed to notice the peculiar odor that pervades the atmosphere after an electric storm? Who has not experienced the stimulating or bracing effect of the clear, pure air, after a midsummer display of Nature's artillery? Scientists state that the peculiar odor so apparent at that time is due to the presence of nascent ozone, the result of the electric discharges, and that it clears and purifies the air. Is it unreasonable to suppose that electricity is ozone?

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* Read before the American Congress of Tuberculosis.

The fact that ozone is such a powerful oxidizing agent suggests the propriety of utilizing this property in the treatment of disease. If it be possible, as we know it is, to generate ozone electrically and force it into the body, is it not possible that the cause of a pathologic process may be destroyed—oxidized—and a normal, physiologic state reëstablished? I believe it is possible to attain just such results, and I believe that this is the key to the successful treatment of tuberculous affections, as I shall endeavor to demonstrate from my own experiences.

In my previous paper, which was published in the *New York Medical Journal* for January 18 and February 1, 1902, I explained the *modus operandi* of the generation and administration of nascent ozone. By this method ozone is forced into the body, taken up by the circulation and carried to the tissues wherein pathologic processes may be at work. There its effects are manifested in the arrest of the morbid operation and restoration of the structure and function of the affected organ. This apparatus produces a current which is sufficiently powerful to break up the molecular arrangement of the oxygen of the atmosphere, with the formation of ozone. The machine is essentially a system of coils, which multiply the voltage, the current being taken directly from the street main, to which connection is made by an ordinary plug. The capacity of the apparatus is 1,000,000 volts, at from one-fifth to one-sixth of an ampere, according to the intensity desired. To the machine is attached a single wire, which leads to a Geissler vacuum-tube and an ozone generator. This generator consists of a single loop of wire or of a brush made of many fine wires. Off its points and through the tube the electric fluid forms a fine spray, producing ozone, colored light, and heat.

Owing to the low amperage, there is no shock or unpleasant sensation in the use of this apparatus, such as is common in the comparatively low-voltage machines. To facilitate its use, a cabinet has been constructed high enough to permit a man to stand comfortably, and long enough to allow him to lie down, its area being kept purposely small, so that it can be heated at a small expenditure of electric current, and that its atmosphere can be quickly and readily permeated with ozone. It is fitted with a glass slab on a suitable table, and with four clusters of eight sixteen-candle-power lamps, two of which clusters are placed above and two below the slab, each fitted with a reflector and shade, which can be moved up and down, so as to secure varying degrees of heat in accordance with the requirements of the treatment; also with attachments for electrodes, a push button connected to a buzzer on the outside, and the ozone generator. Reflectors are placed around the sides of the cabinet, made of glass, which, together with the clusters of lamps mentioned, insure every portion of the exposed body being subjected to the effects of light rays.

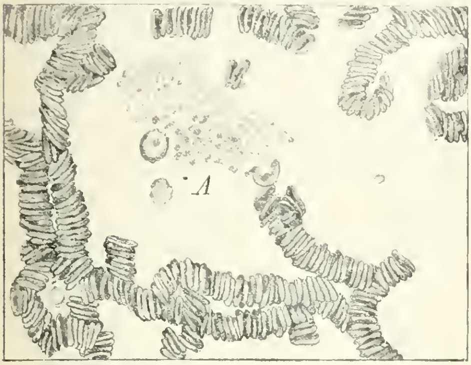
During the course of the treatment the atmosphere of the cabinet is permeated with nascent ozone, as before stated, which the patient inhales, while exposed to the heat and to the light rays, these rays resembling very closely in therapeutic value those from the sun. At the same time he grasps the electrode through which the current is passing, and, in a few moments, is thrown into a profuse perspiration. It has been found necessary for the patient to remain in the cabinet from twenty to thirty minutes to obtain the best results. After treatment he is subjected to a shower-bath for its cleansing effect upon the skin; then he is massaged with the electrode over the region where the disease is seated, to stimulate the muscular, cutaneous, or visceral circulation, and thus favorably influence the nutrition of the parts operated upon.

Ozone is carried into the body by inhalation and forced into localized areas by the Geissler vacuum-tube and generator, thus ozonizing all the tissues beneath the chosen locality. When the electrode is passed over normal regions no special sensation is experienced; but when a congested or inflamed area is reached pain is instantly felt, varying in degree according to the severity and extent of the inflammatory process. From the above statement, the diagnostic value of the electrode in locating internal inflammations may be understood readily. When a severe pain is developed a lighter current is used, or the electrode is frequently withdrawn. With these precautions it is found that as improvement takes place the full current can be applied with little or no discomfort.

In 1895 Molassez and Murphy described the effect of opening the abdomen and admitting air in the treatment of tuberculous peritonitis. It seemed that the air in some way checked the tubercular process. Watkins states that tuberculous matter, a product of the tubercular process, can be seen in the freshly-drawn blood of persons suffering from tuberculosis, but that it disappears after exposure of the blood to the air for a few minutes. I have observed this tuberculous matter in the blood of all cases of phthisis that I have treated by electric ozonation, and I have watched its gradual disappearance under the oxidizing influence of the agent employed. The same effect follows the employment of electric ozonation in lupus and other superficial forms of tuberculosis.

To my mind the idea that consolidation of the lung in pulmonary tuberculosis is always preceded by a pneumonic process is not yet clear. The pulmonary vesicles may become obstructed or filled with mucus, and their usefulness may become impaired, not as the result of a true pneumonia or inflammation, but rather as a consequence of impairment of normal function. The next step is the hardening of the vesicular contents, and in this way solidification of an entire lobule or lobe may ensue. From this viewpoint it is easy to explain how such tuberculous matter may be oxidized and dissolved, and the air cells cleared for the use for which they were designed by Nature. From two to six weeks' treatment is required to accomplish such a result; yet a local congestion may remain, so that the exudation is liable to recur until, under a continued course of electric ozonation, the structure is restored to a healthy state.

One great advantage in the use of this method is its dual action. While the local conditions are yielding to the gentle though aggressive effects of ozone, the general condition of the patient is made to feel its subtle influence, in the restoration of nerve-force, and improvement of the circulation and nutrition. In the course of two to four months the patient is usually so much improved as to warrant a most favorable prognosis. The general distressing symptoms abate from almost the very beginning of the course of treatment: the temperature and pulse rate fall, breathing becomes less rapid and labored, the appetite improves and sleep is more natural. After the areas of pulmonary induration begin to clear up, daily microscopic examinations of the sputum reveal a gradual reduction in the number of bacilli tuberculosis, streptococci and staphylococci, the latter disappearing first.



It is interesting to note how quickly nutrition is reëstablished under this mode of treatment. Foods and medicines, which formerly could not be tolerated, are now digested and assimilated, and utilized in the rebuilding of the depleted system. Of course every effort should be made in the management of these cases to reestablish the normal functions. To this end not only medicinal agents, such as iron, ammonium carbonate, strychnine, and laxatives should be employed, but also any indicated remedies should be judiciously prescribed *pro re nata*. Exercises designed to develop the physical powers should not be neglected, especially those that improve the capacity for breathing deeply and strengthen the voluntary muscular apparatus. In fact, I advise the employment of any rational means to aid the patient to recover his health.

Allowing that tuberculous matter is of an alkaline reaction, I have found that in order to facilitate its disintegration and absorption there is an advantage in endeavoring to "acidulate" the system, as it were, by means of acid drinks and inhalations. It is doubtless true that the effect of electric ozonation is to modify the alkalinity of the *materies morbi* and break down alkaline deposits; yet I have found that the mucopurulent nummuli are softened and expectorated with greater facility after the use of an acid inhalation. When the lung tissue has broken down the separation and discharge of the necrotic material is hastened by the same treatment. I have seen as much as a pint of débris discharged during a paroxysm of coughing, with great benefit to the patient. The acid treatment is applicable also to tubercular disease of the digestive tract, especially in advanced cases.

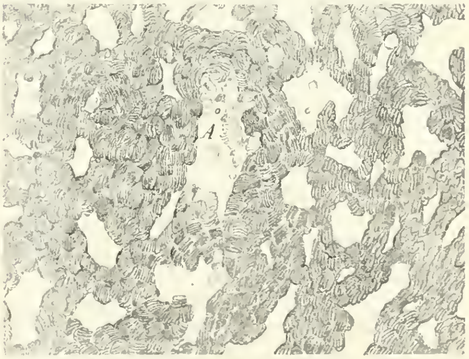
I believe the time has come when we shall have to admit that incipient tuberculosis is discernible only by an examination of the patient's blood, and that when the so-called first stage of the disease is recognized by the ordinary methods of physical diagnosis, the morbid process is already well established. Tuberculous matter, as observed under the microscope, appears granular, and sometimes as a cloudy mass resembling mucous. It is found in the serum, and sometimes is associated with the tubercle bacilli, and broken-down blood-cells, as shown at "A" in these photographs. An examination of freshly-drawn blood enables the expert to make an early diagnosis, long before the disease can be recognized by physical signs alone Advantage being taken of this fact, I am fully persuaded that the progress of the disease can be checked at this stage in almost every instance, when the habits of the patient can be controlled.

In addition to the measures referred to, it is important to institute a thorough method of disinfection of the rooms in which the patient lives, his wearing apparel, and his bedding. The pillows, especially, should be sterilized daily. When ozone cannot be utilized for that purpose, fumigation with formaldehyde is advisable. The mouth and nares should be douched daily with sterilizing agents, such as a solution of electrozone or hydrogen dioxide. Daily douching of the stomach and bowels with the same solutions would also be of service.

When the symptoms of tubercular disease are so conspicuous as to mask all other disease signs, the physician should be on his guard, lest complications be entirely overlooked. For instance, nasal catarrh should not be neglected. The same remark applies to rheumatism, malaria, and syphilis. The digestive functions must be carefully safeguarded, and the vital forces must be sustained. A reasonable amount of exercise is better for the patient than any form of the "rest-cure."

As a general result of my experience in the treatment of morbid processes by this method, I may state that resolution is hastened very markedly. Its beneficial effect upon the blood is most convincing, and is shown by an increase in the number of red discs, with a corresponding increase in the percentage of hæmoglobin and a diminution in number of the white corpuscles and destruction of pathogenic bacteria. The treatments are usually given daily until satisfactory results have been obtained, which, in a large percentage of cases, will ensue in a month.

In my former paper I reported a number of cases of various chronic diseases in which electric ozonation had been employed with definite results. At present I am giving particular attention to its effects in tubercular cases, and I hope to offer, ere long, a more tangible statement of the results of my observations in this class of cases.



A Gift of Two and a Half Million Dollars to London Hospitals.—Lord Strathcona and Mount Royal of Montreal has presented property worth half a million pounds to King Edward's Hospital Fund, formerly the "Prince of Wales' Hospital Fund," which was established several years ago for the purpose of extending financial aid to the hospitals of London, and which has prospered greatly through the labors and the influence of its royal patron.

TWO UNUSUAL COMPLICATIONS FOLLOWING CATARACT EXTRACTION: (1) DEATH AFTER CATARACT EXTRACTION FROM DIABETES; (2) DELIRIUM TREMENS FOLLOWING EXTRACTION OF CATARACT.*

By THOMAS R. POOLEY, M.D.,
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The occurrence of complications other than those which are directly due to the surgical procedure after cataract extraction has received very little consideration, although all the possible phases of reaction dependent upon the latter cause have been described *ad infinitum* and almost *ad nauseam*. It is this consideration which determined me to report the following two cases:

Case I.—The patient, a woman sixty years old, was operated upon for cataract of the right eye on December 4, 1901, in the New Amsterdam Eye and Ear Hospital, by my colleague, Dr. George A. Taylor. The following brief history is entered upon the hospital records:

Eight months ago she first noticed failing sight in her right eye, which gradually became worse, until she was only able to discern light from darkness; she had had diabetes for years, and previous to the operation was for a considerable time under the treatment of Dr. Warner, and at the time of her coming to the hospital her urine showed an abundance of sugar. Before the operation was undertaken she was put upon a strictly anti-diabetic regimen and treatment under the care of her physician, Dr. Warner. At the time of her admission for operation there was a mature cataract of the right eye, mostly cortical in structure, with very little nuclear opacity. Perception of light and visual field excellent. The left eye showed an immature cataract of the same character, with vision reduced to counting fingers at a few feet. She was exceedingly anxious to be operated upon and gladly accepted any additional risk which might ensue from her diseased condition.

The operation, which was made under cocaine with the most complete regard to asepsis, was completed without the slightest mishap; iridectomy was made, the latter procedure being determined upon beforehand as giving the best chances of success. After the operation the lips of the wound were in apposition, there was still some cortical matter left in the anterior chamber which was not interfered with. The eye was thoroughly flushed with sterilized solution of boracic acid and the patient put to bed.

December 5.—Slight injection of conjunctiva, no pain, no infection, no prolapse of iris, shallow chamber, and wound not closed.

December 6.—Conjunctiva less injected, the cornea clear, no pain, counts fingers readily, a little incoherent and drowsy. She was given ten grains of trional and fifteen grains of citrate of potassium.

December 7.—Drowsiness more marked. Diagnosis, diabetic coma, not profound. Carbonate of lithium and codeine were administered.

December 8.—Eye clear, still counts fingers; wound not yet closed, no injection, appetite poor, nausea, and remains in a comatose condition until aroused. She is now taking milk, two ounces every four hours, codeine and arsenate of sodium combined with carbonate of lithium; this she takes with her milk.

December 9.—No appetite; restless. Passes enormous quantities of urine. Sat up during the night and bumped her eye against the bed-post; hemorrhage into the anterior chamber took place; the wound is partly closed.

December 10.—Hemorrhage in the anterior chamber is absorbing; the diabetic condition is worse; the wound is entirely closed, but there is slight conjunctival injection. Continued treatment as above. Coma more pronounced. Patient apparently dying.

December 11.—Died at 1.30 A.M.

Case II.—J. L., aged sixty-five, admitted to the hospital March 4, 1902, with mature cataracts in both eyes. Cataracts were of the usual senile type with large nuclei; perception of light and the visual field were good. The patient, however, was evidently a chronic drunkard. His wife, who accompanied him, gave the following history: For a number of years he drank to excess; suffers from alcoholic gastritis, but that he had had delirium tremens several times was carefully concealed and did not come to light until after the operation. Before his admission to the hospital, the patient had been seen by me at my office and was as thoroughly well prepared for the operation as was possible under the circumstances.

The operation was made under cocain and to my surprise uninterrupted by any excessive show of nervousness on the part of the patient. Simple extraction was accomplished without the slightest accident and with the least possible trauma. After the extraction of the cataract the lips of the wound came into perfect apposition; there was no prolapse of the iris, the anterior chamber rapidly refilled, and the iris was rapidly replaced to its normal position. Both eyes were bandaged and the patient was put to bed Just before the operation the patient took one pint of whiskey.

March 5; 3 P.M.—Bandage was removed; there was little injection of the eye. No prolapse. Perfectly round black pupil, but the patient had now become excessively nervous, although he had been allowed whiskey at short intervals ever since the operation. At 10 P.M. he began to talk incoherently and later became slightly delirious. He was given liquid diet and whiskey.

March 6; 3.30 P.M.—Bandage removed, counts fingers; iris in good condition; lips of wound in apposition. At 5 P.M. the patient was rapidly developing delirium tremens. He was given 30 grains of bromide of sodium, 10 grains of hydrate of chloral every three hours which quieted him during the night.

March 7.—The patient is now excessively violent and it is almost impossible to keep his bandage on. It became necessary to have a nurse by his bedside constantly. He was given 20 grains of bromide every two hours and a hypodermic injection of $\frac{1}{50}$ of a grain of hyoscine at 8 P.M. At 10 P.M. $\frac{1}{50}$ of a grain of hyoscine and one-half grain of morphine were given hypodermically and the bromides were stopped. He then slept from one o'clock to 8 A.M.

March 7.—Very delirious. Tympanites, suppression of urine, bowels have not moved since the operation and he has now prolapse of the iris and the wound is open. He still, however, counts fingers readily during the moments of abatement of his delirium. At 10 P.M. he received one-fourth grain of morphine, $\frac{1}{50}$ grain of hyoscine. Four ounces of milk with two ounces of whiskey were given every hour and a half.

March 8.—Delirium still worse. Pulse weak. Patient is only restrained now by a man nurse who sits at his bedside day and night. The bowels move freely; there is prolapse of the iris, with infiltration of the wound; the temperature is normal, pulse 92 respiration 24. Strychnine $\frac{1}{60}$ of a grain every four hours two ounces of milk and whiskey every two hours, hyoscine $\frac{1}{100}$ of a grain every four hours. Infiltration of the wound is worse.

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*Read before the American Ophthalmological Society, July 16, 1902.

March 9 and 10.—Delirium continued with hardly any intervals of relief, and on the 10th there was more infiltration of the wound and the anterior chamber was filled with pus. At this time he was given apomorphine with better effect in relieving the delirium.

March 11.—The wound was gaping, there was prolapse of the iris, and anterior chamber was filled with pus. The condition now, so far as the eye was concerned, seeming hopeless, the patient was sent to his home for treatment by his family physician.

These two cases are extremely suggestive and interesting from several points of view. In the first place, the occurrences which immediately followed the operations illustrate what I think, no doubt, has occurred in the experience of all that any pre-existing disease or abnormal condition, although it may have been improved or held in abeyance by treatment, is very likely to be aggravated by any surgical procedure.

In the first case although the patient undoubtedly suffered from diabetes at the time of the operation, still her condition was not such as to warrant us in the belief that the operation was unjustifiable, or would have resulted, as it did, in a fatal issue.

As has been remarked in the history of the case, the patient was very carefully prepared by the treatment of an excellent physician before the ordeal of the operation, and notwithstanding, the occurrence of diabetic coma made its appearance within less than forty-eight hours after the operation, and rapidly progressed to a fatal termination.

This is the first occurrence of the kind which has ever come under my notice, although I have not hesitated to operate upon diabetic cataracts, always observing, however, the precaution to have the patient placed under proper treatment preliminary to operation, and frequent examinations of the urine made.

One case in particular, which I operated upon at intervals of about two years, was that of a man of seventy-two years, who had been suffering for a number of years with diabetes, and I obtained a very satisfactory result in both eyes, healing occurring without any complication whatever, and visual acuity also being satisfactory. In this case the patient was immediately put upon the usual anti-diabetic regimen for a number of weeks before the operation and during the healing process, so that, as the outcome of my own experience, I shall still continue to operate upon these subjects.

In the second case, it seems to me that the occurrence of a severe attack of delirium tremens, such as supervened after the operation, is even more dangerous to the integrity of the eye than in the preceding one, because of the almost impossible solution of the problem how to keep the patient quiet and prevent injury to the eye, which is almost sure to ensue. Although the patient and his wife freely admitted that he drank to excess for many years, and the nervous tremor which he showed at the time of his consultation with me were sufficient evidences of chronic alcoholism, still, with that fatuity so often shown by patients in their dealings with us, it was carefully concealed from me that he had had delirium tremens, which, if I had known, might have led me to reject the operation, or, at all events, to have made more careful preparation beforehand to secure the patient from injuring himself. As it was, had I only the usual resources of the hospital to depend upon. If I were to operate again upon such a case, I should feel inclined to restrain the patient by the use of straps, a straight-jacket, or even a plaster-of-paris jacket, until the wound had healed.

It is somewhat remarkable that there should have been so little reaction and such favorable closure of the wound at first, and that it was not until the violent efforts of the patient had resulted in a traumatic opening of it that subsequent infection gave rise to the loss of the eye. It seems to me, too, in this connection, that I had taken the precaution to make an iridectomy this might possibly have been averted.

Some recent German writer, whose name I do not now recall, remarks that the only way to treat such a case after operation is to let him take his whiskey bottle to bed with him. This in effect I really did, for it will be observed that virtually he was given all the whiskey he desired. That this, however, and the heroic treatment to which he was subjected after consultation with my colleagues had very little effect upon the course of the delirium, is obvious enough, and there is only one drug, viz., apomorphine, which seemed to have a decided effect in relieving the delirium.

107 Madison Avenue.

SANITARY PROTECTION FOR RURAL DISTRICTS.

By HARVEY B. BASHORE, M.D.,
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As every one knows, the rural districts in this country are very inadequately protected by sanitary legislation. The cities, for the most part, are girt with sanitary laws which isolate them somewhat like the walled cities of medieval days, but this sanitary wall is a greater snare and delusion than the stone walls of our ancestors. Modern civilization, with its increased modes of travel, bring the country and the city into most intimate connection, and isolation is no longer possible. If the city expects to be safe, the whole country must be protected, for danger often lurks beyond the city's borders. Where is the boasted municipal protection if a person can travel from a suburban home where diphtheria rages to a crowded city? Where is safety if a smallpox patient can be buried with a public funeral just outside the city limits? Yet such things have happened and are happening to-day in many places in this country. Let me quote a few examples: Twelve patients with smallpox walking around in the country several miles from a town of 5,000 inhabitants; one death and a public funeral; the father of the dead child telling all this to the health board of the neighboring town, which, with the aid of the State Inspector, was investigating the cause of this outbreak of smallpox. This man claimed that no one told him he had smallpox, although the marks of the disease were indelibly stamped on his face.

Yet another story: Eighteen cases of diphtheria within one mile of a city of 50,000 people—closely connected by trolley and with intimate business relations—yet no legal restraint put on those people. Still that city is spending a good deal of money for sanitary protection.

England long ago found out the value of rural sanitation, and rural England, consequently all England has better sanitary protection than, probably, any other country. To learn all this England had to travel over a rough road strewn with the wrecks of mistaken ideas. Why should we tread the same hard path? Better begin with England's knowledge as it is to-day.

As the conditions are at present in this country each State makes its own laws, and, as a consequence, there is no general uniformity. The incorporated places—the cities and towns—take care of themselves, and they do it fairly well; but the administration in the outlying districts is varied and inadequate. Some States have county boards, some township boards, and some none at all. To be more exact, something like thirteen States have township boards and about twenty have county boards; this difference being probably due to the fact that in some States the county and in others the township is the political unit. Then, again, there are two States, Pennsylvania and Florida, which have neither county nor township boards—the state itself acting through agents in each county.

Although these States having a local board make a fairly good showing on paper, it is far different when it comes to actual practice, and no wonder, for of the thirteen township boards eleven are *ex-officio*, and of the twenty county boards eight are *ex-officio*. An *ex-officio* board of any kind is not generally of much value; it is the politicians' method of shifting work when the people are unwilling to pay taxes.

As over half of our States have these kind of boards, it simply means that over half of the country do not understand the advisability of paying out sufficient money for sanitary protection.

If one looks over the reports of these various local boards he can see in most instances lack of care—in many cases no report at all is given. It means that the right men are not selected because there is not sufficient renumeration and dignity attached to it to warrant the right man taking it. We may talk about patriotism—men have fought and died for their country and homes, and will do it again, but it is not right to ask them to serve the State for glory alone, in times of peace.

In England the county health officers, like our State officers, are trained sanitarians who are interested in the work and take pride in it, and they get just about twice the pay that the corresponding man gets in this country. Then there are health officers for each district (corresponding to our counties), every one a trained sanitarian and in the work for life; this local officer tramps, or bicycles, or drives, over his district again and again, and, in the course of years, gets to know every sanitary defect in it. He may advise, probably he does much of it, but back of his advice is the law. Such a system as this can only be potent for good.

Only three of our own States have a single county health officer, and one of them, Connecticut, has the peculiarity of having a lawyer for the county officer. How such an anomaly crept into Connecticut one can hardly conceive, for no one doubts but that the health protector of fifty or a hundred thousand people should be a sanitarian, and I have yet to hear of any lawyer who has had special training in sanitary matters. Of course, this system may do very well for administrative work, but it certainly will not promote the growth of sanitary science.

A single county health officer—which is, I think, the ideal method—should, of course, be a sanitarian—the more so the better; he should be appointed by the State Board of Health and be compelled to report to them, so as to centralize the authority; his appointment might be ratified by the local court. This ideal county health officer should have behind him the sanitary code and laws of the State, and it should be his duty to enforce them.

The township health officer might also be a physician or sanitarian, but I believe a very effective service could be rendered by having a layman and having him act simply as a sanitary policeman under the county officer to whom he would be responsible for his acts. He should placard, report nuisances, serve notices, etc. You will say that this is all very nice, but the cost! What of that? By taking a physician in active practice for county health officer (and many will be found capable), one may be procured in almost any place in the country for something like $400 or $500 per year, for when once organized the system would take very little time from his practice—the telephone and trolley facilitating matters in most counties.

A township health officer or policeman can be procured for something like $120 per year. Suppose there are ten townships in the county, this would make $1,200, and adding to this the salary of the county officer, the whole amount would hardly reach $2,000 per year—in some places more and in some, perhaps, less. Now suppose this county has taxable real estate to the value of $20,000,000, which is certainly a fair average in the Eastern and Central States; to furnish this meagre sum—to have efficient health protection—would cost only an additional tax rate of $0.0001—1-10 of a mill: this means ten cents per year for the man who owns a thousand-dollar house or one dollar per year for the man who owns a ten-thousand-dollar farm—surely any community can afford to pay this.

HYDROTHERAPEUTICS IN GASTROINTESTINAL DISEASES.*

By GEORGE MANNHEIMER, M.D.,

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THE most important and valuable hydrotherapeutic procedures in gastrointestinal diseases are lavage and douching of the stomach and of the lower bowel.

We wash out the stomach in all cases where the onward movement of the gastric contents is interfered with owing to stenosis of the pylorus or the duodenum, with consecutive stagnation and fermentation, and in cases of intestinal obstruction. We furthermore practise lavage when there are accumulations of foreign substances in the gastric contents; for instance, mucus, as in chronic gastritis, pus from breaking-down neoplasms, superacid and superabundant gastric juices, as in gastrosuccorrhœa.

Nowadays intragastric hydrotherapy is used much more extensively; thus in the treatment of various gastric neuroses, motor and sensory. In cases of simple atony, a few washings of the stomach sometimes suffice to restore normal conditions, care being taken to avoid overdistension of the stomach and to evacuate all the water that has been introduced.

In gastralgia, douching of the organ with hot water may prove efficient. In nervous anorexia, nervous anacidity and subacidity, douching of the fasting stomach with water at 60° to 75° can restore normal secretions and the desire for food. Sodium chloride or infusions of bitter tonics are generally added to the water, in order to enhance its action.

The chemical and physical effects of such drugs as bicarbonate of soda, Emser or Carlsbad salt, bismuth or silver-nitrate, are utilized in many of the conditions mentioned, by adding them to the water.

The rationale of intragastric hydrotherapy is easily understood in cases of ischochymia, where its action is purely mechanical. In cases of ileus, evacuation of the gastric contents, and the consequent relief of tension, create a kind of syphonage from the intestines toward the stomach, thereby relieving intestinal tension and affording conditions favorable to the overcoming of the obstacle. These washings have to be repeated frequently at intervals of two to three hours.

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*Read before the Metropolitan Medical Society, April, 1902.

In functional disorders water of higher temperature acts as a sedative, cold water as a stimulant, to the motor and secretory functions.

The psychical and moral effect of intragastric hydrotherapy certainly plays some part in bringing about the good results in some of these latter cases. Still, I want to emphasize that intragastric hydrotherapy in that group of cases commonly called gastrointestinal neurasthenia or nervous dyspepsia is very apt to prove a complete failure. This is preeminently the domain for the external application of water, which I will discuss later on.

In catarrhal jaundice, lavage of the stomach not only serves to relieve the distressing gastric symptoms, but may also help to dislodge, in a mechanical way, the plug of mucus occluding the common duct.

Dr. Ziemssen of Wiesbaden recommended gastric lavage with Wiesbadener Kochbrunnen (practically corresponding to normal salt-solution) as a cure for habitual constipation. From one to two pints are allowed to run in and out by alternately raising and lowering the funnel. This procedure excites active intestinal peristalsis, and, if practised daily for several weeks, may accomplish permanent results.

The introduction of water into the lower bowel is one of the most popular therapeutic measures. It is performed in various ways, and is easily modified according to the end in view. We may thus use small or large quantities of water, at varying temperatures, in short or long intervals, under high or low pressure, in various positions of the patient. and with various additions, such as salt, soap, glycerin, or oil. The commonest indication is coprostasis, acute or chronic. Here the injection softens the fæces, thereby facilitating their expulsion, and excites the peristalsis of the lower bowel. The best and simplest form of an evacuating enema for an adult is the injection of about a pint of water at 80° to 95°, with the addition of a little soap, administered from a fountain syringe in the recumbent position, and retained as long as possible. These injections may be used over long periods of time without doing harm.

The presence of oxyuris vermicularis, or other parasites, calls for mechanical cleansing of the colon.

All diseases of the large intestine are amenable to local treatment by means of water, but chiefly chronic cholitis with diarrhœa and mucus in the stools. Irrigations, with or without antiseptic or astringent admixtures, are here the most effective therapeutic procedures; likewise in ulcerations of the rectum and colon.

The best non-operative measures in chronic stenosis of the colon, in intussusceptions, in strangulated hernia, are high enemata of large quantities of water, or smaller quantities, with the addition of 5 to 8 per cent. sodium chloride, frequently repeated under low pressure, in the knee-chest or Trendelenburg position, eventually under anæsthesia. These measures may prove successful by removing fecal impactions, by facilitating the return of an intussusception, the untwisting of a volvulus, or the liberation of a strangulated loop. All these latter results, though difficult to explain in theory, have been observed in practice.

In the treatment of catarrhal icterus, irrigations of the colon have been recommended by Mosler and Krull. Mosler employs injections of a pint of lukewarm water three times daily, while Krull injects one to two quarts of water at 65°, and even lower once daily. The action of the former injections is eccoprotic, cleansing, diuretic, and indirectly cholagogue through increased absorption from the bowel, while the latter excite more energetic peristalsis of the colon and, perhaps, indirectly of the bile-ducts.

In enteralgia or intestinal colic, due to spastic constipation, lead poisoning, high copious enemata at 100° F., frequently repeated, are very serviceable.

The effect of prolonged flushings of the colon with hot saline solution by means of Kemp's tube on the general circulation, on the skin and kidneys, is well known.

To supply the system with water, we use the rectal route in cases where the ingestion of water into the stomach is undesirable, as in gastrectasia, or in the beginning of an ulcus-cure.

The local effect of heat and cold on the rectum is utilized in the palliative treatment of hemorrhoids.

The benefits obtained from internal hydrotherapy, that is lavage of the stomach and bowel, in the acute gastroenterites of children, are striking.

Turning now to the external use of water, it must be stated that there are no special hydrotherapeutic procedures for gastrointestinal diseases. These furnish the principal indications for the local use of water in the form of compresses, other local applications, and hip-bath

Compresses require an exact technique and an exact understanding of their rationale. If we want to reduce temperature and combat cerebral symptoms, as in the acute gastroenteritis of children, we apply a compress around the entire trunk of several layers of linen, well wrung out in water at 60° F., and covered by dry linen or flannel, and wet it again every hour until the desired effect is obtained.

Stimulating compresses covering the entire trunk or only the abdomen are applied in the same way, but they remain on the body until warm, that is for about four to five hours, or until dry—for instance, over night. They are indicated in chronic inflammatory conditions within the abdominal cavity, in venous stasis of the abdominal organs, and they allay manifold unpleasant sensations that interfere with the comfort and sleep of patients suffering from organic and functional disorders of the stomach and intestines.

Hot poultices have an undoubted value in favoring the absorption of local peritonitic exudates, whether these originate from a diseased appendix, from an inflammation of the sigmoid flexure, from perigastritis, or whether they form in the neighborhood of intestinal neoplasms. Poultices play an important rôle in the classical treatment of gastric ulcer. A hot-water bag placed over the abdomen is one of the most popular and effective applications to soothe intestinal colic. The so-called Winternitz combination compress deserves special mention because it is not well known. It consists of a stimulating abdominal compress, enclosing a rubber or Leiter's coil, through which water at 110° F. or more circulates continually. It is to be worn for an hour or longer at a time. It is a very effectual remedy for gastralgia, enteralgia, attacks of singultus or ructus, and for obstinate vomiting.

Local applications of cold in the form of iced compresses, rubber coils through which ice water circulates, or the ice-bag, are widely used in the treatment of diffuse and circumscribed peritonitis, to control hemorrhage from stomach and bowels, and in excessive meteorism. It is extremely doubtful whether an ice-bag really checks internal bleeding, or acts as an antiphlogistic on the locus morbi in acute appendicitis (perhaps, excepting people with very thin abdominal walls), but it certainly allays pain, compels the patient to lie quietly on his back, possibly lessens tympanites, and possibly inhibits peristalsis when applied for over an hour.

Sitz-baths or hip-baths powerfully influence the innervation of the abdominal and pelvic organs and the capacity of the abdominal vessels, the largest blood reservoir of the body, the filling of which controls, to a great extent, the general circulation and blood pressure.

Cold or very hot hip-baths contract the abdominal vessels, driving the blood to other parts, as evidenced by congestion of the head, increase of axillary temperature, rise of the plethysmographic curve of the arm, and lowering of the rectal temperature. If this thermic irritation lasts but one to three minutes, prompt reaction ensues, that is active hyperæmia of the abdominal organs, but if it lasts ten minutes or more, prolonged ischæmia of that vast vascular area takes place, with weak and retarded reaction. Short cold hip-baths stimulate peristalsis, prolonged cold ones inhibit it, prolonged warm ones soothe pain and spasmodic contractions. Short cold hip-baths (50° to 65°) are therefore indicated in all conditions of the abdominal organs which are due to anæmia, venous stasis, motor and secretory insufficiency, torpid metabolism—for instance, in atonic constipation. Hip-baths at 50° to 68°, lasting ten to thirty minutes, according to Winternitz, act almost specifically in checking all forms of acute and chronic diarrhœa. They are, furthermore, indicated in bleeding and inflamed piles. Prolonged tepid hip-baths, at 70° to 80°, have a similar though milder action. Hip-baths at 90° to 100°, of one to two hours' duration, are suitable for colic and tenesmus.

All these local applications are very advantageously combined with general hydriatic procedures; thus the short cold hip-baths recommended in atonic constipation and flatulence are preferably followed by a douche of gradually-reduced temperature or a Scotch douche on the abdomen, and later by a stimulating douche to the entire surface. The prolonged cold sitz-baths are appropriately preceded by a drip-sheet and vigorous friction.

Hydrotherapy should be general whenever possible; that is, it should be applied to the entire surface of the body, because its best effects are brought out in that way; namely, its influence on circulation, respiration and innervation, over secretions and excretions.

General hydrotherapeutic procedures find their greatest field of usefulness in chronic disorders of the gastrointestinal tract, especially the functional ones, be the latter a manifestation of neurasthenia or hysteria, or the primary cause of the disturbance of the cerebrospinal centers. The constitutional tonic treatment, as carried out to greatest perfection at the Hydriatic Institute and the Riverside Baths, consists of graduated douches (circular, jet, and fan douche) of one to two minutes' duration, preceded by artificial warming of the body and followed by friction.

The following measures are appropriate for home treatment. Ablutions by means of a rough towel, a bath glove, or the hand with water at 80°, reduced one to two degrees each day down to 60°; affusions with water at the same temperature; the drip-sheet from 70° to 60°; the cold plunge; and the wet pack from 70° to 50°, followed by a half bath from 85° to 80°. We employ one or the other of these applications, according to whether symptoms of irritation or depression predominate in the particular case, and whether the patient is poorly or well-nourished, anæmic or plethoric. It is the great advantage of hydrotherapy that it can be so modified as to suit almost any case and condition where it is at all indicated.

In conclusion, I wish to say that I have achieved my best results in the management of gastrointestinal diseases by combining the hygienic, dietetic, and medicinal treatment with hydrotherapy.

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The Artificial Sterilization of Women.—Hubl divides the procedures by which the occurrence of pregnancy can be avoided into two classes. The first of these, the castrating operations, involve the removal of either the uterus or ovaries or both, and the second, which he terms the sterilizing operations, effect the purpose without the loss of any essential portion of the genital apparatus. Castration in this sense and for the purpose of effecting artificial sterility is permissible only in those cases in which the removal of the uterus or adnexa is directly indicated for disease, or an already existing infection, or the necessity for cæsarean section demand a hysterectomy. If, however, the indications for a double oophorectomy exist, the uterus should also be taken. In many cases of osteomalacia it is expedient to interrupt the pregnancy at an early date, and in these it is advisable to perform a vaginal hysterectomy, and so avoid the danger of another pregnancy and possible laparotomy. In performing cæsarean section for osteomalacia, castration may usually be satisfactorily replaced by sterilization, and of the different methods advocated for this purpose the following is the most effective and suitable: The uterine attachments of the tubes are exposed and surrounded by several sutures of fine silk, the ends of which are left loose. The uterine end of the tube is then excised, together with a small wedge of the uterine muscle surrounding it, and the previously-inserted sutures are quickly tightened to prevent hemorrhage. The entire tube is then excised, both layers of the broad ligament are sutured, and finally the incisions in the uterus are carefully sutured. In the pregnant uterus the site of the tubal insertion is very vascular and troublesome oozing may take place unless precautions are taken to prevent it.—*Monatsschrift für Geburtshülfe und Gynäkologie.*

The Use of Carbonated Waters at Meals.—Alfred W. Perry says that the earliest perceptible sign of disorder of the stomach is a derangement of its motor function. Practically no water is absorbed from the stomach; it must all pass first into the intestines. It is well known that the amount of urine secreted in health is a measure of the absorption of water from the intestines, the blood pressure being unchanged from other causes. By experimentation the author found that the use of cold CO_2 water increased the diuresis 12 per cent. over plain water; when these were used during meals, with CO_2 water at 86°F., the diuresis, and presumably the stomach discharge, was increased nearly 100 per cent.. We may conclude that, although hot drinks at meals, or soon after, are generally best for most dyspeptics, for those who will not use hot drinks CO_2 water, cool or slightly warmed, have a very beneficial effect in causing a prompt discharge of the stomach contents.—*Pacific Medical Journal.*

The Pubescent and Adolescent Periods of Girlhood.—William Edward Fitch protests against overworking young girls physically and mentally at or about the age of puberty. Intricate dances, exhibitions, children's parties, and too-stimulating work at school are condemned on the one hand, and child labor in stores, factories, and sweat shops, on the other. "Medical tinkering," too, with young girls is to be avoided, and emmenagogues for irregular menstruation need seldom be used. The writer reports a case in point in which living in the open air and becoming interested in country surroundings and occupations, combined with the taking of peptomangan, resulted in the complete cure of a young girl whose menstruation had been irregular for more than a year.—*Annals of Gynecology and Pediatry.*

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INFANTILE SUMMER DIARRHŒA IS DYSENTERY.

So many garbled and sensational reports have appeared in the daily newspapers in the past few days concerning an alleged discovery of the specific germ of the summer diarrhœa of infants that the MEDICAL RECORD felt called upon to send one of its staff to make a personal investigation, in order to separate the wheat from the chaff for the benefit of its readers. It is hardly necessary to say that no one connected with this interesting research is responsible for its unfortunate exploitation in the lay press. As in many similar instances, an over-zealous hospital patient and the enterprising reporters have caused the scientists no end of trouble and annoyance—so much so, indeed, in this case that the latter were disinclined to give out any information at this time. However, the following is a brief statement of what has been accomplished, and, although only the salient features are given, it may be relied on, for Professor William H. Welch has kindly read the account here given and vouches for its accuracy.

During the past summer Messrs. C. W. Duval and V. H. Bassett, fourth-year medical students—the former at the University of Pennsylvania and the latter at the Johns Hopkins University—engaged in an investigation of the causation of the summer diarrhœas of infants at the Thomas Wilson Sanitarium, near Baltimore. The work was undertaken with the aid of an appropriation, granted, for the purpose of this investigation, by the Rockefeller Institute of Medical Research. Mr. Duval had already, in collaboration with Mr. Vedder and under the supervision of Professor Flexner, engaged in a study of the acute dysentery of adults in this country, and thereby had become familiar with the characters and the methods of isolation of the bacillus which causes this disease, *Bacillus dysenteriæ*, Shiga. This previous work enabled him to discover, in the first two cases of summer diarrhœa of infants which he examined, the Shiga bacillus. In the further investigations Mr. Bassett was associated with him in the research. They have found the Shiga bacillus in the stools in over forty cases of infantile summer diarrhœa. It was present in large numbers in acute cases, but was obtained with difficulty from mild and chronic cases. They had no opportunity of examining the type of the disease, known in the restricted sense as cholera infantum, which constitutes, according to Dr. Holt, only 2 or 3 per cent of the cases of summer diarrhœa of infants.

The Shiga bacillus was not found in the stools of healthy infants or of those affected with other diseases, of whom many were examined as controls.

An important aid, in the diagnosis both of the disease and of the specific bacillus, is the agglutinating power of the blood of infants affected with the disease as regards the bacillus, as well as the agglutination produced by specific immune sera. The investigators believe that the evidence is sufficient to justify their conclusion that this bacillus is the cause of at least most cases of summer diarrhœa of infants, but, of course, it is desirable that similar observations should be made elsewhere and on a larger scale.

Doubtless the reasons why previous investigators have failed to detect the Shiga bacillus in this disease are partly the unusual difficulty in discovering specific germs in the extensive and varied intestinal flora, and partly that special familiarity with the modes of isolation and recognition of the Shiga bacillus is necessary for its detection.

It is hoped that the discovery of the specific infectious agent concerned in the causation of this most frightful scourge of infancy will lead to improved methods of prevention and cure. In his article on "Bacillary Dysentery," in the forthcoming supplementary volume of the Twentieth Century Practice, Shiga reports some excellent results in the treatment of this disease by means of a specific bactericidal serum, and there is every reason to hope the same method will prove to be equally efficacious in infantile dysentery. The Rockefeller Institute will continue work along these lines next summer.

TYPHOID FEVER IN RURAL DISTRICTS.

IN the natural course of events the autumn will bring the usual increase of typhoid fever cases in the large cities. When it is conceded that the majority, if not all the victims of attack, are those who have spent their vacations in rural districts, there is a penalty on rest and recreation which is becoming difficult to avert. In fact, it would appear, considering the number of causative factors at work in the ordinary farm-house, resorts that the possibility of stamping out the disease at its sources is a long way off. The alluring promises of rural advantages are in themselves threats of danger.

The farmer who is ambitious to eke out his scanty income by taking summer boarders is by no means a practical sanitarian. It is difficult to persuade him that the moss-covered bucket of his forbears, his sunken well, and his convenient privy vault are not in keeping with the otherwise healthfulness of his surroundings and in fulfilment of all the æsthetic requirements of his improvised hotel plant. While he may not be blamed for his ignorance of hygiene, he is plainly accountable for assuming the responsibility of enforcing his convictions upon his trustful and unsuspecting patrons.

Thus it is that many must suffer and continue to do so until health boards can have the power to inspect and license all such places as are so freely advertised to the public as health resorts, and which are now proven to be so dangerous to the ordinary wayfarer. If this were done there would be a certain guarantee to the boarder that while striving to gain health and strength he would not be jeopardizing his life by exposure to a hidden and waiting infection.

There is certainly no more reason why a person keeping a public house should not have a health license than the milk vendor, or the ordinary lodging-house keeper. If there should be a demand for such a clean bill of health, the conscientious farmer would be anxious on business principles to comply with it, knowing that a contrary course might seriously affect him pecuniarily.

The various health boards throughout the States have the power to insist upon such provisions, and have the necessary facilities for marking the localities in which, for instance, epidemics of typhoid have occurred; and of enforcing certain sanitary regulations tending to prevent the spread of the disease. This has been shown time and time again after a given epidemic has gained headway and a general panic has been created, but the truly practical aspect of the question is obviously more in the direction of prevention than in that of cure.

If the trouble were attacked at its source, the initiative cases watched and traced, and the proper sanitary regulations duly enforced, there would be no reason why every country district should not be purged of its pest. The first factor in the equation is the family physician, whose duty it should be to report every case of typhoid to his district health board, and trust to the latter to investigate the source of the infection, and not be satisfied until all chances of the further spread of the disease has passed.

It is not enough that no cases of fever prevail at the the time, but all the traces of previous ones must have been obliterated. There cannot be too much insistence on this point, as it is well known that the poison may lurk in a quiescent state for many months only to declare itself when fresh material is at hand for its propagation.

A well once infected can never be trusted, and a contaminated water supply left to itself may threaten new comers for a long time to come. Even the intervention of wintry weather with its snow and ice is no safeguard against the occurrence of new cases in the following spring and summer. The difficulty of being sure on this point lies at the bottom of most of the otherwise unaccountable causes of a fresh epidemic. For instance, an epidemic in Plymouth, Pa., was recrudescent when a thaw set free infective fecal matter which had been frozen for three months in the snow and ice on the border of a brook.

When we take into account the multifarious ways in which the typhoid poison may disseminate itself when it has once escaped from the human body, we have the strongest possible argument for rendering it inert from the start. While little can be done to prevent the walking cases of typhoid depositing the germ in all sorts of convenient places and thus infecting soil and water, the case is entirely different when the country practitioner is called early to attend a patient attacked in the ordinary way. Under such circumstances a careful physician, by proper sanitary precautions, which center in the careful disinfection of the typhoid stools, can as absolutely prevent the spread of the disease as by quenching fire with water. That he does not do so is plain enough in the multiplication of his cases afterward. No better proof of the utility of necessary precautions can be presented than that afforded by the thorough aseptic methods practised in our hospitals. When the careless rural practitioner appreciates this fact in all its widespread bearings, he will have taken his first and most essential step in attempting to stamp out constantly-recurring epidemics in his neighborhood.

THE DISTRIBUTION OF CANCER IN BERLIN.

There is a theory concerning the causation of cancer which is prevalent among a certain section of the medical profession, and especially so among a number of British physicians. This is, that a particular type of house, or the situation of the same, has a dominant influence on the origin of cancer; so much so, indeed, that such houses have been termed cancer-bcen houses. Investigations made by numerous observers into the matter have resulted in no definite proof as to the truth of the theory, although it would seem reasonable that locality and climatic conditions might have some effect on the progress of the disease.

Dr. Albert Aschoff has written recently on "verbreitung der Carcinoma in Berlin," the main features of his article having been translated into the *Middlesex Hospital Gazette.*

Observations made by Dr. Aschoff regarding the endemic nature of cancer on the Island of Nordeney were as follows: The town is divided into a high-lying northwest portion, built on the sandy soil of the old dunes, and a southeast portion, which is low-lying and built on chalk. Aschoff finds that in the former district cases of cancer are but rare, in the latter relatively much more frequent, and especially is this so in a part of the chalk district, which he calls the garden district. In this garden district the houses, although old, are apparently in sound condition, but it is stated that in this quarter there is always water standing in the cellars. The houses are situated in gardens, in which various vegetables and fruit are cultivated. Aschoff notes that although in these gardens the trees and plants are generally free from galls and tumors, there is a prevalence of mildew and rust on the rose trees. In the district there are many old families that have resided there for many years, but there has been little intermarrying.

In his account of the distribution of cancer in Berlin, Aschoff states that of 4,574 cases 2,736 occurred in women and 1,838 in men, but after deducting the cases of cancer of the female generative organs the male cases were in excess—1,838 males to 1,658 females.

Regarding the relative frequency of different seats of the disease, the digestive tract and accessory organs come first, accounting for 1,571 cases—833 in men and 738 in women—out of the total of 4,574, or 34.34 per cent. In considering the distribution amongst various occupations and trades, three divisions are made:

1. Those patients who are engaged in trade, of which twenty varieties or groups are taken into account.

2. Those belonging to the so-called "free call-

ings," comprising those of the various professions, officials, soldiers, and servants.

3. Those who have no special occupation, and of these there are six different groups.

On analyzing the deaths in each of the three divisions and assigning them to their respective groups, it is found that in division 1, out of 10,000 deaths 671 are from cancer, and that 33 per cent. of the patients are over forty years of age; in division 2, out of 10,000 deaths there are 720 from cancer, and 37 per cent. of the cases are over forty years of age; in division 3, out of 10,000 deaths there are 780 from cancer, 92 per cent. being over forty years of age.

Considering the frequency of the disease in certain groups included in these divisions, Aschoff finds that in division 1 the lowest number of cases occurred in printers, and that the death rate was low amongst chemical workers and machinists, but that the mortality was high amongst gardeners, and especially so amongst foresters and agriculturists. In division 2 the mortality was lowest amongst soldiers and servants, most of whom are, of course, young persons; it was low also amongst medical men, but high amongst public officials, professors and clergymen. In division 3 cancer is most frequent amongst the well-to-do "pensionäre" and old "rentiers," being more common amongst those than amongst the occupants of almshouses. No reliable evidence on the influence of the site of the dwelling-house was obtainable; in many cases no information was to be obtained on this point, and frequent change of residence further detracts from the value of any observation made.

Aschoff finds that there is a greater frequency of cancer in certain districts of Berlin, and may be noted even in special streets of such districts, and in special portions of the streets. But the distribution of the disease over the town is very irregular, and its significance difficult to explain. The density of the population is no criterion for the increase of cancer in any particular district, nor has the social status of the inhabitants any obvious influence, the richer and poorer quarters suffering alike.

In conclusion, Aschoff returns to the questions: Is cancer transferable from man to man? Does cancer occur more frequently in special districts? And he concludes that his investigations into the distribution of the disease in Berlin does not give any certain answer to either. But the comparatively low percentage of cancer cases amongst medical men and medical attendants, and also the fact that the percentage of cases is not greater in proportion to the density of population, or amongst the generally more crowded together classes.

As to the influence of soil, no definite statement can be made, high or low-lying damp districts and sandy or alluvial soils being variously affected, nor does the water supply afford any basis of explanation; whilst as to the influence of food supply, meal or vegetable diet, the use of raw or uncooked food, Aschoff cannot, from his observations, make any statement. On the whole, the deductions as to the cause of cancer made by Dr. Aschoff do not differ in many essential points from those reached by other investigators.

Haviland Hall, the chief supporter of the theory that the location and condition of a house are prominent factors in the causation of cancer, has a comparatively small following.

A large number of medical men will be found to disagree with Dr. Aschoff's assertion that cancer makes as much headway among the poorer classes as among the well-to-do. The view usually taken now is that cancer, for reasons not clearly explained, attacks the well-fed individual more often than his attenuated brother. Further than this, Roger Williams and others are of the opinion that meat-eating people are more prone to the disease than those who are addicted to a vegetable diet, which explains why cancer has increased so greatly within the past twenty or thirty years among the inhabitants of the United States, Great Britain, and Australia. At any rate the mass of statistics on the subject go to show that the poorer classes are less liable to cancer than the richer classes.

PUBLIC CHARITY AND POLITICS.

On the occasion of laying the corner-stone for the new hospital building at Dobb's Ferry, N. Y., Governor Odell gave his views on charity institutions, which are of much significance, coming, as they did, from a business man and a politician.

Among other things he said, "politics should never be permitted to be a factor in the administration of institutions for the unfortunate. It has no place there, and I have so much confidence in the wisdom of our people that I do not believe they would tolerate such interference and would be quick to condemn those who were instrumental in taking advantage of the deplorable physical conditions which exist in our institutions for either party or personal benefit."

These sentiments were well calculated to inspire an enthusiastic and unsophisticated country audience, and were thoroughly in accord with the spirit of the hour. No one present would have dared to believe that the speaker was misinformed concerning his facts, nor to doubt that he would not on all occasions do his best to prove the truth of his gloriously philanthropic doctrine.

Under the circumstances it was eminently proper for him to look on the bright side of the question, and to give proper encouragement to such of the trustees as seemed destined to make new rules for a very old game. Alas, for them, however; they will find too soon that politics in one way or another is as much a factor in hospital management by laymen as is the free and willing treatment of the sick by the medical servants of the institutions. None knows this better than the orator of the occasion, and none has done more to prove the opposite of what he would feign have the public believe.

We have only to refer to his Excellency's recent action in the matter of the Lunacy bill to prove that politics cannot always be divorced from the higher interests of caring for the sick and the helpless. At present there is no more powerful political machine in the country than that which controls the lunatic asylums of the State, and none in which the Chief Executive has taken a more active interest. The legislation against the State Charity Associations would be an apt illustration of like inconsistency on the part of the Governor, unless it could be proved that he was innocent of using his powerful influence in the wrong direction.

We are not to be understood as taking any issue with the Governor on his avowed principles as expressed in his address. On the contrary, his sentiments are of the noblest sort, and come, of course, from a man who believes what he says and dares to express his honest convictions. Politics in hospitals and state institutions! Certainly there must be no such thing when the poor and sick are concerned. It is only when a sufficient amount of surplus money can be saved to the public and some extra patronage utilized for party interests that politics, as such, should have anything to do with the direction of public charity. This was evidently meant but not said.

From such a point of view the little hospital at Dobb's Ferry, with its limited funds, its modest field of labor, and its small subscription list, is quite likely to be free from political control for a long time to come, and it was eminently safe to promise that what could not be should not be. But let its management be worth the while of any faction or sect, and willing souls will rise to bless the privilege and willing hands to utilize the opportunity.

Perhaps the Governor has gone too far in his zeal for the right. It may yet be a serious question how far politics can safely be dispensed with in the management of our charities. Without such disinterested control how could our funds be properly expended, our medical talent selected, merit rewarded, and the greatest good done to all? The apparent justice of the thing makes the strongest appeal to our own common sense. How otherwise could the large hospitals secure their staffs, the colleges their teachers, the health-boards their distinguished heads, and how, in the confusion of conflicting interests, could the right man always come to the front. If there be any doubts on this point, we have only to ask the men who occupy the places.

Overwork and Recreation.

A great deal has been said of late in connection with the alleged physical breakdown of a leading business man, regarding the value of recreation as an offset against overwork. There is, however, a side to the argument which is not always made apparent in the general eagerness to christen every form of debility as neurasthenia. Since the late Dr. George M. Beard invented the term and wrote intelligently and comprehensively on its bearings upon the habits and customs of the American people, it has been quite indiscriminately applied to almost every form of nervous disability, no matter how induced.

It is so complimentary to the individual affected to say that his zeal in his work overcame his strength that few victims care to deny the soft impeachment, and quite contentedly resign themselves to the pity and commiseration of their anxious friends. The physician knows very well, however, that much of this sympathy is wasted on undeserving subjects. It is not so much the abstract work that does the business as the culpable perversion of its aim and purposes. Rarely does real work in itself kill any one. In other words, the busiest of men can keep healthy and strong provided they abide by the simplest laws of his being. If between times he sleeps well, rests when tired and eats well, he is seldom, if ever, worn out before his time. Thus it follows that most of the cases of so-styled neurasthenia have their foundation in abuses of digestion and in habits of dissipation, while innocent work gets the blame.

In a recent interview to a daily newspaper an octogenarian who had been engaged in an active and exacting business all his life remarked that he had never found time nor inclination to take a vacation during that period. He simply took his rest by piecemeal and never needed it in bulk. His was the faculty of doing the best he could as he went along and bearing his successes and failures with equal equanimity. There was no need for strain, because no time was lost. The fret and spurt of modern business are more to blame than the steady jog, which latter always counts most in the end. The manner of doing the work is more than the work itself. Regarding this point there is much to be said against the growing disposition toward dissipation among business men. The tippling habit at luncheon, excessive smoking, late hours, midnight suppers, and similar excesses, explain more of the cases of neurasthenia among the so-styled overworked men than all other causes combined. Let us call things by their right names and pity those only who deserve it.

Hallucinations and Illusions.

Dr. George T. Tuttle, of McLean Hospital, Waverley, Mass., delivered an address on the above subject before the Middlesex South District Medical Society on April 17. After describing the various views taken as to the definition of hallucinations and illusions by different authors, Dr. Tuttle says: "An examination has been made of the clinical histories of 500 consecutive admissions of persons to the McLean Hospital—222 men and 278 women—excluding those not insane and readmissions; of these 189—77 men and 112 women—had hallucinations or illusions of some sort. This is 37.8 per cent. By far the larger part were of hearing only; next in frequency came sight and hearing; after that sight alone—these two, separately or combined, making 166 out of a total of 189 persons. A number of examples are then given of these different forms of illusions, and it is remarked that hallucinations and illusions of sight are less frequent than those of hearing, probably because comparatively few people visualize their thoughts. The author states that since 1881 he has been convinced that hallucinations may not only be of psychical origin, but may be voluntarily produced, and brings forward several instances in support of this conclusion.

It is noted that there is abundant evidence to show that hallucinations and illusions are by no means limited to the insane. The sensory disturbances of dreams, are examples of sense-perceptions, often most vivid—hallucinations when due purely to association of ideas, illusions when induced by stimulations of sensory nerves. Like all others, they are previously-received impressions variously modified, combined, and rearranged.

Closely allied to dreams are the hypnagogic illusions which occur just as one is dropping off to sleep—rapidly, shifting visions, supposed to be due to the seeing of vessels, pupil blood corpuscles, etc., from which, in the half-conscious condition, these pictures are formed.

The international censes of waking hallucinations, which was first undertaken by Mr. Edmund Gurney showed a percentage of 11.96 hallucinations in

27,329 presumably sane persons, 9.75 per cent. of which were in men, and 14.56 per cent. in women, and more than half occurred between the ages of fifteen and thirty years. In 48 per cent. of the cases no statement was made as to health. In about 44 per cent. the positive statement is made that the percipient was in good health at the time.

Referring to the so-called collective hallucinations, Dr. Tuttle states that the evidence which would be of value concerning such is slight, and he prefers to consider these phenomena of hallucinations or illusions as coincidences, but which occur in accordance with the laws of mind, and which cannot always be explained with our present knowledge.

The question of spiritualism is dismissed somewhat briefly, and that though it still survives the numbers of believers is not now increasing rapidly because of theosophy, Christian science, and other fads, which appeal to similar elements in human nature. In conclusion the writer sums up as follows: How are we to explain these perversions of sense? What underlying condition renders it possible for them to occur? How are they produced? Are we to suppose a supersensitiveness, or an over-excitation of the sensory centers, or a condition of lessened activity of the highest, the inhibitory-centers, or both combined. Certainly they do not occur at times of clear thought, but only when the higher cerebral functions are relaxed. Occupation of the attention in any way will cause them to cease, or will lessen their frequency. Various theories have been advanced to explain them, but in respect to no one is there a substantial agreement.

TREATMENT OF PARESIS.

The above subject was discussed in a paper read by Dr. Edward Cowles, Waverley, Mass., before the Medical Society of the State of New York, January 28. It is pointed out that, aside from all the generally indicated expedients for the management of cases of paresis, the real therapeutic problem of treatment is a most baffling one. Although pathological anatomy has determined, to some extent, the cause of the disease, nevertheless, the pathological anatomist leads but little further than the frontier of our realm. Dr. Cowles thinks that the explanation of our clinical problems lie in the still deeper underlying plane of physiological chemistry.

With regard to etiology, in accordance with the principles of general medicine, limitations in the logic of treatment are found under the leading conceptions of the etiological factors of paresis which are syphilis and heredity, with alcohol and the stress of modern life contributing. The experience at the McLean Hospital, Waverley, Mass., agrees with that of many observers in the evidence it gives that paresis is due less to heredity than other forms of insanity. The rôle of heredity, in whatever relation it may bear to insanity in general, is that of inducing a constitutional instability.

Dr. Cowles holds that the argument in favor of paresis having its chief cause in specific disease is not a conclusion from any discoverable relation between known specific and paretic lesions, and that Krafft-Ebing's dictum that general paralysis is a product of civilization and syphilization, and Oppenheim's statement that paresis is the outcome of stress and syphilis, give expression to opinions that indicate no more than a sequence of facts, showing the frequency with which specific infection is followed by paresis.

Dr. Cowles, after discussing the views recently expressed by prominent authorities on the matter, concludes that we still find ourselves in the region of hypothesis, with waiting expectations of new light upon the treatment of paresis, but with reasonable faith in their final realization.

DISEASE-BEARING DUST.

Some few weeks ago reference was made in the MEDICAL RECORD to the evil effects of dust, especially in large cities. The fact is now well recognized that dust is often distinctly injurious to health, as well as being a nuisance of the first order. The effectual suppression of dust is a problem, the solving of which is a matter of great moment to the inhabitants of all large centers of population. Watering streets is but a partial and temporary solution of the difficulty, and does not strike the root of the question. What is needed is a method whereby permanent relief will be afforded. Various means to effect this end have been suggested, none of which, however, has been both practicable and efficacious.

Cosmos, July 26, quotes from an article contributed by Dr. Guglieminetti of Monte Carlo to *La Salubrité*, Paris. In the course of the paper the following remarks are made:

"Watering is a good thing as far as it goes; but to fight dust successfully we must do so by means as constant as the causes that produce it. This would necessitate an expenditure for water that no city budget could reasonably stand. Besides, while the water lays the dust for the moment, it softens the road and allows the vehicles to cut into it more deeply, thereby preparing the elements of more abundant dust when the water shall have evaporated. Thus watering is really only a costly palliative, which combats the evil momentarily without attacking its causes. As is well known, petroleum has been used in the place of water with some degree of success, and on a somewhat large scale in various parts of America, but the method, though fairly successful, is by no means ideal."

Dr. Guglieminetti has invented a system, which he thus describes: "The road is first swept clean and then covered with a thin layer of hot tar, well spread out. This plan was tried at Monaco on March 13, 1902. After forty days' use the surface of the road did not appear to be injured. The dust did not stick to it, but will probably do so in the summer, as the tar will soften slightly."

Dr. Guglieminetti further says that experiments under his supervision are to be extended to Paris streets, and that tar, mineral oil, and various kinds of petroleum will be tried. Since the article in *La Salubrité* appeared, the trials there referred to have taken place with so much success that it has been decided to apply the petroleum method in Paris, Lyons, Nice, and Marseilles. Of course, it is probable, or rather certain, that the best mode of "laying the dust" has not yet been evolved, but the outlook for such an event is in a high degree hopeful. When rich municipalities show themselves willing to expend money to attain an object there can be little doubt that the time of fulfilment will not be far distant.

Acute Rheumatism.—Fussell directs attention to the value of the tincture of chloride of iron in acute rheumatism, large doses of ipecac in dysentery, bichloride of mercury, 1 gram to 1 ounce of lime water, in dermatitisvenenata, nitric acid as a local application to the osuteri, mercurial ointment in pruritus ani, and large doses of nitro-muriatic acid in functional inactivity of the liver.

News of the Week.

New Surgeon-General of the Army.—Brig.-Gen. William H. Forwood, Surgeon-General, U. S. A., was retired on September 6, on account of age, and was succeeded by Brig.-Gen. Robert M. O'Reilly, Gen. O'Reilly was until recently at the head of the Medical Corps of the Department of California, and has just returned to Washington from a sanitary inspection of the more important military posts between that city and San Francisco. He was official physician at the White House during the two terms of President Cleveland.

Medical Society of the State of New York.—The President of this Society has appointed Dr. Ernest Wende, 471 Delaware Avenue, Buffalo; Dr. Hamilton D. Wey, Elmira; and Dr. J. Montgomery Mosher, Albany, the Business Committee, to whom all communications relating to the program of the next annual meeting, January 27-29, 1903, in Albany, may be addressed.

Cholera in the Far East.—It is not only in the Philippines that cholera is working ravages this year, for the entire east coast of Asia and the outlying islands are suffering from the epidemic. According to reports brought by incoming steamers, the outbreak exceeds in the area covered and the number of victims any previous epidemic of which there is record. The disease prevails from Java to Japan, and almost every city on the coast and many in the interior are affected. The disease, too, is being contracted by Europeans as well as natives. In Hong Kong, from the first of the outbreak to August 6, there had been 523 cases, six being in Europeans, and 511 had died, of whom four were Europeans. In Tien-Tsin the last report placed the number of cases for the year at 1,049 and 764 deaths within the city walls, and 1,015 cases and 593 deaths outside the city walls. In other places in China the proportion of cases and deaths is just as great. Great numbers have died in Java, and Japan has suffered severely. In Borneo a military expedition, despatched to the interior to punish a tribe of natives for outrages committed against Europeans, was more than decimated by cholera and was forced to return with its mission unfulfilled. There has been no permanent improvement in the situation in Luzon. The army is protected by the enforcement of stringent sanitary regulations, especially in regard to the drinking water, but the Chinese and Tagalogs are suffering severely.

Typhoid Fever.—There has been a progressive increase in the number of reported cases of typhoid fever in Philadelphia each week since the end of July, until now the disease is fairly epidemic. The influence of the water supply on the prevalence of the disease is exemplified in the fact that while the rest of the city is suffering so severely there is little or no typhoid fever in Manayunk, which is now receiving filtered water from the lower Roxborough beds. In Chicago there is also a progressive increase, but here, while the water is bad enough, much of the infection appears to have been acquired from salads and other garden truck grown in fields which have been flooded with sewage containing typhoid dejecta.

The Association for the Protection of the Adirondacks has begun the agitation of a proposition to acquire more land within the Adirondack Park. The limits of this park were defined ten years ago, but as yet the State owns much less than half of the three million acres which the proposed park measures. The wisdom of acquiring title to the whole of this tract as soon as possible is manifest. Eventually this city will have to look to the Adirondack region for the greater part of its water supply, and then public control of the watershed will be an absolute necessity. But it is not the city alone that will benefit; it would be an even greater calamity to the State at large than to the city to have this great region denuded of its forests, its rainfall decreased, and its lakes dried up. The land will never be cheaper than it is now, and as its purchase will be for the good of posterity, there would be no injustice in incurring for this purpose a debt for posterity to discharge.

The International Conference on Improving the Condition of the Insane opened on Monday of last week at Antwerp, under the Presidency of M. van den Heuvel, the Belgian Minister of Justice. Those attending the conference included a representative of China, as well as delegates from most of the leading countries of Europe. The general opinion expressed at the Congress was that cottage settlements were preferable to asylums in the treatment of the insane. The following resolutions were passed before the Congress closed: (1) That the confinement of the insane henceforth be abandoned except in the cases of those recognized as dangerous. (2) That the system of boarding insane persons with families be carried out whenever possible. (3) That it is expedient to renew the wish formulated at the Congress at Paris for the establishment of schools for special classes of the mentally weak under medical supervision. (4) That the manner of placing patients be entirely left to physicians. (5) That forcible restraint should be condemned.

Gift to the Jersey City Hospital.—Mr. Cornelius Zabriskie has offered to give $150,000 toward building a new City Hospital in Jersey City, on condition that residents of the city shall raise a like amount by subscription. Mr. Zabriskie also makes it a condition that politics shall be kept out of the hospital management. Dr. John D. McGill of the Health Board has promised to give $25,000 toward the public subscription, and to do all that he can in aiding to collect the remaining $125,000. It is expected that Mayor Fagin will give the project his official sanction. The control of the hospital is now being contested by the health authorities and the politicians, and if Mr. Zabriskie's offer is accepted this unseemly quarrel will be stilled.

Opposition to Temperance Agitation in Germany.—The Berlin correspondent of the *New York Times* says that temperance agitation is evidently considered a serious offense by German officialdom. Dr. Mabli of Danzig, an army surgeon of high rank and head of a Good Templar order, who was for many years active on behalf of temperance, recently received an order to stop speaking publicly on that question. He consequently resigned his post in the army. A similar case happened at Guben, whence a Royal Railroad Director named DeTorra was transferred to another place because it was alleged that temperance agitation was incompatible with his official duties.

Trouble in a Newark Hospital.—An investigation is about to be made in Newark of certain charges brought by a Catholic priest against the members of the house staff of the City Hospital. The priest charges that he has repeatedly been interfered with when attempting to administer the last sacraments of the Church to patients in the hospitals, and also that on several occasions he has detected certain members of the medical house staff eavesdropping behind screens while he was hearing the confessions of patients. The charges have aroused considerable indignation, and are to be the subject of investigation not only by the Medical Board of the Hospital but also by the Board of Health and the City officials.

A Physician Sued for One Dollar.—A physician in Yonkers is defendant in a suit brought by a carriage-maker to recover $1, which the plaintiff claims is due for repairs to the defendant's wagon. The physician says that he never had any work done by the plaintiff, and the lawyers will get many times the amount in dispute before the question of fact is judicially settled.

"Adobe Itch" is the name popularly given to one of the effections which has caused great annoyance to our troops in the Philippines, but which has been practically eradicated by very simple precautionary measures. The effection is similar to, if not identical with, the "water itch," a disease of the feet of coolies working in the gardens of China, and is caused by a species of Acarus resembling that of scabies. An investigation of the trouble led the army surgeons in Manila to believe that it was communicated by the careless methods employed by the Chinese in doing laundry work. They were in the habit of drying the clothes by spreading them on bushes and on the grass, and ironing them with a cold iron. Under the belief that the parasite came from the vegetation, and was communicated to the clothes from the bushes, orders were issued that clothes would be hung on lines to dry, and ironed with hot irons instead of cold. As a result of this practice the disease disappeared.

Increase in the Length of Life.—The Census Bureau has issued a statement showing the increasing age of the population of this country from decade to decade. The statement, as quoted by a correspondent of the Associated Press, gives the results of computing the median instead of the average age. The median is such an age that half the population is under it and half is over it. The median age of the total population in 1900 was 22.8, as compared with 21.9 in 1890. The median age of the white population in the last census year was 23.4 and the colored, including negroes, Indians and Mongolians, was 19.7, while in 1890 the white population was 22.4 and the colored 18.3. The report shows there was an increase in the median age of the white population during each decade from 1810 to 1900 amounting in the ninety years to 7.4 years. The statement adds: "Many complex influences have co-operated in producing as a resultant this steady change in the age composition of the population. Three may be mentioned, the rapid progress of medical and sanitary science, which has tended to increase the average length of life; the decrease in the relative number of children born, which has made the earlier age periods less preponderant numerically in the total population and the influx, especially since 1840, of great numbers of adult immigrants, increasing the number in the older age periods."

Smallpox.—The first case of smallpox in this city since August 19, was reported to the Board of Health on Friday of last week, September 5. The patient was removed to North Brother Island, and the usual precautions in the way of disinfection and quarantine were taken by the health officers.

Cooper Medical College.—According to the terms of the will of the widow of Dr. Levi Cooper Lane, who died on August 9 (Dr. Lane died in February of this year), the bulk of the estate, appraised at over $300,000, will go to the Cooper Medical College of San Francisco.

Patent Insides in Medical Journalism.—We learn from some of our contemporaries that a proposition has been made to supply them each month with plates containing twenty-four pages of original articles, translations, and abstracts. These plates will be furnished in exchange for a certain number of pages of free advertising, the concern supplying the "literature" having full control over these pages to advertise anything it may please with any display it may think best.

A New Plan of Campaign Against Mosquitos.—The sanitary authorities in New Orleans have been working to reduce the number of mosquitos and succeeded in having introduced into the City Council an ordinance requiring householders to sprinkle their cisterns with oil or cover them with wire netting so as to keep out the mosquitos in breeding season. This has, however, been so urgently opposed by the householders on the ground that it would cost them some $400,000 and prove a great hardship for the poorer people that the Council has held it up. Now one of the members of the Council has come forward with a substitute plan for exterminating the mosquitos in the city by introducing a fungus disease among them that will cause their death. He argues that the infection of mosquitos with a disease that will kill them off will cost much less and that the city can provide for the experiments instead of unloading the burden on the property holders. It would be well, however, for this ingenious and economical member to know something about the disease he proposes to propagate, and whether the germ is really fatal to mosquitos and to them only, or like that of malaria and of yellow fever, simply tarries with them a while while getting itself into shape for the infection of human beings. The plan of extermination proposed by the health authorities is simple and efficacious, as Major Georges has shown in Havana, and it could just as well be carried out at the expense of the city as the dangerous alternative proposed by the councillor.

Religious Mania Epidemic among Russian Immigrants.—Much apprehension is felt in Canada as to the fate during the coming winter of the Doukhobortsi, a sect of Russian dissenters who have been settling in large numbers in the Canadian northwest. The mania has assumed a vegetarian form. Those affected, of whom there are said to be five thousand, have discarded the use of horses and cattle, and have let them run wild on the prairie. They will not eat the flesh of any animal, and live on bread, water, and a few vegetables. A few weeks ago the worst among them decided not to wear leather shoes or woollen clothing, since these are of animal origin. It is feared that the suffering will be appalling when winter sets in, if the mania does not abate, or the Government does not act soon in some way.

Obituary Notes.—Dr. St. George W. Teackle of Baltimore died in that city on August 30. He was a graduate of the University of Maryland School of Medicine in 1870.

Dr. Reuben Morris Sutphen of Newark, N. J. died in the home of his son, Dr. T. Y. Sutphen, at Short Hills, N. J., on September 2, at the age of eighty-three years. He was born near Princeton, N. J., on April 25, 1819, but received his early education at Ontario, N. Y. Deciding to take up medicine as his life work, he entered the office of Dr. Voyht of Freehold, later attending the Medical Department of the University of New York, from which institution he was graduated in 1847. He practiced in Walworth, Wayne County, N. Y., before settling in Newark in 1868. He was a member of the Newark Medical Association, the Essex County District Medical Society, and the New Jersey State Medical Society.

Dr. Mortimer V. Wilkie died at his home at Cuddebackville, near Port Jervis, N. Y., on August

31, at the age of forty-five years. He was born in Buffalo, and educated at Holbrook's Military Academy at Sing Sing. Later he was graduated from the medical department of Columbia University in 1888, and for the next five years was connected with the Manhattan Hospital, New York City. A widow and two children survive him.

Dr. Frank Seabourne died at Bordentown, N. J., on August 17 at the age of thirty-three years. He was a graduate of the Medico-Chirurgical College of Philadelphia.

Dr. George A. Bodamer died at Philadelphia on August 20, after a protracted illness at the age of forty-three years. He was graduated from the Medical Department of the University of Pennsylvania in 1884.

Dr. Michael Bradley, Medical Director of the United States Navy, retired, died at Philadelphia, after a protracted illness, on August 27, at the age of sixty-five years. He became an assistant surgeon in the Navy at the beginning of the Civil War and in 1861 was ordered to the gunboat Louisiana, of the North Atlantic Squadron, being present at the capture of Roanoke Island, rendering active service in many important engagements. After the war Dr. Bradley was attached to the South Pacific and European stations. For two years he was surgeon at the Norfolk Navy Yard. In 1879 he was commissioned Medical Inspector. He was stationed at League Island from 1882 to 1886. In 1888 he was made Medical Inspector with special duty in Philadelphia and in 1895 he was retired.

Dr. George S. Hull formerly of Chambersburg, Pa., died at Pasadena, Cal., on August 29, at the age of fifty years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1876.

Dr. Claudius B. Webster, who was the oldest living alumnus of Dartmouth College, died at Concord, N. H., September 7, aged 86 years. He was graduated from Dartmouth in 1837. He studied medicine with a brother at Boscawen, attending lectures at the Dartmouth Medical College. He later studied at the College of Physicians and Surgeons in New York, where he obtained his degree in 1844. He practised for a time and then took the principalship of the Norwich (Conn.) Female Acaddemy, where he remained for eighteen years. In 1862 he visited Washington, D. C., and as a result of that visit gave up his school work and became Assistant Surgeon in the United States Army. He remained at his post until after the close of the war. In 1870 he was appointed United States Consul to Sheffield, England, by President Grant, where he remained for sixteen years.

Etiology of Pneumococcus Peritonitis.—F. de Quervain, upon the basis of two cases reported by him and all the others which have been hitherto recorded, gives the following etiological subdivisions of pneumococcus peritonitis: (1) Aclinically secondary form. Here the source of the infection may be (*a*) upper-air passages, one case reported; (*b*) lungs and pleura, fourteen cases reported, eight in children and six in adults; (*c*) the intestinal tract from ulcerated new growths or other chronic ulcerative processes, four cases reported all in adults; from traumatic injuries, three cases reported; from the appendix, eighteen cases reported, seventeen in adults and one in a child; following pneumococcus enteritis, two cases reported; (*d*) the female genital tract, one case reported originating in the tubes. (2) A clinically primary form; forty cases reported, twenty-nine in adults, eleven in children.—*Correspondenz-Blatt für Schweizer Aerzte.*

Obituary.

RUDOLF VIRCHOW.

BERLIN.

Professor Rudolf Virchow died at his home in Berlin on Friday, September 5, as a result of a fracture of the neck of the femur received in a fall from a street car in January of this year. The fracture never healed and some time ago it became evident to his sorrowing friends that the career of this great scientist, statesman, philanthropist, and lovable old man was nearing its end. He spent the summer away from Berlin in Bohemia, and later in the Harz Mountains, but, knowing that his end was near, he sought his home to die, and was carried back to Berlin on the last Sunday of his life. Even then, in the shadow of the great journey where one must walk alone, his interest in his fellows and in his beloved science was not dimmed, and only three days before his end he accepted the honorary presidency of the newly-founded German Society for the Exploration of Anatolia, in order to give to the work his sanction and the support of his name. Virchow was an honorary citizen of Berlin, and the municipality accorded to his remains a public funeral, which took place on Tuesday of this week, the procession starting from the Rathshaus. The eulogies were pronounced by the Burgomeister of Berlin, Herr Kirschner, and Prof. Waldeyer of the University.

Virchow was the son of a small shopkeeper and farmer in the Pomeranian village of Schivelbein, where he was born on October 13, 1821. Until he was thirteen years old he attended the *Volkschule* of his native town, from which he passed to the *Gymnasium* at Köslin. Four years later, at the age of seventeen, he began the study of medicine at the University of Berlin, where, after a five-year course, he received his medical degree in 1843, and was at once appointed assistant physician at the Charité. During his course at the University, his circumstances were very straitened and he was forced to enroll himself in the *Pepiniere*, along with Helmholtz, among those who, in return for free instruction, bound themselves to serve the State for a definite period after graduation. In 1846, when but twenty-five years old, he became head of the Charité, succeeding Froriep, and the following year was made an extraordinary professor at the University of Berlin. He had previously, in collaboration with Benno Reichhardt, founded his *Archiv*, the full title of which is *Archiv für pathologische Anatomie und Physiologie und klinische Medicin.*

Young Virchow first came prominently before the public in 1848. At that time he was appointed junior member of a government commission to investigate the epidemic of typhus fever among the starving inhabitants of the Silesian highlands. His report, embodying the result of his studies, was regarded as brilliant and profound. It gave direction immediately both to his scientific bent as a student of pathology and to his political career, for in this report the fearless young savant did not hesitate to attribute the ravages of the disease to the maladministration of the province or to lay many sins of omission at the door of his Majesty of Prussia. The investigation thus introduced him to politics, and laid the foundation for the brilliant parliamentary career in which he always championed the cause of the people. But the radical views which he held and freely expressed during those revolutionary times caused his expulsion, in 1849, from his chair at the Berlin University. He immediately received an offer of a Professorship in the University of Würzburg, which he accepted, and it was there that he did some of his most remarkable work. He remained for seven years in Würzburg, during which he began his most celebrated work, "Cellular Pathology," published in 1858, which has made his name immortal in the annals of science and medicine. There he began the "Hand-book of Special Pathology and Therapeutics," which helped to insure his renown, and he instituted his "Annual Reports of Advances in Medicine throughout the World." Before Virchow went there, the University of Würzburg was held in slight esteem, but through his work, and that of other brilliant young men inspired by his example, it was raised to the front rank of medical schools.

But Virchow was too great a man to be kept in the comparative obscurity of a small university town. The Prussian Government established the Pathological Institute in 1856, and could do nothing else than place this already famous man at its head. He was accordingly recalled to Berlin, being made at the same time full or ordinary professor of pathology at the University. In 1857 he published his first work upon anthropology, a science which he may be said to have founded. It was "Investigations upon the Development of the Cranium." He founded, too, the Society of Anthropology, and long acted as its president. He established standard measurements for comparative anthropology, and set officials to work in all the countries of Europe measuring the heads of school children and adults, collecting statistics concerning the color of their hair and eyes, and tabulating other race data.

Although as early as 1849 a sufferer for his political faith, it was not until ten years later that his activity in statecraft began. In 1859 he was elected by the Liberals as member of the Municipal Council of Berlin. He entered the House of Deputies in 1862, retiring from the Liberal leadership in 1878, which he made over to Eugene Richter, and was a member of the Reichstag form 1880 to 1893. He was the originator of the term *Kulturkampf*, to designate the war of the State against the Church. In his political career he was far from exhibiting the calm of the scientist or the bonhomie of the man of the world, for his convictions were too fierce to allow him to be anything but a hard hitter. Here the violence of his political opinions and constant watchfulness against the seeming encroachments on liberty and attempts to obtain further power by the throne were his chief characteristics. In 1863 he carried an address which arraigned the Prussian Ministry as violators of the Constitution, and in June, 1865, he aided in defeating the Government in its attempt to create a navy. In the debate on the subject his language was so bitter that Count Bismarck challenged him to a duel, which, however, never came off.

But the list of this wonderful man's activities is not yet complete. No man of his century could with better right apply to himself the words of Terence: *Homo sum; humani nihil a me alienum puto.* His interests in humanity were simply without limit, and one thing led him on to another until he had embraced, either in actual work or intelligent appreciation, the entire round of human activity. His authropological studies led him to delve into archæology, and he became a firm friend and supporter of Schliemann. It is said, indeed, that the discoveries at Troy were due almost as much to Virchow's suggestions and enthusiastic encouragement as to the courage and labors of Schliemann himself, and, at the latter's death, Curtius said there was but one man living who was fit to carry on and complete his work, that man being Virchow.

In all this time, however, there was no rest from his labors in the advancement of medical science, and scarcely a year passed during nearly half a century that some important contribution from him was not published. He had the open mind of the true scientist and never rejected any theory that seemed to conflict with his own until he had satisfied himself by actual proof and weighing of facts that it was unworthy of acceptance. He was slow to accept the doctrine of the microparasitic theory of disease, not because it endangered the doctrine of cellular pathology, of which he was the father, but because he was not satisfied of its truth. When he was finally convinced that bacteria play a large part in the production of morbid action, he accepted the new doctrine, and modified his own teachings to accord with it.

A catalogue of the scientific bodies which have from time to time honored themselves by electing Professor Virchow to honorary membership cannot be given, for it includes practically every society of prominence in the civilized world. The celebration of his eightieth birthday, not quite a year ago, is fresh in the minds of all. At that time he was the recipient of more eulogy than perhaps has ever fallen to the lot of man to hear, but while affording the simple old man a very natural gratification, it left him just as simple and just as lovable as before. To an American delegation present at the home celebration in Berlin he said, with a twinkle in his eye, that they need not take the journey to help him celebrate his ninetieth birthday, for he had it in mind to take a little vacation then and would come over to America.

This is but a bare outline sketch of the life of the greatest scientist of the nineteenth century. A fuller appreciation of his work and of its far-reaching influence on medical thought must await another occasion.

The Employment of Digitalis and Aconite in the Treatment of Cardiac Disease.—H. A. Hare is convinced that in the great majority of cases digitalis is given in doses which are much too large, and often continued over a period which is far too long. He has often been surprised by the excellent results produced by the use of such small amounts as one or two minims of an active, physiologically-tested tincture of digitalis given three or four times a day, the patient being, of course, required to rest, and so to give his heart that most-needed therapeutic aid when its compensation is ruptured. In many cases no cardiac stimulant is needed, but aconite will be of value from its steadying effect on the heart through the action of the vagi, its sedative influence on the heart muscle in cases of excessive compensation, and its relaxing effect on the blood vessels, diminishing the overaction of hypertrophy, which is sometimes confused with the tumultuous overaction of ruptured compensation. Sometimes the use of well-balanced doses of aconite and digitalis have produced results which neither could produce by itself, although, at first glance, they are physiological antagonists.—*The Therapeutic Gazette.*

A Rare Symptom in Peripheral Facial Paralysis.—R. Cassirer reports six cases of facial paralysis in which the symptom known as Hitzig's phenomenon was observed. It consists in a mechanical irritability of the paralyzed muscles, in that when they are thus irritated a powerful contraction of considerable duration is produced. The individual facial muscles on either side may in this manner be made to contract, and a temporary picture of unilateral facial paralysis thus produced. No such contractions can be produced by irritations other than mechanical, except by the galvanic current. The causation of this phenomenon is unknown, and but little attention has been paid to it since it was originally described by Erb and Hitzig in 1876. It cannot be produced in other forms of peripheral paralysis.—*Centralblatt fur Nervenheilkunde und Psychiatrie.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S HEALTH—TUBERCULOSIS AND NOTIFICATION—CANCER NOTES—RELIGIO MEDICI SCIENTIFIC—A PATHOLOGICAL SCHOLARSHIP—FLIES AND TYPHOID.

LONDON, August 22, 1902.

AFTER a week of great activity, the King started yesterday on a cruise to Scotland, and will call at several ports on the way. Sir Frederic Treves has taken leave of his Majesty after eight weeks' attendance. These facts should put to shame the gutter press, which has persisted in circulating false statements about the King's health, though his medical advisers have given most formal assurances of his complete recovery.

The war against tuberculosis is being waged with great zeal, especially by sanitarians. General practitioners often attribute to medical officers of health more zeal than discretion. However this may be in individual cases, the general sanitary service of the country must be credited with an earnest endeavor to prevent what they say is a preventable disease, and to educate the public on the preventive measures necessary. As to these, the optimistic view is scarcely adopted by clinical observers, and the public is reluctant to admit some of the restrictions urged.

At Manchester the public health section had a discussion on the subject, in which the advocates of notification were in the ascendant. But they had to admit that it would be of no value without supplementary measures, while their opponents pointed out the objection of patients to be labeled contagious, which would lead to more or less ostracism. This objection has since been sadly illustrated by a poor woman who had murdered her child because, as it was suffering from eczema, other children were forbidden to play with it. Verily, the notificationists will have much educational work to do among the poor and ignorant before their remedy will be tolerated. Dr. Ransome told medical officers of health that their chief duty was to improve the conditions of life of the poor, especially of their dwellings, which plan he called the English as distinguished from notification, the continental method. On the other hand, Dr. Robertson "wanted, in the first instance," four special enactments; a demand which looks almost like crying for the moon. Dr. Newsholme said everyone now admits the desirability of voluntary notification, a plan adopted at Manchester with a certain degree of success as well as at Brighton and some other towns.

In reference to this, Dr. Beatty gave an account of the measures adopted in Manchester, which follow the notification. These seem reasonable enough so far, but how much further they should be pushed is open to question. As to *compulsory* notification, there is not the least prospect of Parliament entertaining it. If it could be carried out, it would be useless without the most extensive and costly supplementary measures. The optimists, who think Parliament will enforce their views, are doomed to disappointment. There is one point which these advocates of compulsion seem to ignore. They dilate on its proved value in smallpox. But how different is the case of a chronic disease of the slight infectiousness of phthisis, and that easily controlled, from that of an acute, virulent infectious disease like smallpox or diphtheria. In these the issue is soon determined, in that the danger, though slight, is prolonged. Nevertheless, yesterday Sir Charles Cameron, in his Presidential address to the Institute of Public Health, made a strong appeal for compulsory notification, declaring it to be absolutely necessary for the prevention of phthisis. He said the proper thing was to obtain an act enabling sanitary authorities to enforce compulsion. It is not likely Parliament will pass such a measure.

Cancer research and questions relating to cancer are still prominent The pathological department of the cancer hospital, Brompton, has been reorganized, and an additional laboratory for research is being equipped. Mr. H. G. Plimmer, who has hitherto acted as pathologist to the hospital, is to be the director, and another gentleman will be appointed to act under him as pathologist. The cancer research fund of the two colleges progresses.

The Duke of Bedford has promised £1,000 per annum for three years to the fund.

The Middlesex Hospital fund is also progressing.

Mr. Jonathon Hutchinson's notion that the increase of cancer is caused by the increased dissemination of arsenic in modern civilized life, is not finding much acceptance. Arsenic has been blamed for peripheral neuritis, for beriberi, and other diseases, and the suggestion that cancer may be set up by it seems almost a reflection of the popular terror provoked by the arsenical beer epidemic. Nevertheless, Mr. Hutchinson seems to hold fast to his idea, judging from the polyclinic, in which he reiterates it. Dr. Solomon Smith draws attention to chimney-sweeps' cancer, and the acknowledged influence of soot in provoking it, and Dr. Shadwell remarks that one of the keys of cancer causation lies in the case of chimney-sweeps, though that key has not yet been found. The suggestion is that, whether taken in food or medicine, or applied externally or inhaled as dust, arsenic predisposes the tissues to take on cancerous action. If so, one would have supposed that dermatologists would have noticed it, for a section of them have used the poison most extensively. Moreover, it has been freely given as a remedy for some forms of malignant disease.

A book of 216 pages has just appeared under the rather unattractive title "Religio Medici, Religio Scientiæ, Religio Vitæ," by a student of science and medicine, 1849-1899. After the title page there is no more Latin, and one may regret that some simple English should not have been chosen to designate a book which might be read with advantage by many who may be repulsed by the pedantic title. The student, as you may gather from the work itself, is a Fellow of the Royal Society and of the Royal College of Physicians, who has been actively engaged as a teacher at one of our schools of medicine for some fifty years.

I will respect the rather transparent veil of his anonymity, though you will probably penetrate it at once when I tell you that the distinction between protoplasm and bioplasm bulks largely in what he has to say. He naturally objects to the way in which Haeckel and Spencer employ the word "organic" as synonymous with "living." Any student of chemistry or materia-medica would tell them that the word is constantly applied to dead matter. Haeckel may talk of "carbon as creator" and Verworn may predict the "laboratory production of living matter," but they would laugh to scorn the assertion that any man had really produced a living thing by synthesis. Haeckel hailed Huxley's "Bathybius," and said "the greatest theologian of the nineteenth century was led by this wonderful discovery to abandon his outworn Christian view." Spencer declares in his "Principles of Biology" that "crystals grow." Equally absurd assertions may be gathered from agnostic writers who pose as scientific authorities, but whose juggling with words plainly shows their lack of the scientific mind.

A scholarship of £200, to extend over two or three years, if the work done at first promise well, has been offered by Mr. Mason of Woodstock. This work is to investigate the physiology and pathology of the thymus, and may include research on other ductless glands. Drs. Caverhill of Edinburgh, and Professor Woodhead, with the founder will select a candidate, giving preference to one who has already been engaged in similar work and will devote his whole time to the proposed research.

At the annual meeting of the Association of Sanitary Inspectors, Sir J. Crichton-Browne gave a useful address on flies as disease mongers. He told his audienec that experience in South Africa strengthened the suspicion that these insects disseminated typhoid fever. He followed up this and other equally suggestive facts by enforcing the practical lesson as to getting rid of dust heaps and dirt of all sorts from the proximity of dwellings, and especially urged the preservation of milk and all food from the access of flies. An excellent lesson for housekeepers and cooks, as well as for the sanitary inspectors.

OUR PARIS LETTER.

(From Our Special Correspondent.)

INCREASE OF MALIGNANT CASES OF DIPHTHERIA IN PARIS—DENTAL SURGERY EXAMINATIONS IN PARIS—CASE OF TYPHOID PERFORATION—SERUM OF TRUNECEK—CAUSES OF DEATH IN DIPHTHERIA—NEW BOOK BY DR. BROCA.

PARIS, August, 1902.

AT a recent meeting of the Medical Society of the Paris Hospitals, Dr. Marfan, a well-known specialist in pediatrics, made some remarks on the frequency of malignant forms of diphtheria during the last two years. The use of serum has, however, prevented the mortality being increased noticeably. The principal characteristics of these malignant forms are as follows: thick, extensive pseudomembranes, of a grayish or brownish hue, with swelling and redness of the parts situated beneath; considerable adenopathy, with periglandular œdema; temperature almost, if not quite, normal, weak pulse, deep nervous depression, the refusal to eat or drink, livid pallor, almost constant albuminuria. In these cases the serum does not produce an immediate effect, and death sometimes supervenes. This slow progress of the disease is what is most striking. Toward the fourth 'or fifth day the pseudomembranes have about disappeared, and the swelling of the glands is noticeably less pronounced. There are left, however, symptoms which indicate a cachectic period, and which are the following: (1) livid pallor, weak pulse, often paralysis of the palate, the child remaining motionless and dull; (2) increase of hepatic dulness as well as that of the heart in its transverse dimensions, the pulse becoming so rapid that it can no longer be counted; (3) vomiting preceding death, which comes on from syncope or asphyxia. Death does not come on in all cases, as a cure may take place when the heart is not too much dilated and the hepatic dulness not too considerable.

Death generally supervenes on the tenth day, but in one case it came as late as the thirtieth. The lesions found at the autopsy are always the same, such as myocarditis, apexian endocarditis and cardiac thrombosis in the right and left heart, situated near the apex and causing emboli in the brain, spleen, and lungs The liver is large, and covered with white spots. There is also hyperæmic or degenerative nephritis, congestion of the lungs and brain. In all these cases there is found in the blood a special diplococcus, which has been studied by Degny and Legros, and which seems to be quite distinct from ordinary streptococci. It resembles, to a certain extent, the diplostreptococcus found in scarlet fever, but can be distinguished from the latter by its mobility, lack of reaction on milk, and affinity for red corpuscles. This may be the cause of the symptoms seen lately in certain forms of diphtheria. Dr. Marfan insists once more on the necessity of making an injection as soon as possible.

In a recent article published in the *Presse Medicale*, Dr. Sayle, the assistant editor of this paper, recommended dental surgery as a specialty to young physicians. He remarked that nowadays it was necessary to show one's proficiency more by acting than by talking, and dental surgery was a field of work where this condition was requisite.

Before the laws of 1893 on the practice of dentistry had been passed any one could be a dentist. It is now necessary to obtain in France either a diploma of surgeon dentist or that of doctor of medicine. There are at present two dental schools in Paris, one in the rue de la Tour d'Auvergne and another in the rue de l'Abbaye. A certificate showing that one has had a common-school education is sufficient to enter either of these, and the course is of three years' duration. At the end of each year, and at the end of the course, examinations are passed to obtain the title, but to practise in France it is necessary to pass a State examination at the Faculty of Medicine before a jury composed of professors and dentists of the hospitals.

Doctors of medicine are supposed to know all that is requisite, and can practise dentistry without going through any examinations. The best dental surgeons in Paris are now those who take out the diploma of doctor of medicine and study at the same time dental surgery. They thus receive a degree of instruction, which makes of them thoroughly well-grounded specialists.

A recent case of death from perforation and consequent peritonitis in typhoid fever shows how sometimes hospital regulations are inimical to the best interests of the patient. A child had been admitted into the service of Dr. Graucher at the Enfants Malades Hospital, and his case was diagnosed as one of simple typhoid fever. Toward the end of the illness a perforation took place on the 17th of April, and next day it was decided to operate. It was, however, necessary to have the permission of the parents, and so the operation was deferred twenty-one hours. After having shown some signs of amelioration, the patient died on the 29th, and the autopsy, which was performed next day, showed the peritonitis had continued in the middle part of the abdomen. The physician in charge of the case did not doubt that if an operation had been carried out sooner the result might have been quite different.

Dr. Leopold Leir, who has been publishing several articles in the *Presse Medicale* on the treatment of different forms of arthritis by injections of the serum of Trunecek, has been using it in the form of enemata, and also as a powder to be taken by the mouth.

His formula is as follows:

Chloride of sodium	10
Sulphate of sodium	1
Sulphate of calcium	āā 0.75
Phosphate of magnesium	
Carbonate of sodium	0.40
Phosphate of sodium	0.30

To be divided into 13 capsules and one taken an hour before the first breakfast.

Dr. Lévy gives one or two and then again only half a capsule. Sometimes a slight degree of diarrhœa was caused, which was easily stopped by the use of a few drops of laudanum. The drug was also used in cases of paraplegia and of nervous symptoms simulating progressive general paralysis. In two cases of buzzing of the ears there was considerable improvement under this treatment.

At a meeting held by the French Society of Pediatrics on the 17th of June, Dr. Barbier and Alquier described the causes of death found in forty-five autopsies of children suffering from diphtheria. The most frequent is cardiac thrombosis, which existed in 50 per cent of the cases, the thrombosis almost always occupies the right heart In four cases the examination of the clot gave no result, in four cases the diphtheria microbe was found, the streptococcus alone in two, the staphylococcus alone in one, and the streptococcus and the bacillus of diphtheria once. Cardiac thrombosis seems to be frequent in severe forms of diphtheria, and occurs during convalescence, nine to fifteen days after the disappearance of the false membranes. Death is quite sudden, sometimes preceded by paleness of the face, by cyanosis, agitation, and anguish. Latent tuberculosis is often found, in eighteen cases out of 45, which makes a proportion of 40 per cent. In 25 per cent of the cases there were recent tuberculous signs, which had been brought on by diphtheria. Cardiac thrombosis does not, however, seem to be favored by tuberculosis, as the two were found together in only four cases.

The Maternity Hospital of Paris is being reconstructed on a relatively fine scale, and it can surely be said that Paris is, perhaps, the city that is most liberally supplied with these institutions. The new wards that have just been finished contain 114 beds and cost about $220,000.

Dr. Broca considers that immobilization of the knee and massage are sufficient treatment in simple hæmarthrosis. He describes, with a great deal of care, the fractures of the elbow-joint, speaks of some interesting cases of exostosis during growth, and devotes several lessons to osteomyelitis, and neurosis of the lower maxillary. Dr. Broca always considers it well to remove sequestra through the mouth. Three lessons are given over to the discussion of the treatment of appendicitis and its complications. Dr. Broca was quite radical in his mode of intervention from 1892 in 1895. He used to operate the children a few hours after they had been brought to the hospital. Since 1896 he has, like Dr. Jalagnier, become more reserved, and his results are, it seems, much better.

Progress of Medical Science.

The Boston Medical and Surgical Journal, September 4, 1902

The Changes in the Spinal Cord and Medulla in Pernicious Anæmia.—The conclusions drawn by Frank Billings from a study of this subject are as follows: (1) There is a well established relation of diffuse cord degeneration with pernicious anæmia; (2) It seems highly probable that the hæmolysis and the cord changes are due to the same toxin; (3) While the source of the toxin is unknown the fact that gastro-intestinal disturbance is so common in the disease would lead one to suppose that it is of intestinal origin; (4) The diffuse degenerations of the spinal cord which occur in conditions without pernicious anæmia do not appear to differ essentially from those of pernicious anæmia; (5) It is possible that a common blood-circulating poison exists which may expend its force upon the blood in one individual, upon the nervous apparatus in another, and coincidently upon the blood and spinal cord in others.

Appendicitis Complicating Pregnancy.—Francis D. Donoghue reports a case of removal of gangrenous appendix at three and one-half months, followed by successful delivery at term of an eight pound child. He attributes the happy result in this case directly to the early recognition of danger signals, followed by prompt action, and says that in view of the serious nature of this complication we are justified in insisting upon immediate operation if the attack occurs during pregnancy, and also upon operation in all cases where appendicitis has occurred in women who are susceptible of becoming pregnant. The diagnosis of appendicitis complicating pregnancy should ordinarily be easy, not differing materially from an uncomplicated case. The most important diagnostic signs are localizing pain, muscular rigidity, and the elevation of pulse or temperature. The diagnosis should be followed by immediate operation, as the danger not only to mother but to fœtus increases rapidly with the increase in sepsis. In operating the writer thoroughly believes in the rectus incision for the following reasons: It is fully as easy to reach the appendix in this way; the incision is easy to enlarge without cutting muscle fiber, and in healing there is a constant tendency of the rectus fibers to close the opening. If this incision is used and properly closed, there will be little danger of rupture before, during or after delivery.

Vaccination Eruptions.—Harvey P. Towle says that the literature of this subject contains surprisingly few references, and much difference of opinion as to what should be called a vaccination eruption, as some authors include under this head any eruption which occurs during or even after the course of the vaccinal lesion. Others use the term for those eruptions only which occur during the course of the vaccinal lesion and which have no other obvious cause than the vaccination. The author quotes Sobel as defining properly what he means by a vaccination eruption: "We must not confound eruptions pure and simple (in which it may be reasonably assumed that the course of the vaccination has been instrumental in the production and development) with those produced by extraneous infection (which would in all likelihood have occurred without the inoculation of the virus), impetigo contagiosa, erysipelas, abscess, furunculosis, etc. I should reluctantly attribute any generalized eruption to vaccination once the seat of inoculation has become thoroughly healed. So long as the sore remains open, so long as there is a chance for absorption, generalized vaccination rashes may occur." It is in accordance with this definition that the author considers the subject. He gives a review of five cases seen by himself in the last six months. The first case was one of secondary local inoculation which followed the scratching of the lesion by the patient. Three of the cases presented an eruption which appeared from the sixth to the thirteenth day, in patients whose vaccination lesions were still secreting—these cases all had in common redness, slight induration, lesions of a rounded character, a short duration and no marked constitutional disturbance. In the fifth case a recently healed psoriasis reappeared two weeks after vaccination, and the author says that while it is clear that the vaccination was not the cause of the eruption itself, it is a question if the vaccination did not so upset the equilibrium of the skin as to cause a rapid and widespread recurrence.

Journal of the American Medical Association, Sept. 6, 1902.

Psychology of Habit in Surgical Technique.—R. C. Coffee discusses the various phases of this question, and lays down the following rules: (1) Avoid contact with septic material the same as if you had no water, no chemical antiseptics, and no artificial protection for the hands. (2) In preparing the hands or a field for operation, do your work as thoroughly as if you had handled the most virulent septic material and had no antiseptic solution or artificial protection for the hands. (3) Use chemical germicides as faithfully as if you had handled septic matter, had not had the opportunity of using soap or water, and had no rubber gloves. (4) When rubber gloves are used, no less precaution should be exercised than if they were not to be used. (5) After these steps have been followed out, avoid contact of the supposedly sterilized articles the same as if no cleansing had been done by either of the preceding methods.

Medical News, September 6, 1902.

Some Notes on Tricuspid Diseases.—Thomas E. Satterthwaite states that next to pulmonary valve diseases serious affections are the most uncommon. They are very rarely single. Organic lesions of the tricuspid valve due to endocarditis or atheroma are usually preceded by mitral or aortic diseases or general arterio-sclerosis. Insufficiency and stenosis are the two recognized lesions, the former being the most common. It may be congenital or acquired, organic or relative. The latter preponderates. The most characteristic sign of tricuspid insufficiency is the systolic murmur over the tricuspid area. It is usually soft and faint. Tricuspid insufficiency produces at first dilatation and then hypertrophy of the right auricle. But it is seldom recognized in life even under favorable circumstances. Epigastric pulsation is an important sign, as is also faintness of the second pulmonary sound. In general the prognosis is bad. In tricuspid stenosis, an important feature is that the great majority of patients are women. The average age at death is between thirty-one and thirty-six. Rheumatism is the most frequent factor in the etiology. The disease has an insidious advancement. The patient will complain of palpitation. In one-half of the cases there is cyanosis, which is apt to be extreme. Mental confusion has been noticed. Diagnosis is most difficult. The general prognosis is worse than in any other form of valvular disease. In general, the louder the murmur, the less the danger.

Embolism of the Mesenteric Artery.—Alexander Lambert and W. B. Coley present this paper. Embolism of the mesenteric arteries is extremely rare. The writers report the following: The patient was a young man, thirty-four years old, with a decided alcoholic habit. During an alcoholic spree which had lasted for four days, he was awakened at night by severe general pain in the abdomen, not localized. At this time there was no nausea or vomiting. Three hours later he took one-quarter grain of morphine and went about his work. The pain increased and he took a large saline cathartic. The pain continued with exacerbations through the day. Cathartics and enemeta were productive of no result. There was marked abdominal distention. The diagnosis of acute intestinal obstruction was made. The cause was impossible to determine. Operation was advised. Towards evening the abdominal distention was increased; pulse was 106; temperature was 99°F. At eight o'clock A.M., the vomiting had become slightly fæcal and the symptoms just enumerated were more grave. Prostration was extreme, though the patient was conscious. The diagnosis was still doubtful. Operation was performed at half-past eight in the morning by Drs. William T. Bull, and John B. Walker. A large fold of mesentery of the small intestine was found to be greatly thickened. The diagnosis of thrombosis of the mesenteric vessels was made. Peritonitis had begun to develop, and no further surgical interference was attempted. The thickened mesentery was as large as two hands, and supplied several feet of intestine. The wound was closed and the patient returned to his bed in fair condition. He died at 4 P.M. about seven hours after operation. Autopsy was performed and the causes of death were stated to be: Multiple infarctions of mesenteric and pulmonary arteries, following thrombosis of the right auricle. Complicated by marked general atheroma and by extreme fatty degeneration of all visceral parenchyma, notably of the heart muscle, all probably resulting from alcoholic toxæmia. Chronic appendicitis.

A Brief Consideration of the Scientific Treatment of a Few of the Diseases of the Heart.—I. Newton Snively believes that it is often better to give no medicine for heart lesions. In considering the enlarged heart in which no valvular or orificial lesion exists, the differential diagnosis may be very obscure, but the treatment is indicated as much by the general state of health of the patient as by the heart conditions. Such treatment should be, in general, as follows: The cause of the degeneration should be removed, if possible. The patient's hygienic and dietetic treatment should receive due consideration, so as to improve his nutrition. In some cases digitalis should be employed, especially if the patient shows signs of commencing dilatation. In other cases (if anæmic) hæmatinics with arsenic and strychnine are the best remedies. Some of these cases do well under skilfully-directed physical exercise and light gymnastics, increased or decreased according to the peculiar effect upon the patient. If the patient is suffering from obesity, then Oertel's treatment may be followed: Reduction of the amount of liquid taken with the meals and during the intervals; frequent bathing (Turkish baths, if practicable); the diet is made up largely of proteids, and exercise should be gradually increased from day to day. The writer sums up his paper as follows: Each patient showing a heart lesion must be a study unto himself. No heart medicine is needed unless the myocardium is unable to do its work in a physiological way. The heart muscle should demand more consideration than the heart murmur. Rest is one of our best therapeutic agents. We should try by every possible means to prevent myocarditis in all diseases where this condition is apt to arise. After any severe diseased process we should insist upon the patient resting in bed long enough to allow the myocardium to be restored. We should improve the general nutrition of our patients and restore the blood to a normal standard by the use of blood tonics. We should investigate the kidneys in all cases showing signs of cardiac incompetency. Physical exercise, light gymnastics, and properly-selected diet are valuable aids in the treatment of cardiac disease.

Characteristics of Pulmonary Valve Affections, with Cases.—Thomas E. Satterthwaite states that of all cardiac valves, the pulmonary is least often affected. Very rarely it is a single lesion. The form most commonly seen in adult life, is insufficiency; in fetal life or infancy, stenosis. In adults, diseases of the pulmonary valve generally follow endocarditis of other valves, or arterio-sclerosis. While temporary insufficiency is common, the chronic form is not common. It frequently happens that the lesions of the right heart escape the notice of the physician. In some cases pin-hole openings in the valves are found at autopsy as the result of congenital malformation. Although these minute holes do not give rise to murmurs, large openings may do so. From the fact of its proximity to the aortic, the pulmonary area, more than all other valvular areas, is more likely to lead to error. In certain cases aortic murmurs may be heard best over the pulmonary area and *vice versa*. Or they may be clearest above the second cartilage or over the sternum opposite to it. Other murmurs in the pulmonary area are due to anæmia, change of position, and other causes, which are in no way, as far as known, connected with the valves. Auscultatory signs in this area should therefore be carefully weighed. In the case of congenital insufficiency of the tricuspid there is apt to be found also pulmonary stenosis and insufficiency. Insufficiency may occur at any age. Sex seems to have no influence. Ulcerative endocarditis has been given the chief place in the etiology. This may result from gonorrhœa, pyæmia, puerperal fever, and pneumonia. Other causes of the lesion are pulmonary stenosis, aortic aneurysm, pulmonary dilatation, or some abnormal condition of the valves. Insufficiency from stenosis may be due to adhesion of leaflets. Abnormalities, such as clubbed fingers and toes, and an abnormal development of the chest, together with a condition of general cyanosis, will call attention to the congenital form which is most apt to be associated with stenosis and cardiac anomalies. In such cases the murmur is soft because the blood current is not vigorous and there are no ulcerations. Signs of defective nutrition are very apt to be noted in the acquired form. In congenital disease the prognosis is unfavorable. In acquired cases the patient sometimes reaches old age. Pulmonary stenosis is very rare as a single congenital lesion. Diagnosis of pulmonary stenosis is never easy. Prognosis is never good in the congenital forms, although it is more favorable in the acquired form. At the birth of these infants, after the mucus has been cleared from the mouth and nostrils, circulation should be stimulated and artificial respiration instituted. In the acquired form, rheumatic tendencies and infections should be combated, and the cardiac symptoms should be treated as they arise.

New York Medical Journal, September 6, 1902.

The Use of Electricity in the Treatment of Habitual Constipation.—Taking into consideration the fact that of twelve cases reported, 75 per cent. were completely cured, S. Cohn offers the following conclusions: (1) Electricity should not be employed as a last desperate chance after all other means have failed, but should be given a front rank in the treatment of this disease; (2) Especially the static currents, with their powerful vibratory effects, should be employed more frequently than has been done heretofore; (3) The reduction of abdominal circumference by the use of these currents is a proof of their tonic influence upon the abdominal muscles; (4) The most powerful means of obtaining this tonic condition is the administration of the swelling or undulating current.

A Résumé of Forty-eight Cases of Post-operative Crural Thrombosis.—B. B. Schenck enumerates the cases which are taken from the records of the Johns Hopkins Gynecological Service. From a study of these cases he comes to the following conclusions: Thrombosis of the crural veins is more common after pelvic operations than is generally recognized. It occurs more frequently in those cases in which large tumors, springing from the pelvic organs, have been removed. It rarely follows extrapelvic operations. In this series it has been infrequent after infected cases. The anæmia and cachexia in consequence of new growths seem to be factors in its causation. Constipation and the use of enemata play a doubtful part in the ætiology. Traumatism at the time of the operation should be borne in mind and deep retractors used with extreme care. Infection is undoubtedly of great importance, but its frequency is difficult to decide. This complication often occurs when least expected and usually late in convalescence. Albumin in the urine is more frequent in these cases than in those running an uninterrupted course. The pulse curve of Singer does not always occur. The results of rest and elevation for the full length of time are excellent. When the time is lessened, swelling and pain persist, and the danger of pulmonary embolus is increased.

Clinical Notes on Cardiac Diseases.—R. R. Cornell reports a series of cases showing, among other things, that the physical signs pertaining to the condition of the heart may not become evident till an acute affection of the pericardium has developed. Thus in one case an attack designated pericarditis was really a pleuropericarditis. This lesion resulted in such an adherence of the pleura as caused retraction of lung tissue, and affected an exposure of the heart to the extent that its physical signs became apparent. Four cases of angina pectoris are reported, but none of them presented any unusual features. The last case was one of pericarditis following rheumatism giving a function murmur, extending from the third left rib, close to the sternum, downward and outward to a point somewhat to the left of the cartilage of the fourth left rib, and by the obscuring of the sounds of the heart at the apex. The murmur was audible for five days, and then disappeared. All sounds of the heart at that time were so hidden as to be scarcely heard. Yet percussion of the superficial and deep cardiac areas demonstrated no enlargement of the heart in any direction. But suddenly, upon the night of the tenth day of the pericarditis, a sound completely resembling that produced by the churning of milk emanated from the patient's chest. It could be heard at a distance of five feet from his body, and suggested the presence of a pericardial effusion that was being churned by the heart. Examination with the stethoscope revealed these signs as existing in an intense degree over the entire region of the heart. Percussion, however, indicated no enlargement of the heart. An exploring needle was introduced into the pericardial sac beneath the fourth rib, at the left border of the sternum, and brought away nothing. According to the author, the churning sound was not due to pericardial effusion, but was caused by the cardiac impact against a stomach over-distended with gas. This he considers proven by two facts: First, the sound stopped when the stomach was freed from the gas and second, because after death, the next day, the pericardial sac contained only two drams of serum. The problem in this case he considers to be the subsidence of the pericardial friction murmur without the formation, in considerable quantity, of serum, or the absorption of the whole or the greater part of the fibrinous exudate.

American Medicine, September 6, 1902.

Rupture of the Heart.—R. L. Leak gives a report on this subject, grounded on his experience, since 1891, in the St. Lawrence State Hospital at Ogdensburg, N. Y. In 560 autopsies there were found to be five cases in which death was due to rupture of the heart. The ratio, therefore, was 1 to every 112 deaths. The writer gives a table of these cases which he reports, which sums up various interesting points in regard to them. Three of the cases were women; two were men. In two cases the arteries are described as fibrous; in three, very fibrous, almost calcareous. In two cases the pulse was 88; in two, 72; and in the fifth, 120, but strong. In two cases the heart was hypertrophied; in two, normal; and in one there was a systolic murmur. The physical condition was poor in two cases; emaciated, good, and fair in the others. The weight was 118, 79, 101, and 119 pounds in four cases, respectively. Necropsy showed the weight of the heart in the five cases, respectively: 9½, 9, 10½, 13, and 17 ounces. The place of rupture was in the left ventricle in four cases, and in the right auricle in one case. Microscopic examination gave the following results in three cases: Fatty and granular degeneration; marked brown atrophy transverse striations, lost granular degeneration, cells fragmented, capillaries sclerosed, cellular infiltration; slight granular degeneration, marked increased connective tissue, and capillaries sclerosed.

Atresia of the Vagina (Colpatresia), Unilateral Ovary and Tube, with No Uterus.—Charles E. Barnett describes a case of this kind. This abnormality is due in some way to a lack of development embryologically of the lower third of the Müllerian duct on one side, and the upper part of the Wolffian duct and body on the other. The patient was a woman aged thirty-three years. Her hips were somewhat small, and her face was effeminate. At thirteen years of age she had cramp in the uterine region, from which it took six months to recover. She gave a history of monthly recurrence of pelvic cramps till one day, during a paroxysm, her nose began bleeding violently. After losing much blood the pelvic pain subsided. This vicarious menstruation continued up to the time of operation. An aunt had vaginal atresia. On examination the vulva was found normal, except a slight enlargement of the clitoris. There was no hymen. The vagina was one and one-half inches long, and small in caliber. There was a firm membranous body in the uterine region, which seemed to be the uterus. The right Fallopian tube was enlarged to probably three times its normal size, and led to the right ovary, which was distinctly felt. No left ovary or tube was discovered. Operation was performed. An opening was made through the vaginal septum into a musculo-membrano-cartilaginous pouch, out of which a dark menstrual fluid came. The Fallopian tube could be sounded through this passage. The pouch in the lower part of the tube was washed out and packed with gauze. The results of the operation were excellent. The vagina was enlarged, and menstruation was established by the normal route on the fifteenth day after operation. Flow has occurred in the same manner for eleven months, with no unpleasant symptoms. The patient has gained both flesh and strength. The writer concludes that the retained fluid from the first menstruation produced a parasalpingitis and endosalpingitis, with pelvic peritonitis. Nature, in six month's time, formed a pouch that was sufficiently impermeable to require a longer time for absorption of the fluid, and consequently less toxicity occurred therefrom. Epistaxis depleted the body and relieved the congestion, the Fallopian tube supplied the uterine dificiency and did the menstruating. It is easy to conclude that coitus is contraindicated.

Philadelphia Medical Journal, September 6, 1902.

The Climate of Porto Rico.—T. L. Coley presents a valuable resumé of the climatic conditions of Porto Rico. This island is situated entirely within the torrid zone, between the latitudes of 17° 54″ and 18° 30″ north. Its longitude west of Greenwich is between 65° and 67°. It is a comparatively small island, and is swept by the trade winds; it is also far from the warm waters of the Gulf Stream; and so natives of the temperate zone may live there in comfort after they have become acclimated. The island is ninety-five miles long, by thirty-five miles wide. The mountain ranges reach a height of 2,000 feet above the sea level. The climate, while tropical, is not torrid. The heat is continuous, though not extreme. and the climate is somewhat enervating. The winter season extends from October to March, inclusive. The air is delightfully fresh during the winter season. The difference between the temperature in open sunlight and dense shade is extremely marked. As a residence for natives of temperate climates, Porto Rico is far preferable to any other island of the West-Indian group. Yellow fever has never been present in an epidemic form. Typhoid fever is common. The secondary anæmias are prevalent. The death rate is high, due rather to the character of the population than to the climate. Sanitation was practically unknown prior to the American occupation, but conditions are now much better. The potential possibilities are promising.

The Treatment of Uræmia (Mixed Toxæmia).—Egbert H. Grandin believes that rational therapeusis has been much retarded by the idea that it is in the kidneys that the poisonous element is manufactured, which is at the basis of the symptomatology to which the term uræmia has been mistakenly applied. He believes that this symptomatology is dependent upon a toxin emanating in part from the kidneys, in part from the liver, in part from the intestines, and, in pregnancy, in part, possibly, from the body of the fœtus. The writer sums up the therapeusis in two words—elimination and derivation. The treatment of this mixed toxæmia may be ranged under three headings: The prophylactic—the treatment which aims at warding off toxæmia; the emergency treatment—that which is applicable in the presence of toxæmia; and, lastly, when pregnancy exists, the surgical treatment. The chief point in prophylaxis is to spare the kidneys and intestinal canal as much strain as possible. The sweat glands should be made to work well, and free action of the liver should be secured. When toxæmia is active, chloroform is valuable. The one occasion in which surgery enters as an adjunct in the treatment of toxæmia, is when the phenomena are a complication of pregnancy. The uterus should be evacuated, and then be allowed to relax, so that blood is lost—a form of venesection which is most useful. The writer concludes his paper by summing up the therapeusis in the words: Dietetic, hygienic, eliminative, and derivative.

A Note on Some Psychoses of Early Puberty, with Report of a Case in a Boy, Twelve Years Old.—Alfred Gordon declares that when puberty approaches, a physiological crisis takes place in the life of the child. The intellect begins to predominate over the instinct or sentiment. The transition from childhood to puberty is very favorable for development of hereditary affections. The changes at this time in the intellectual and physical spheres are often the source of various psychic disturbances. Mental disorders may be various. They may be in the form of a pure psychosis, mental degeneracy, dementia præcox, etc., There is a form of psychosis, rare in late childhood or early puberty, in which the disturbances occupy an intermediate state between the neuroses or psychoses and true insanities. If these patients do become insane, they may remain so permanently or recover only temporarily. Their mental or nervous equilibrium has not a solid basis, and is constantly threatened with a break. They are Morel's degenerates. The writer refers to those degenerates whose mental symptoms are only episodic in character, symptoms which prevent psychopathic disturbances, but with total lucidity of mind. He then describes a case of this kind. The ensemble of the psychoses which this patient, a boy of twelve years, presented, developed on a hereditary and neuropathic basis and coincided with the transition of childhood to puberty. Through all his experience of doubts and obsessions his intelligence was unaltered. He was perfectly conscious of his sufferings. It was a sort of psychological paradox. The patient was really a superior degenerate, and was probably threatened with dementia præcox.

British Medical Journal, August 30, 1902.

The Subcutaneous Administration of Carbohydrates.—C. Nepean Longridge declares that to be suitable for subcutaneous injection a food must be: (1) Capable of sterilization and assimilation, and (2) non-irritating, fluid, and of moderate bulk. According to Barker, solutions of carbohydrate to be non-irritating, must be adapted to the osmotic conditions of the part selected for injection. The liver possesses the power of eliminating or changing into comparatively innocuous forms poisons which are conveyed to it by the blood stream. The evidence is partly experimental and partly pathological. It is supposed that the liver is injured in its efforts to cope with the poison. The antitoxic function of the liver ceased to be exercised in the absence of glycogen. The power of the liver to decrease the toxicity of poisons depends directly upon the amount of glycogen which is contained in its cells. Glucose is well borne when given with albumen water and a little lemon juice. Even if it does not increase the antitoxic function of the liver it can always act as a saver of proteid.

Subcutaneous Injection of Quinine in Malarial Fevers.—Arthur D. Humphry describes his method: The injection is given before 8 A.M.; in a teaspoon, about twenty drops of water are well boiled over a spirit lamp. In this is dissolved a three-grain tablet of bihydrochlorate of quinine, the solution again boiled, and then allowed to cool. The skin is well cleansed, and the syringe is sterilized. The needle is then plunged deeply into the muscle; the deltoid in adults, the gluteus in children, being chosen. The writer never hesitates to use this method in acute cases, accompanied by constant vomiting, or in cases of some standing which do not respond to quinine in large or small and frequently repeated doses given by the mouth. The writer then reports several cases. He has always met with success in the use of this method. The site of the injection has been followed by some deep-seated induration, which has generally disappeared in the course of a few days.

A Case of Second Eruption in Vaccina.—W. H. B. Stoddart reports the following case: The patient was a man aged twenty-nine years. He had been vaccinated in infancy, and this had been followed by a rash, which seemed to be eczematous in nature. He was next vaccinated at the age of thirteen. This was uneventful. The next vaccination was performed last winter. Calf lymph was used in two places on the arm. Both places took well and the scabs fell off at about the end of the seventh week. About ten days after this, one of the places became irritable, and in the course of forty-eight hours a clear vesicle had formed. This was about half an inch in diameter. To determine, if possible, whether the recrudescence was of the nature of true vaccina or not, a second individual was vaccinated from the first patient's vesicle. The second patient had been vaccinated in infancy, and in 1891 successfully. In 1894 he was vaccinated without success. Nothing happened for eleven days. Then B's arm became irritable, and a large bleb formed similar to the one on A's arm. When the scab had disappeared from B's arm, he and another man, who had not been vaccinated since 1891, were vaccinated from the same tube of calf lymph. The vaccination of C's arm was successful, but that of B's was unsuccessful. He had evidently been rendered immune. This would appear to show that the second eruption in the case of A was a true vaccina, and might have been a relapse. One argument contrary to this view is that neither the second eruption on A's arm nor the first eruption on B's arm bore the slightest resemblance to an ordinary vaccinal eruption.

Deutsche medicinische Wochenschrift, August 14, 1902.

Erythema Simplex Marginatum.—Leopold Feilchenfeld reports six instances in which he observed a form of erythema, to which he has given the above name. All of the patients were children, and were apparently in the best of health. The disease is apparently infectious in nature, since five of the patients lived in close proximity to one another. The cutaneous lesion consists of a diffused redness and swelling of the skin in the involved region. The boundaries of the eruption show a sharp line of demarcation. Usually the patients complain of more or less burning or itching. The redness can be made nearly to disappear upon pressure, but quickly returns after this is removed. As a rule, the eruption only appears upon the face and extensor surfaces of the upper extremities, but it is occasionally seen upon the back. Constitutional symptoms may be entirely absent, or there may be slight fever with its attending concomitants. In one of the cases an angina of moderate severity accompanied the attack. The average duration was eight days, at the end of which time recovery took place spontaneously. The author believes that this variety of erythema is to be regarded as a form of this affection which has not as yet been described; especially is it to be differentiated from erythema medicamentosum and erythema exsudativum marginatum.

Tumor of the Cauda Equina.—Franz Volhard reports a rare case. The patient had been sick for some years, the first signs of illness being disturbances of the bladder functions. Gradually incontinence of urine supervened, and finally dilatation of the bladder and a secondary pyelitis. The patient first applied for treatment because of dyspeptic symptoms. At that time there were present marked motor disturbances in the left ischiadic territory. Disturbances of sensation were to all practical purposes absent. The reflexes on the affected side were absent, with the exception of those of the patella and pupil. Much difficulty was experienced in arriving at a diagnosis, but by the means of a careful study of the motor disturbances, the location of the lesion was finally assigned to the cauda equina. The nature of the lesion was still somewhat a matter of speculation, but it was regarded, principally on account of the clinical history, as most probable that it was a non-malignant tumor. An operation was decided upon, but before this could be undertaken, the general condition of the patient suddenly became worse, and in a few days death supervened. Upon autopsy the diagnosis was verified. Microscopical examination showed that the tumor was a lymphangioma cavernosum. So far as the author knows, this is the first instance in which a tumor of the cauda equina has been diagnosed ante-mortem and the diagnosis proved post-mortem.

Repair of Bony Defects of the Skull by the Transplantation of Bony Plates Taken from the Neighborhood of the Lesion.—E. Hoffmann says that in repairing bony defects of the skull the best results are to be obtained by taking the bony transplants from the neighborhood of the defect rather than by utilizing foreign substances (prepared bone, metals, etc.), or bony transplants from other regions of the body. All foreign substances have the disadvantage that at any time subsequent to their implantation suppuration is liable to occur, and the results of the operation thereby nullified. When bony plates are transplanted from regions of the body which are removed from the defect, as has been recommended by Müller-Koenig and Seydel, we are compelled to make a new lesion, the effects of which must be recovered from by the patient. The method here advised by Hoffmann possesses neither of these disadvantages. The technique of the operation freshening the margins of the defect when such is of long standing, removing the soft parts from the immediate neighborhood, and transplanting a sufficient portion of the lamina externa thereunder to completely cover in the defect. The whole is then covered by the surrounding skin, which is accurately sutured. The success of the procedure depends principally upon two factors: (1) The observance of a rigid asepsis or antisepsis; (2) An intimate proximity of the transplanted bone to the margins of the defect. The indications for the operation are as follows: (1) In all trephinings of the intact skull, when Wagner's method is not available, or for any reason the resected bone cannot be reimplanted. (2) For the reparation of defects of the skull caused by traumatism or tumors. (3) In the primary treatment of complicated fractures of the skull when pieces of the bone are lost, or are not suitable for reimplantation from any cause. (4) For the reparation of defects of the skull which are the sequelæ of suppurating fractures of the same. Here the only condition necessary is the availability of a sufficient amount of skin with which the wound may be closed. (5) For the reparation of defects of the skull which arise as the result of tuberculous or syphilitic infection. Here the same condition is necessary as indicated under the previous indication. One case in which the defect was traumatic in origin is reported in detail.

Berliner klinische Wochenschrift, August 18, 1902.

Prognosis of Tuberculous Meningitis.—Alfred Gross says that the more extensive employment of lumbar puncture has shown that tuberculous meningitis is not nearly so fatal a condition as was formerly supposed. The author reports a case in which, by a strained preparation, he detected the presence of three tubercle bacilli in the fluid withdrawn by lumbar puncture on the third day of the disease. None of these organisms were found in similar fluid withdrawn on the eighth and tenth days. Cultivation of this fluid upon Agar and Loeffler's blood serum showed it to be sterile. No animal inoculations were tried. The patient recovered after sixteen days of sickness. Shortly thereafter a physical examination of the lungs showed consolidation at both apices. In the sputum no tubercle bacilli were found. The author regards the diagnosis of tuberculous meningitis as sound.

A Case of Osteomyelitis of the Occiput Which Closely Resembled a Meningocele.—W. Schrank reports the case of a four-and-a-half-year-old boy, who received a fall upon his head, but no appreciable local lesion was caused thereby. Shortly thereafter the hair began to fall out over the injured region, and soon a small tumor made its appearance in the same location. This tumor gradually increased in size, and the general condition of the patient began to suffer. Exploratory puncture showed that the tumor contained a thin, blood serous fluid, and the diagnosis of meningocele was made. Upon examination the tumor was found to be partially reducible, and treatment by a compression bandage was at first instituted. This, however, was without result, and the general condition of the child continued to decline, so that operative procedures were advised. The temperature and pulse had been normal throughout the entire course. Upon operation it was found that the lesion consisted of an osteomyelitis of a considerable portion of the cranial bones located at base of the tumor. All of the necrotic tissue was removed and complete recovery took place. It is interesting to note that following the operation the pulse rate was very high (120 per minute) for three weeks, although the temperature remained normal throughout.

Credé's Method of Treating Ophthalmia of the New-Born.—G. Leopold enters into a review of the literature, and gives his own experiences with this method of treatment. Cramer has been most pronounced in his condemnations, claiming that the nitrate of silver solution in a large number of instances produces in itself an inflammation of the conjuntivæ, which is frequently very serious, often giving rise to incurable sequelæ. A perusal of Cramer's article shows that the technique employed by him is not the same as that recommended by Credé. Cramer, after dropping the silver solution into the internal canthus, opens and closes the eyelids with the fingers a number of times, so as to secure an equal distribution of the fluid. It is certain that in this way much irritation is produced, and if inflammatory lesions arise they are certainly due to the traumatism, rather than to the silver solution. Credé advised that the fluid be dropped directly upon the cornea, and that all manipulation of the eyelids be withheld. If these instructions are carefully followed, abundant experience has shown that subsequent inflammation is of the rarest occurrence. Manifold statistics prove the efficiency of the method as advised by Credé. In all institutions where it is used blenorrhœal ophthalmia is to-day a rare disease. Out of 2,146 births which occurred in the author's clinic in 1898, in but three did ophthalmia develop. In all of these a 2 per cent. solution was used. Since the beginning of 1902 a 1 per cent. solution has been exclusively used by the author. Six hundred and ninety-eight births have taken place, and only one case of blenorrhœal ophthalmia has occurred. In none of the cases was any inflammation due to the silver noticeable. In a few there was a slight irritation, which lasted twenty-four hours and disappeared without the necessity of treatment. It has recently been proposed to substitute the acetate for the nitrate of silver in the strength of a 1.24 per cent. solution. This has been tried by the author with satisfactory results, but it cannot be said that it possesses any advantages over the nitrate solution.

French and Italian Journals.

Paracentesis of the Pericardium.—Aldo Tozzi says that so far eighty cases of this operation have been reported, and he now reports the eighty-first. The patient, a man of sixty-six years, was suffering from gravel hydropericardium, with insufficiency and stenosis of the mitral valve. An incision was made in the fourth intercostal space of the left side, and about 600 c. c. of fluid removed. The author has found by experience that it is not necessary to remove all the fluid present, for the removal of a moderate amount will promote the absorption of the remainder. Six years after the operation the patient was in excellent condition, the heart lesion being perfectly compensated. Tozzi urges more courage among practitioners in regard to the performance of this operation.—*La Riforma Medica*, August 12, 1902.

Vaccination against the Plague by Way of the Stomach.—In view of the determined opposition of many people to cutaneous vaccination, Mercatelli Vincenzo experimented with guinea-pigs in order to ascertain whether it might be possible to obtain the desired results by the administration of a bolus of anti-plague vaccine by the mouth. Large doses determined a toxic gastroenteritis, which in some cases ended fatally. Absorption of the vaccine was accompanied by hypothermia reaching 2 degrees C. below normal, and lasting from ten to fifteen days in favorable cases. The animals which survived the treatment exhibited a slight degree of immunity toward inoculations of plague virus; this occurred after one dose only of the vaccine, and the author believes that by repeated progressive doses better results might be obtained. It is his purpose to carry on a series of experiments directed to this end.—*La Riforma Medica*, August 5, 1902.

Society Reports.

TWELFTH CONGRESS OF FRENCH-SPEAKING NEUROLOGISTS AND ALIENISTS.

Held at Grenoble, August 1 to 8, 1902.

THE twelfth congress of French-speaking neurologists and alienists was brilliantly opened on Friday morning, the first of August, at 9 o'clock, at the Hôtel de Ville. M. Régis presided. Near Dr. Régis of Bordeaux, the president of the Congress, were seated Dr. Gilbert Ballet, professor of the Faculté of Paris; M. Mottet, representing the prefect; M. Boirac, rector of the Academy; Dr. Bonnet, physician in chief of the asylum of St. Robert, and general secretary of the Congress; Dr. Bordier, director of the School of Medicine. There were besides, numerous other professors and foreign physicians, among whom were Messrs. Joffroy, Brissaud, Bourneville, Deny, Séglas, Legrain, A. Marie, and Chervin of Paris; Pierret and Carrier of Lyons; Ladame of Geneva; Fontanille, attorney-general of Grenoble; Sixto-Arman of Oviedo, Spain; Obrégia of Bucharest; Mendessholn, professor of physiology, at Saint Petersburg; and Crocq of Brussels.

In the absence of the mayor, M. Gontard gave the address of welcome. He was followed by Dr. Régis, who delivered a most interesting address. After visiting the Hôtel de Ville, and the Musée-bibliothèque, the members of the Congress assembled at the School of Medicine of Grenoble, where they were received by Dr. Bordier, director of the school, who delivered a very entertaining address. He pointed out the advance that has been made in the branch of medicine in which the members of the congress were specially interested, even the term neurologist indicating progress. Psychiatry was formerly regarded as a sort of sorcery. But to-day the affections of the brain and spinal cord are considered from the same point of view as the heart, the kidney, or the liver. Whereas only a few years back such terms as spirit, demon, and perturbation of nervous force were made use of, the present neurologists and alienists used sclerosis, thrombosis, and often also autointoxication. Mental troubles, such as those of sensibility and motility, were referred back to the nutritive processes or to chemical intoxications as a cause. However, even yet in spite of all the progress which had been made in this branch of medicine in the last few years, it was not always possible to distinguish with certainty between the malingerer and the real patient. But psychology, had become a chapter of physiology in which the habitual method of induction was used. Facts and observations were brought together, forming at last a vast synthesis. By making a biological science of psychology, order was beginning to shape itself out of the chaos of ancient metaphysics. The relation between the motor troubles of Addison's disease and the disturbed function of the suprarenal capsules had been traced; it was myxœdema and the cretinism of goiter which had suggested the idea of the functions of the thyroid body; it was the knowledge of the lesions of the third frontal convolution of the brain that made Broca the discoverer of the key to cerebral localizations. From the day when psychology became biological, it also became experimental. Thought was weighed and measured and analyzed in its genesis and in its structure. The physician was accustomed to consider the genesis and the evolution of form and of phenomena, to recognize especially the action of natural forces, it might be at the time when they give birth to organisms, or it might be at a later time. He was accustomed to weigh the laws of heredity in the consideration of individual variations. He contemplated men and things with an equitable and tolerant eye. He was convinced by experience that everything in nature was relative and contingent. He knew that every phenomena had its effect and its cause. It was due to the neurologist and the alienist that what was formerly considered the occult domain of medicine was now being cleared and enlightened by the rays of scientific research.

The Anxious States in Mental Maladies.—M. G. Lalanne of Bordeaux presented this paper, and in it he reviewed the states of anxiety observed in the course of the various psychical troubles. In his introduction he stated that the condition of anxiety was a malady in which the suffering was due primarily to circulatory and respiratory troubles. This painful condition presented degrees of intensity from a condition of simple apprehension with restlessness in the limbs, to actual pain located in the præcordial region, or even a feeling of suffocation, with pallor of the face, cold sweats, and fear of immediate death. This suffering might be observed even in healthy persons who were subjected to sudden misfortune or to the expectation of some great trouble. The term anxiety ought to be defined, but the literature would be searched in vain to find a clear and precise definition of the term and what it comprised. The best definition was found in clinical study. There were few conditions so difficult to conceal as anxiety. As well in its slightest degree—uneasiness or restlessness, as in its greatest intensity—anguish, anxiety was an emotion which was expressed by the entire being. There was no necessity of describing the anxious facies. The principal troubles which were associated with anxiety were physical, emotional, and mental. In the last few years there had been a decided tendency to unite the psychological with the clinical. These conditions of anxiety in mental troubles, whether of the slightest or of the most extreme degree, came at the same time into the domain of the psychologist and clinician. From a pathological standpoint there was often no apparent cause for the condition of anxiety. The patient was anxious in spite of himself without knowing why. The painful sensation sometimes occurred suddenly in all its force, while at others it took the form of persistent discomfort which lasted throughout life. The acute attacks generally took place during the night or toward morning. The form of continuous discomfort was observed more particularly in certain degenerates, who expressed this condition by an habitual pessimistic view of life. They doubted everything, even themselves, and lived in perpetual anticipation of misfortunes which happily for them never happened. So anxiety flourished in neuropsycopatic soil, sometimes in the form of a neurosis, sometimes in the form of a psychosis. The states of anxiety were for a long time confused with the emotional maladies, but it was finally recognized that at the foundation of emotional conditions there were always anxiety or anguish. It was, however, especially in recent years that, in the study of certain states, related at the same time to both neuroses and psychoses, anxiety had been isolated from the general group of the emotions and has been assigned its true status. The question of the anxious states or conditions in mental maladies has reduced itself to a great degree to the semeiology of anxiety. As to the history of this subject, Cérise (1843 and 1872), Morel (1853 and 1866), and Guislain clearly described the anxious states under the term of emotional delirium. Raymond and Janet devoted a chapter in their work "Neuroses et idées fixes" to this subject. Flemming, in 1848, called attention to præcordial pain as one of the most important symptoms of insanity, and he declared that the symptom was due to an affection of the pneumogastric. Kaan, Hecker, and Freud have written on the neurosis of anguish. In 1897 Pitres and Régis demonstrated the leading rôle of anxiety in the genesis of pathological obsessions. For the clinician anxiety presented itself under the form of discomforts due to a great number of troubles which attack the entire organism and are concerned with all of its functions. As to the symptomatology, whether the affection existed in its lightest or most severe form, anxiety was an emotion which possessed the entire being in its physical, emotional, and intellectual functions. The first group, *i. e.* the physical symptoms included among the troubles of general sensibility, the anæsthesias, which explained certain automutilations, the hyperæsthesias, and the paræsthesias. In the domain of the special senses were often noted the perversions, such as chills of the scalp, horripilation, hyperosmia, hyperacusis, photopsia, and chronopsia. These perversions might reach the point of illusion and hallucination. The motor troubles that were noted in the anxious states were asthenia, general lassitude, and sometimes contraction of the respiratory muscles; the flexors might be so contracted that the body was curved in a movement of defense; there might be a relaxing of the masseters and of the vesical and rectal sphincters; there were also nervous cough with spasm of the larynx, diminution of the patellar reflexes with hypotonia, tremor. according to the degree of emotion, incoordination of voluntary movements far more apparent than real, emotional troubles of elocution, and vertigo which was dependent upon vasomotor cerebral troubles or upon digestive troubles. In the anxious states there were always circulatory troubles, such as rapid heart beat, irregular contractions of the organ, peripheral vasoconstriction, increased arterial tension, pallor and flushing of the face, and coldness of the extremities. Besides these disturbances there were observed respiratory troubles, characterized by acceleration of respiration, modification of the rhythm, even to the point of dyspnœa, jerky inspiration, and sighing. Again, the digestive troubles included constipation, gastrointestinal atony, crises of diarrhœa, and a variety of gastric pains. Among the secretory troubles were noted often, polyuria, sometimes retention of urine, salivation, or, on the contrary, extreme dryness of the mouth, general or local hyperhidrosis, or, on the other hand, abnormal dryness of the skin. In the group of emotional and intellectual symptoms were observed anxious attention with permanent fear of painful events; secondary to this attention, the obsessions and the feelings of dread or apprehension (Pitres and Régis); diminution of the faculties of attention, of volition, of memory, of the association of ideas, of judgment, a diminution determined by the power of disassociation which all of the emotional states possess; sometimes the arrest and in other cases rapid development of mental representations; the projection, under hallucinatory form, of very intense mental images; finally, as a sequel of sensorial troubles, the perversion of the faculty of perception, which might end in the alteration of the personality (Ribot). The writer next considered the subject of anxiety outside of psychopathies. First physiological anxiety was observed in normal individuals, in certain circumstances of life—for example, examinations, competitions, or appearance on the stage. Again anxiety in the somatic maladies was found in abdominal typhus, cholera, yellow fever, and leprosy; in poisoning by serpent venom, nicotine, opium, or carbonic oxide; intestinal hemorrhages; maladies of the heart, such as true angina pectoris, or that which is due to neuralgia of the cardiac plexus or even to a spasm of the arteries; hysteria, neurasthenia, and epilepsy. The third section in this group were the neuroses of anguish. Under this term Kaan, Hecker, and Freud included a group of symptoms, which they separated from the neurasthenia of Beard, to make of it a special morbid type, in which were found the following signs of general irritability with auditory hyperæsthesia, anxious attention, acute anguish or its equivalents, insomnia, night terrors, vertigo analogous to that which occurs in paralysis of the eye muscles, dread, and obsessions. The etiology of the neurosis of anguish was chiefly of the sexual order (Freud); other factors might also play a part, such as overexertion, preoccupations, and night watching. Grave hereditary taints were often determined. But Pitres and Régis did not think that the neurosis of anguish represented a special malady, and this opinion seemed to be held by the majority of authorities.

Anxious Psycopathies.—Under this section the speaker grouped certain forms of insanity in which as he stated the leading symptom during the period of development was anguish in its different aspects, whatever might be the form of the delirium The clinical symptoms which characterized the psychoses of anguish he summed up as follows: A common basis of pre-existent anxiety, troubles of sensibility, analgesias and hyperalgesias of various kinds, functional alterations of muscular sense which might be the origin of certain troubles of personality, troubles of visceral sensibility, loss of the faculty of mental representations, occurred frequently in these patients and determined in them the ideas of negation (Cotard); often intermittent hallucinations, which were sometimes visual, sometimes auditory, sometimes motor verbal, sometimes genital, especially in the psychoses of anguish with ideas of possession, and in certain organic cases (Tamburini), constituent of the false sensations due to aberrations of visceral consciousness; delirium made up of ideas of melancholic nature; fears, frights, terrors, hypochondriacal preoccupations, ideas related to possession, damnation, and negation. The reaction, he declared assumed different forms. Sometimes it was that of annihilation, and sometimes it was that of exaltation with great motor agitation. The transition term between simple melancholy without delirium and anxious melancholy had been suggested by Krafft-Ebing as melancholy with præcordial anguish; that is, crises of paroxysmal anguish, occurring chiefly in the morning during the course of a melancholy without delirium. Anxious melancholy, the speaker said, was par excellence the psychosis of anguish. An acute and a chronic form had been noted. Chronic anxious melancholy showed a systematic progress, recalling the evolution of the delirium of persecutions of Lesègue. Several phases had been observed. A phase of primary melancholy, a period of doubt (Vallon), described by Lesègue as perplexed melancholy (Ritti); a melancholic delirium with ideas of negations, of damnation, of possession, with an entire alteration of personality; a phase of megalomania, variable megalomelancholy, according to the expression of Régis, and to which Cotard had given the name of the delirium of enormity. Although the delirium of negations might have a grave prognosis, the malady was, nevertheless, not incurable.

As to the psychoses of progressive obsession, according to the report of Falret to the Congress of 1889, it had been admitted that the obsessions were not transformed into insanity. Since that time, Pitres and Régis, Wille, Mercklin, and Sommer, had demonstrated that insanity could be the result of the transformation of progressive possession. The psychopathic forms were the anxious melancholy and the rudimentary paranoia, or systematized reasoning delirium. Besides these conditions, which had just been described, and which on account of the predominating rôle that anguish played, deserved to be called the anxious psycopathies, there were others in which anxiety was an important symptom. These conditions were far more frequent than was generally supposed, and, indeed, it might be admitted that every psychosis began with anxiety. The mental forms, in which anguish showed itself the most often, were: The insanity of degenerates, the obsessions and impulses, mania, melancholia, insanity of double form, melancholy of persecution, psychoses of intoxication, neuropathic mental troubles, and general paralysis. The clinical forms of the psychosis of anguish were the transitory anxious melancholy, anxious melancholy, and the psychoses of progressive obsession.

Etiology: It was very frequent, especially among degenerates. The predisposing causes were sex, the anxious states being found most frequently among women. Age seemed to have an important influence, the affection occurring most frequently between the ages of twenty and thirty years. There was a form of morbid fear, that was observed in infancy and adolescence; also a neurosis of anguish, seen in middle age; and also a form seen in old age. Heredity played a most important part in the etiology. The pathogeny of anxiety, like that of the emotions, was still enveloped in obscurity. The first students of this question believed that the origin was in the gray matter of the brain, but the majority now, on account of the marked localization of the phenomena in the cardiac region, had built up a cardiac theory of anxiety. Without denying the importance of the vasomotor troubles in the genesis of the emotions, the speaker believed, together with James and Lange, that in recent years too great a value has been attributed to this point to the detriment of the entire sympathetic system. It was this last, according to Lobstein, Cabanis, Bichat, Cerise, and Morel, which presided over the emotions. The sympathetic theory seemed to be equally adopted by Pitres and Régis. It sufficiently explained all of the cases.

The symptomatology was sufficiently characteristic not to lead to any confusion in the diagnosis. The prognosis of the anxious states might be grave, according to the following conditions: Its tendency to persist; the possibility of secondary morbid forms as obsessions and dread; and possible alteration of personality.

The prophylaxis, according to Marro, consisted in cold hydrotherapy, physical exercises, and education. The patient should be made to accustom himself to consider the objects which frightened him. Among the medicinal means which were suitable to employ in this affection were: Nitrite of amyl, used by Meynert and Krafft-Ebing; trinitrine, recommended by Paoli; opium, in all of its forms; bromide of potassium; chloral, and the cardiac drugs. Treatment by rest in bed was also productive of equally good results.

Arnaud said that he did not think that anguish was exclusively a phenomenon of peripheral organic nature, in which the brain had only a passive rôle. Roubinovitch stated that he agreed entirely with the view of Lalanne that the importance of the intoxications in the production of the anxious states was far greater than was generally considered. In support of this view, he cited several cases. In those predisposed to psychical troubles, this factor of intoxication may be a very important one in the genesis of the syndrome of anxiety. This theory, he added, was of great practical importance in respect to the rational and curative treatment of this condition.

Hartemberg made a clear cut distinction between the neurosis of anguish and neurasthenia associated with anxiety and hysteria. He stated that the neurosis of anguish was characterized by the following symptoms: Extreme general nervous excitement; a condition of chronic anguish or anxious attention; acute paroxysmal attacks of anguish with dyspnœa; palpitations and profuse sweats; equivalents of the crises of anguish and rudimentary crises, as cardiac, respiratory and digestive troubles; obsessions. Of all these symptoms the most constant and the most significant is that of anguish. The functional disorders he believed to be more or less variable. The speaker then quoted cases of this nature in which there were none of the stigmata of hysteria or neurasthenia to be found.

Regis remarked that the place in nosography which neurosis of anguish ought to occupy was not yet definitely defined. The neurosis of anguish, he believed, was only a transition between neurasthenia with anxiety and anxious melancholy.

Giraud remarked that to him it seemed that hallucinations in the anxious states of melancholics held a far more important place than had been assigned to them by Lalanne.

Ballet said that he did not consider this neurosis as a true clinical entity.

Doutrebende expressed himself as a little surprised that Lalanne should recommend cold hydrotherapy in the anxious states. For if, in a healthy individual, one wished to arouse a feeling of anxiety, he had only to give him a douche.

Parent declared that in mental maladies anxiety could assume several different forms. There were those patients who were anxious without knowing why; there were others whose hallucinations provoked anxiety; there were still a third group, in which it was called forth by a delirious interpretation of real facts, as when a man who has been condemned to die believes when he hears a door open that the executor has come for him. As to the treatment of these states, the speaker insisted on the use of opium. He preferred it in the form of laudanum, and the doses could be progressively increased. He had a patient who could take ninety drops.

Briand and Marie advocated bromide as an excellent medicinal remedy in this affection.

Lalanne replied to Doutrebende that he also did not care for the use of cold water in cases of insanity, but circumstances in a clinic sometimes made it necessary to resort to it.

Tics in General.—Nogues read an instructive paper on this subject. He said that under the term tic there had been grouped a number of dissimilar conditions. Our elders did not describe the muscular symptom which we have designated to-day as tic; nevertheless, there was a very rich bibliography on this subject. He recalled the masterly description of Trousseau, the works of Charcot and his students, of Gilles de la Tourrette, Brissaud, Magnan, Pitres and Grasset, Ballet, Meige and Feindel. These last two writers, from the inspiration of Brissaud, have more clearly defined this term, and in their book have presented a series of clinical studies which the speaker declared to be a veritable treatise on tics. Brissaud in his work on this subject, made an epoch in the history of tics and clearly separated tics from spasms. A definite terminology was both necessary and indispensable in dealing with this subject. Although it was impossible to give in certain words the precise definition of tic, the limits of the term could be settled. The most common point of confusion, the speaker stated, was between the terms "tic" and "spasm." Between these two there existed a great difference. Spasm he defined as a motor reaction resulting from the irritation of any point whatever of the spinal or bulbo-spinal reflex axis, the irritation being produced by a pathological cause. Tic he defined as an involuntary movement reproducing a functional act, and having a cortical origin. He quoted Meige and Feindel, who said that in the presence of motor reaction, in which the cerebral cortex did not and never had taken part, there did not exist the phenomenon known as tic. And if this motor reaction was the result of the pathological irritation of any point whatsoever of the bulbo-spinal reflex axis, the phenomenon was a spasm. On the other hand, in the presence of a motor reaction in which the cerebral cortex either had at that time or previously taken a part, then there was not what was called a spasm. And if this motor phenomenon in which the participation of the cerebral cortex had at any time been noted, presented besides certain distinctive pathological characteristics, then it was known as a tic. It was necessary to eliminate from the nosological outline of tics those clonic manifestations following in the wake of the neuralgias. The term of tic douloureux of the face, for example, was a bad one, for it dealt with a spasm and not with a tic, having for its cause a peripheral irritation. Again, certain movements, and certain gestures frequently repeated, should be separated from tic as they were in reality only habit. They were not spontaneous and they were easily overcome by the exercise of a little will power.

Finally, tic was always accompanied by mental phenomena. This fact has been misunderstood, even up to recent years, but has been carefuly studied of late. Magnan and his school determined in a definite fashion the rôle of the psychical phenomena in the production of tics. Their interpretation of this subject has largely contributed to give a conception of tic which conformed with the results of observation. It also had its dangers, for if it were true that an individual could not be afflicted with tic without being a degenerate to a greater or less degree, the converse did not hold true, that is, all degenerates were not afflicted with tic. It is not difficult now to see why all attempts to give a definition of tic have provoked justifiable criticism. A definition ought to be precise, brief, and clear; but the syndrome tic with its double somatic and psychical manifestations has not lent itself happily to a definition always a little arbitrary. Although a great importance might be accorded to the mental condition of an individual afflicted with tic, still the term tic could not be applied to a malady purely mental in which the objective signs, the movements, did not exist. Tic, in fact, was characterized by muscular contraction, brusque, rapid and instantaneous. The general characteristics of tic were enumerated as follows: The movements were voluntary, habitual, alternately conscious and unconscious, coordinated, systematic; they were the motor perturbations of functional acts. Ordinary tic was clonic, but there existed tonic tics, of which the prototype was the mental torticollis of Brissaud. But to make these points clearer, tic was really a voluntary movement in the beginning, which, little by little, had become automatic, but which could be suspended by inhibition. It should be added that this action of volition was difficult to exercise, for it was precisely this inhibitory power of volition that was diminished in the individual afflicted with tic.

The second characteristic of tic, that of being habitual, could not be denied. Tic differed, nevertheless, from habit movements as has been noted, in that an effort to hold the attention suppressed the tic, while the habit movement was more apt to manifest itself when the attention was concentrated on that point. As to the consciousness of the afflicted individual, there have been many controversies. It could probably be explained by the fact that the individual was conscious before and after the movement, but not during its performance. Coordination was one of the clinical characteristics which distinguished tics from spasms. The tic was coordinated, systematic, and adapted to an end. The apparent muscular paresis in these patients was only the inability to execute certain movements which were commanded. The muscular contractions did not succeed each other in tic with a certain rhythm and at almost equal intervals; the speaker said that it did not seem to him that those movements described under the name of rhythmic tics or rhythmic spasms could be ranged in the same category as tics. In the greater number of cases several muscles took part in the movement of tics. Tic could be located in various parts of the body. In other words, the variety of tics was infinite, and it was almost impossible to describe all of them. Every patient could create a new one each day. Their number was as unlimited as the functional acts of which Charcot called them the caricature. They could be designated by the part in which they were located, and by the functional act of which they were a perturbation. Tics were observed most often on one side of the body, although two symmetrical muscles might be attacked. The motor reaction of tic could also be exercised over two antagonistic muscles, from which there resulted immobility of a member, or part, in the attitude of determination. There were frequently observed in the same individual several simultaneous tics and dissimilar movements, which succeeded eath other at very short intervals. Tics might be classified according to their location in the body, as follows:

(1) Tics of the face. The face was the most frequent seat of tics; mimic tics. In the eyes were the tics of nictation (batting of the eyelids, winking). In the mouth were seen the tics of the lips (tics of suction, mimic tics), and those of the tongue (tics of licking, of chewing, of smacking, of whistling, and of croaking). The most frequent tic of the nose was snuffling. In the jaw were observed the tics of nibbling and of mumbling, as well as the biting of the lips and of the nails. (2) Next in frequency to the face as the seat of tics, came the neck. Tics of shaking, of approbation, affirmation, salutation, negation, and mental torticollis. This last is a tic alternately clonic and tonic. (3) Tics of the upper extremities were less frequent than the preceding, and rarely occurred as isolated movements, but were associated with those of the head or neck. In the arm could be noted the tic of raising the shoulders; the tic of scraping with the hands. (4) In the trunk might be seen the movements of salutation, and of balancing. (5) In the lower limbs have been observed the tics of genuflection, and of jumping. Finally there were the tics which were merely the perturbations of organic functions—deglutition, digestion, and respiration. All of these tics had the general characteristics which have already been studied. They were also accompanied by variable accessory symptoms—reflex troubles, vasomotor or secretory troubles, and troubles of sensibility.

The theories and discussions concerning the real nature of tic had been varied and numerous. Unquestionably, the leading symptom of tic was the mental state. Charcot said that tic was a malady which was material only in appearance; it was from one point of view a psychical malady, a direct product of insanity. The writer added that this was the general belief, but the point difficult to determine was the precise mental condition of these patients. There had to be a special mental condition before this affection could occur. The patient was psychically unbalanced. The speaker did not agree with Meige and Feindel, who wished to add to these cases another mental anomaly, which they regarded as characteristic and pathognomonic; namely, the infantile mental state. It could not be denied that those suffering with tic had certain psychical characteristics of the child; for example, versatility, aboulia, and impulsiveness. They might be designated as a superior order of degenerates. They were unbalanced. In the study of these patients, a noticeable fact was not so much the insufficient development as the unequal development of their faculties. Magnan's idea concerning their mental weakness seemed too comprehensive for these patients, for, aside from certain psychical anomalies, they often possessed intellectual qualities of the first order. They seemed impelled to do not only just the contrary to what they were told, but even the contrary to what they thought themselves, and wished to do. The mental infantilism of these patients should not be given too important a place, but their psychical condition should be regarded as that of the degenerate, especially of the superior degenerate, and of the mentally unbalanced. Their feebleness of volition was manifested by extreme voluntary inability. The least difficulty confused them, and they were incapable of making the effort to surmount an obstacle. The power of attention was diminished. These patients often showed movements of impatience and expressed haste in many of their actions. They fatigued themselves by continual agitation. Their sympathies and antipathies were extreme and unreasonable. Their mental state was often complicated by fixed ideas and obsessions. They were often possessed by sudden desires, and imperious caprices. They were very variable and had no perseverance. It might be said that their mental trouble was a malady not of the will, but of the emotion. Tic and obsessions were frequently encountered in the same family, and they might even be associated in the same individual. In such a case tic gave birth to obsession or obsession gave birth to tic. The analogy between tic and obsession could not be applied to all kinds of obsession, but only to the impulsive obsessions; that is, obsessions with a motor tendency. Finally, the two elements constituting tic were stated to be the motor phenomenon and the mental trouble. They were subordinate one to the other, and really constituted the syndrome which was designated by the term tic. Tic was a psychomotor trouble. There existed almost always a cause for the movements which constituted tic, although it might not be easy to depict it at times. The infectious maladies, the intoxications, the emotions, the traumatisms, the manner of life, and irritation could provoke the development of those troubles. Tics could appear in the course of hysteria, although they were not of an hysterical nature. There could be a coexistence, but independence of the two maladies. The same was true of neurasthenia. Diagnosis was to be made between tic and spasm, according to the differential points mentioned before. But of all maladies, it was Sydenham's chorea that showed the most striking analogy to tic. Nevertheless, in chorea there was no coordination; the movements were not similar; they were irregular, illogical, absurd, very rapid, succeeding each other almost without interruption. The contractions passed from one group of muscles to another, and volition had no power. Tics did not present a regular evolution. It could be said in a general way, however, that the beginning was insidious. The first movement was a gesture, which finally became a habit. The causes were diverse. Soon the cause disappeared, but the convulsive movement remained and tic was established. From this point its evolution assumed different forms. Sometimes it was continuous; sometimes it was suddenly arrested under the influence of some distraction, of absolute rest, of some emotion, or of some illness. It must be added that the same causes under certain circumstances could cause the reappearance or the exaggeration of tics.

The course of this affection was invariably long, but it was not incurable. In fact, there was frequently a favorable termination, in the sense that an amelioration or even a cure could be looked for if treatment were persistently kept up. The chances of cure depended, to a certain extent, upon the age of the patient and upon the length of time that the disease had existed.

From the nature of this disease, the treatment was of two kinds; the one part was directed to the motor phenomena, and could be called objective; while the other was directed to the mental condition' and was designated by the terms psychical or subjective. Both methods could be subdivided into several groups. Under the objective treatment, medicinal measures were first considered. They comprised bromide, opium, valerian, injections of morphine, of curare, of atropine, and inhalations of chloroform and ether. Of course there was always the danger of establishing the drug habit. Under hygienic treatment the diet deserves an important place. Hydrotherapy was sometimes useful, although sea-baths were not advised. Massage was sometimes useful, as was also electrotherapy. Rest in bed was recommended. Surgical measures were sometimes employed, such as the division of tendons and nerve stetching. The latter caused a temporary paralysis which was overcome by making the patient perform certain muscular movements.

Various authorities had suggested different methods of treatment. For example, Brissaud, Meige, and Feindel advocated perfect immobility for a certain period, after which the patient was told to execute certain movements. This plan had met with excellent results. Dubois advocated verbal suggestion in the waking state, which assisted the patient to hold himself immovable. Pitres had the patient stand upright with his back against a wall, his heels together, and his arms close to his hips. During two or three minutes he recited a fable, making slow and deep respirations. These exercises were repeated every few hours, and the duration was gradually increased until it reached perhaps twenty minutes. Then these performances were reversed, the length of the seances having been as gradually decreased as they had been formerly increased until finally they ceased altogether. It should have been stated that for several minutes following the repetition of the verses the patient was made to breathe very slowly and deeply, gently raising the arms during inspiration, and lowering them during expiration. Meige and Feindel suggested having the patient practice before a mirror, where his mistakes would be constantly called to his attention.

As to the subjective treatment, hypnotic suggestion was rarely employed, as it tended to diminish volition. On the other hand, however, waking suggestions had produced excellent results. Isolation was not advised for every patient, but when it was used, it should be under the charge of the physician or some one of authority. When the family did not understand the gravity of the affection, the patient should be removed to an institution. In using psychotherapy, the physician constituted himself the teacher.

Auto-Accusors from the Medicolegal Point of View.—Dupré delivered this discourse. He said that this was a subject rich in literature for the physician, the psychologist, and the lawyer. From the point of view of clinical psychiatry, the term auto-accusor was applied not only to the individual who declared that he had committed a crime, the details of which he related of the time, the place, the circumstances, and the execution of it, but it also applied to the individual who possessed an unfavorable judgment of himself, who constantly depreciated himself, who spoke of his physical and moral inferiority, and expressed ideas of his incapacity, his unworthiness, his guilt, and his remorse. But, in the language of medicolegal psychiatry, this term had a narrower significance, and applied only to the person who, delirious or lucid, sincere or insincere, possessed of hallucinations or reasonable, moved by a pathological sentiment of self-denunciation or by a motive of self-interest, accused himself of an act, provoked or spontaneous, direct or indirect, verbal or written, against the administrative or judicial authorities. In legal medicine, auto-accusation was then a synonym of auto-denunciation. Self-accusation in melancholics proceeded directly from psychical inhibition and moral pain, which made up the pathogenic substratum of delirious melancholy. That delirium, which first assumed the form of ideas of general guilt could by means of automatic processes, of logical inference and reasoning deduction, develop into a delirium of definite guilt, which presented clearly to the consciousness a definite sin. The elements which determined with such precision the crime under consideration might be due to the morbid interpretation of external occurrences, or to the remembrance or exaggeration of slight past faults, or to a fixed idea derived from a dream, or to the personal attribution, direct or indirect, of misfortunes, catastrophies, or crimes, of which the melancholic assumed the responsibility. The greater number of auto-accusors did not pass the delirious stage, in which, by a variable mechanism, the idea of definite guilt had taken shape. These patients remained then platonic in their ideas of auto-accusation. Some of them went still farther and passed from the idea to the act. From auto-accusors they developed into self-denunciators. This logical evolution of the melancholic from the idea of indefinite guilt to that of definite guilt or auto-accusation, and from the platonac idea of auto-accusation to the act of auto-denunciation, recalled, in a certain sense, the medicolegal evolution of the patient afflicted with the idea of persecution, who also passed from the condition of vague ideas of persecution through the various stages till he reached that of active vengeance. In both cases the patient passed from the clinical domain to the medicolegal, and this evolution was marked by a social act, which was the logical result of his belief. The several stages of the evolution of the melancholy delirium of auto accusation were enumerated as follows: (1) State of melancholy; (2) Delirium of indefinite guilt; (3) Definite auto-accusation, but passive and platonic; (4) Active auto-denunciation. Nearly all melancholics reached the second stage; many reached the third; but very few reached the fourth. Those alone were the medicolegal melancholic auto-accusors. Nearly all of these patsient were women, and the greater part accused themselves of crimes, especially of infanticides. Auto-accusation in degenerates was extremely frequent. It was encountered in debility and in unbalanced mental conditions, in the course of obsessions, and in the different varieties of degenerative paranoias. The inferior degenerates constituted a very special category, rich in types which were varied and curious. Each one constituted himself the hero of the crime which he pictured. He was troublesome to the magistrate, often puzzling to the psychologist, and always interesting to the physician. Contrary to the melancholy auto-accusors, who were delirious, sincere, anxious, and repentant, the degenerate auto-accusors were nearly always lucid, conscious, insincere, indifferent, or vainglorious. Contrary to the melancholics who had all, in the uniformity of their delirium, a familiar air, the degenerates were all different from one another, and showed the most variable and the most individual clinical physiognomy. Each case was one by itself. Several types could be distinguished among the degenerate auto-accusors: (1) The simple intellectually feeble, who denounced themselves from the influence merely of an impulsive suggestion, following a conversation, a dream, or something they had read; this was auto-accusation by elementary psychical reflex, without any mental associations. (2) The vain, intellectually feeble, who denounced themselves from a desire for glory and from a wish to be talked about. (3) The morally weak, egotists, with perverted instincts, who placed at the service of their bad appetites the premeditated act of auto-denunciation. (4) Those possessed by the ideas of obsession, who were doubtful and anxious, and asked themselves if they had actually committed the crime, the idea of which they had nursed until they really believed themselves guilty. (5) The paranoiac degenerates, who formulated the ideas of auto-accusation, were the primary systematic auto-accusors (Séglas) and the persecuted auto-accusors, studied by Ballet, Séglas, Lalanne, in whom were associated the two deliriums of persecution and auto-accusation. Likewise the states of melancholy, hypochondriasis and obsession, complicated the psychopathic process under consideration. (6) The delirious auto-accusors could interest the legal physician by their attempts at suicide and their tendency to auto-mutilations, and to the obstinate pursuit of surgical intervention. Aside from these phases, these delirious, degenerate auto-accusors had no medicolegal interest. Among the degenerate auto-accusors, especially among alcoholics with ideas of persecution, the feeble-minded, and the unbalanced, the most diverse morbid associations, such as alcoholism, hysteria, epilepsy, and infections, could come in as etiological factors. The most frequent was alcoholism. This factor incited the patient to the act of self-denunciation by exciting the psychological automatism and by weakening the power of inhibition. Auto-accusation in alcoholics presented, on account of its frequency, its pathogenic mechanism, and its clinical evolution, the greatest interest. There were observed, always in adult men, under the influence of alcohol, and who had been so for some time, episodic elements added to the chronic alcoholism. Auto-accusation was one of the delirious forms of psychical drunkenness, observed among those predisposed, and among imaginative individuals. In his mental confusion, the patient became convinced that he had committed a crime, bloody in nature, the details of which were borrowed from the circumstances of his daily life. The idea was always ephemeral, and remained only a few hours, having passed through various phases. Auto-accusation of toxic psychoses was observed equally in typhoid patients, in the states of inanition, and in certain crises of indefinite etiology, but certainly of toxic nature. This transitory patient ought almost never to be placed in an asylum. A short period would be sufficient to determine the nature of the malady. Auto-accusation in hysterics was extremely rare in comparison with hetero-accusation. Sometimes there was a combination of auto-hetero-accusation of a sexual nature. As to the situation between the auto-accusor and the author [illegible] Régis had submitted a simple classification. The individual accused himself of. (1) A crime that did not exist. (2) A real crime, but not imputable to the auto-accusor. (3) A real crime, imputable to the auto-accusor. (4) A real crime committed by him, but exaggerated by the deposition, or caused by the solicitation, under pathological influences, generally of the impulsive order; sometimes under the influence of remorse. Every auto-accusation presented a double problem: One, judicial, for the magistrate, and the other, medical, for the expert. The first problem, the demonstration of the reality or of the imputability of the crime, nearly always preceded the other, the demonstration of the insanity of the auto-accusor. There were interesting differences in the penal code of foreign countries. The expert had the problem to solve of the diagnosis of the mental state of the auto-accusor, which required the thorough examination of the auto-accusor, and of the accusation. This should be studied from all points of view, its etiology, its pathogenic mechanism, its clinical aspect, the steps in its evolution, and its psychical and somatic concomitants. It was by the aid of all these elements that the expert could determine the pathological type of the accusor. The reality even of the crimes revealed by the auto-accusor did not militate against the possibility of the morbid nature of the auto-accusation (Régis). Auto-accusors were derived in order of their frequency first from among alcoholics, then from degenerates, and far fewer than those in these two categories were those in melancholy and hysterical states, and finally those in the conditions of dementia. Different processes often combined in the etiology of auto-accusation. About two-thirds of auto-accusations had to do with crimes of which the non-existence and the imaginary nature were established by a short inquiry. The other third had to do with real crimes committed and avowed by those guilty of them, but under pathological influences. Many regrettable consequences followed in the train of this subject of auto-accusation, and were of importance enough to justify the medicolegal clinical study of the auto-accusor. This report was warmly praised and discussed by various members of the congress.

Following these papers came short communications on various subjects. Piqué and Marie spoke of the relations between traumatism and insanity. Traumatism, they said, was often the cause of insanity. The acute psychoses immediately consecutive to traumatism were often cured.

The necessity for disencumbering the asylums was mentioned by Doutrebante.

Marie and Duflos reported on lumbar puncture in general paralysis. The number of lymphocytes varied in different cases.

Lumbar Puncture in the Diagnosis of General Paralysis.—Joffroy and Mercier presented a communication on this topic. In a great number of these cases diagnosis was impossible by the old methods of investigation, but could be made by the lumbar puncture. In many cases determination of numerous white elements in the cerebrospinal liquid confirmed the diagnosis, while their absence permitted the rejection of the diagnosis. This method showed the difference between general paralysis and various forms of alcoholism; it also differentiated general paralysis from the beginning of a psychosis, and from certain curable attacks of mania or melancholia. In fact, the presence of numerous white elements in the cerebrospinal liquid was the most constant and the earliest of the physical signs of general paralysis.

The Convalescent Insane. Larrivé read a paper with this title. He believed it to be an excellent plan to give convalescent patients short tentative leaves of absence from the asylum. They then grew gradually and comfortably reaccustomed to ordinary life, and did not feel so embarrassed on their return home after their confinement. He believed the establishment of convalescent quarters necessary.

The Aboulia of Chronic Alcoholics.—Bérillon offered some remarks on the treatment of these cases by hypnotic suggestion. The application of the treatment must be rigorous to insure success. There should be psychological examination of the subject and of his individual character. The absolute consent of the patient must be obtained. The aptitude for being hypnotized must be developed. There should be gradual diminution of alcohol, and finally complete suppression. The convalescence was from two to six months. When the method was faithfully followed out, cure was obtained in the majority of cases.

General Paralysis in Brothers.—Joffroy and Rabaud reported the case of two brothers afflicted with general paralysis, belonging to a family of degenerates. Autopsy confirmed the clinical diagnosis. The maternal grandfather had been an alcoholic, and had died insane. These men died of the same malady, although they had been subjected to dissimilar influences.

Glioma of the Nerve Centers.—Oberthür presented a contribution on this subject. He had been enabled to examine seven cases of this nature in the laboratory. Macroscopically, the appearance of glioma was sufficiently characteristic to differentiate it from all other tumors. It was always clearly translucent, except in the degenerated parts; the color was rose, or yellowish gray; its consistence often very diffluent, even gelatinous; it was never encephaloid. A great number of small vessels coursed through it, giving place at times to central hemorrhagic suffusions. Although the tumor could never be enucleated, it was sometimes limited by a pseudo-wall of dense neuroglia. Outside of this wall the infiltrated gliosis was like that which surrounded all foreign bodies in the brain, not having the aspect of a neoplasm. In one case which had existed for three years, the only symptoms were headache with optic neuritis and amaurosis, permitting no localization. Other cases had a more destructive course.

Malignant Disease of the Nervous System.—Philippe, Cestan, and Oberthür presented a study of fifteen cases of sarcoma of the nervous system. They divided the cases into those of solitary sarcoma and of multiple sarcomata or sarcomatosis. The power of generalization of the latter was very great, as the tumors sometimes invaded the entire nervous system, central and peripheral, like a true neoplasm. Two forms of multiple sarcomata were noted—the meningitic form, and the form of neurofibrosarcomatosis.

Oberthür also presented a contribution to the study of cancerous localizations in the peripheral nervous system. The lesions were sometimes neurites and toxic or autotoxic polyneurites, while they were sometimes due to compression and invasion.

Cerebellar Atrophy.—Lannois and Paviot spoke of the histological lesions of the cortex in atrophies of the cerebellum. They reported several cases.

Faure and Laignel-Lavastine reported laboratory work concerning the histological study of the cerebral cortex in eighteen cases of meningitis. They spoke of the interstitial and of the cellular lesions.

Keraval and Raviart made some communications on the "condition of the fundus of the eye in general paralytics" and the initial lesions. They spoke of the alterations in the retina, the optic papilla, and in the optic nerve.

Durante made a contribution to the "histological processes of muscular atrophy." All of the amyotrophies revealed the same histological processes and differed only in the distribution of the lesions and in the rapidity of their evolution.

Larrivé spoke of the treatment and assistance of abnormal children He advocated the establishment of asylum schools.

Obregia made a few remarks on the innervation of the vessels of the pia mater and of the cerebral cortex.

Reflexes.—Crocq discussed the subject of the mechanism of the reflexes and of muscular tonus. He said that muscular tonus was exclusively cortical, while reflexes were of three classes—medullary, basilar, and cortical. In speaking of the catatonic symptom, he said that the important question was to learn whether catatony was due to nutritive troubles or whether the converse were true.

Pailhas made a few remarks on the lasting or prolonged extension of the great toe associated with Babinski's sign. He had observed four cases of this kind.

Cestan and Dupuy-Dutemps discussed the Argyll-Robertson pupil. They advised the use of cocaine for the examination of contracted pupils.

Pailhas spoke of the involuntary abduction of the little finger and troubles of speech. He had noticed the association of these two abnormalities.

Alcoholism.—Bonnet described his treatment for alcoholic addiction. He believed in milk diet and lactose; sometimes theobromine, the purgatives, and even injections of serum.

Legrain and Guiard spoke of relapses in chronic alcoholism. They said this was a moral and social work. The alcoholic should be treated early.

Ducosté spoke on neurasthenics and neurasthenia. He thought that "neurasthenic states" were only the symptoms of different effections or maladies caused by a defective nutrition of the cerebral cells. Constitutional neurasthenia was more than a symptom; it was a true clinical entity.

Faure made some remarks on the origin of tabes. He thought that the cases ought to be very carefully studied as to their differences of origin, so that they could be properly treated. He described, in a second paper by himself and Constensoux, the advantages and limitations of massage in tabetics.

Meige discoursed on the correction of tics by the control of mirrors.

Hartenberg reported two cases of paramyoclonus multiplex.

Meige offered a few remarks on the marriage of giants. These individuals were subject to various defects, and when married to one of the same kind tended to perpetuate the same.

General Paralytics in the Courts.—Maxwell concluded the congress with a paper on the treatment of the subjects of incipient general paralysis by magistrates. He said that the physician should always be consulted in these cases. The subjects were ordinarily more dangerous to themselves and their neighbors than they were to the community at large. They were not habitually impulsive, committing flagrant crimes. Murders were rare among them. But less serious crimes, such as public outrages to modesty, abuse of confidence, etc., were common. The patient was often, when summoned to court, found to be between twenty-five and fifty years old, and had always before borne an excellent reputation. Suddenly he had committed some immoral punishable act. The proofs of his guilt were not even hidden. His attitude was often indifferent. Great care should be observed in the disposal of such cases in persons who, after having lived for years in a manner beyond criticism, were suddenly arraigned in court. It would be well to formulate a few rules, so that the magistrate could have some idea of the case he was dealing with from a medical point of view. He should note if the prisoner had been late in manifesting the ideas of ambition and exaggeration; if he had committed the fault without trying to conceal it; if he showed indifference which was difficult to understand in a delinquent arrested for the first time; if he had any troubles of memory, forgetting recent events and remembering earlier ones; if in writing he forgot letters or syllables, or made mistakes in spelling; if he made gross errors in calculation; if his conception of abstract ideas was intact. The speaker thought that a little manual should be prepared which would present the views of the principal alienists in regarding the legal relations of these unfortunates.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 6, 1902:

	Cases.	Deaths.
Measles	44	1
Diphtheria and croup	176	16
Scarlet fever	96	9
Smallpox	12	..
Varicella	3	..
Tuberculosis	190	125
Typhoid fever	210	20
Cerebrospinal meningitis	..	3

Schedule of Minimum Requirements for Medical Colleges Recognized by the Illinois State Board of Health.—The following standard has been adopted by the Illinois State Board of Health, and after January 1, 1903, no college which does not conform to it in every particular will be recognized by the Board as in good standing:

Conditions of Admission to Lecture Courses.—1. Creditable certificates of good moral character signed by two physicians of good standing in the State in which the applicant last resided. 2. As evidence of preliminary education, as a minimum requirement, a diploma or certificate of graduation from a high school; or a certificate signed by a principal of a regularly organized high school, or by the examiner of the faculty of a recognized literary or scientific college or university, or by the State Superintendent of Public Instruction, or a Superintendent of Public Schools, or having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high-school course. The matriculation examination shall be conducted by any member of the faculty of the medical college. The Illinois State Board of Health will require each applicant for a State certificate to present documentary evidence of his preliminary education, together with his medical diploma, when taking the examination of the Board. The conditions above set forth will govern in case of all persons admitted to the Freshman Year of a medical college in "good standing," on or after January 1, 1903.

Advanced Standing.—Applicants holding the degree of A. B. or B. S., or an equivalent degree from a regularly established college of arts or science, which requires an attendance of three or more years as an essential to graduation, may be given credit for work done in the branches of the medical curriculum of the first year and may be advanced to the Sophomore Year of a four years' medical course, on condition that they comply with the entrance requirements of this Board, and that they subsequently complete the work of the Freshman Year if not already completed, and that the work already taken shall not be below the standard required by this Board. The same advanced standing may be allowed on the same conditions to applicants presenting a degree from a recognized college of Dentistry or College of Veterinary Medicine, or documentary evidence of having completed, in a reputable university or college of arts or science, the major part of the work usually embraced in the curriculum of the freshman course of a recognized medical school. No such advanced standing shall be allowed until after the applicant shall have either graduated as indicated or performed the work specified above, and not until three months after the completion of said work. The above requirements for advanced standing will govern in the case of all persons admitted to the Sophomore Year of a medical college on or after January 1, 1903, and may be made operative prior to that time. Graduates of medical colleges, recognized at any time by the Illinois State Board of Health, may be admitted to any class without examination. Students of said colleges who possess certificates of attendance and of successful examinations, can enter without examination the term immediately following that previously attended. The student shall be required to pass an examination in all branches in which he has been found deficient. Students who have attended one or more full terms in colleges not fully recognized by this Board may be granted advanced standing in accordance with such attendance, on complying with the entrance requirements set forth in the conditions of admission to lecture courses, and passing all examinations and performing all laboratory work of the classes below that which they enter, providing that the work already done conforms to the requirements of this Board. Graduates or students of colleges to which no recognition is given by the Illinois State Board of Health can be granted no advanced standing whatever.

Length, Number, and Character of Courses of Lectures.—The college shall have a four years' course of instruction, consisting of four terms, extending over a period of four calendar years, and the minimum time between the commencement of the work of the Freshman Year and the ending of the work of the Senior Year, on which all students are required to be in attendance, shall be not less than forty months. No two terms begun on or after January 1, 1903, shall commence and end within any consecutive sixteen months. The time occupied in each regular term began on or after January, 1, 1902 shall be not less than seven months or thirty weeks, and each such term shall consist of not less than eight hundred hours of work. The branches of medicine to be included in the course of instruction shall be at least as follows: (1) Anatomy; (2) Physiology; (3) Chemistry; (4) Materia Medica and Therapeutics; (5) Theory and Practice of Medicine, including Ophtalmology, Otology, Dermatology and Neurology; (6) Pathology and Bacteriology; (7) Surgery, including Orthopedic Surgery; (8) Obstetrics; (9) Gynecology; (10) Hygiene; (11) Medical Jurisprudence (Forensic Medicine).

Attendance.—Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the sickness of the student or his immediate family, such absence not to exceed 20 per centum of the course.

Dissections, Clinics, and Hospital Attendance.—(1) Each student must have dissected at least the lateral half of a human cadaver. 2. He shall have received clinical and hospital instruction throughout at least two annual terms.

Instruction.—The college must have a sufficient and competent corps of instructors, and facilities for teaching, dissections, ambulatory and hospital clinics, such as obtain in the majority of medical colleges in the United States.

Graduation.—No student shall be graduated by any medical college in "good standing" with the Illinois State Board of Health who has not completed four full terms of lectures as prescribed by the rules of the said Board (certain persons to whom advanced standing is allowed excepted) and has complied with the requirements of the said college, as set forth in the published announcement of the college, and has completed in the college by which his diploma is granted a continuous course of lectures in the Senior Year of at least seven months in duration.

Further Conditions of Recognition of Medical Colleges.—1. Only regularly conducted and legally chartered medical colleges which conform to the conditions of admission to lecture courses, the course and period of study, the number, character and length of lecture terms, the duration of attendance on hospital and clinical instruction, as set forth in the Schedule of Minimum Requirements adopted by the Illinois State Board of Health, and the other requirements of a medical education which obtain as the practice of a majority of the established medical colleges in the United States, shall be considered medical institutions in "good standing" according to the purpose of the Act to Regulate the Practice of Medicine in the State of Illinois, approved April 24, 1899. 2. No medical college can be held in "good standing" until it has established its claim to such standing by an active existence of not less than four years, and then only on compliance with the terms of Rule 1. Provided, that colleges which after a personal investigation made by a committee of the Illinois State Board of Health, are shown to comply with the Schedule of Minimum Requirements and to possess a sufficient and competent corps of instructors, and the necessary facilities for teaching may, at the discretion of the Board, be granted full recognition during the first year of existence. 3. All medical colleges in "good standing" with the Illinois State Board of Health will be required to publish in their annual announcements or catalogues a complete list of all matriculates and a separate list of all graduates of the session or year immediately preceding. 4. No medical college will be considered in "good standing" with the Illinois State Board of Health which publishes in its annual announcement or catalogue, or otherwise, any misrepresentations regarding the curriculum of the college or the facilities for instruction, or the number of students matriculated or graduated.

Volvulus Cæci.—R. Faltin enters into an extensive review of this condition, using as the basis of his considerations twenty-six cases observed by him, twenty-five gathered from the general literature and twenty-four which have been separately reported by Manteuffel. The disease is most frequent between the eighteenth and thirtieth years of life. Seventy per cent. of the patients were men. The most prominent predisposing cause is an abnormal movability of the cæcum. This may be brought about by an abnormal position of the retrocæcal connective-tissue, a common ileocæcal mesentery, an ascending mesocolon, and an apparent or real elongation of the cæcum. The volvulus may take place in any one of three different directions, a vertical, a transverse, or a sagittal. The exciting causes may be varied, but are usually traumatism or acute intestinal disturbances, The symptomatology is diversified, and depends upon the amount of small or large intestine which is involved in the volvulus. Vomiting is almost a constant symptom, since it was absent in only five cases. In 20 per cent. of the cases this vomiting was fecal in character. A local meteorism was noticed in thirty-eight cases. The differential diagnosis is principally between this condition and volvulus of the small intestine or sigmoid flexure. A satisfactory differentiation from the former is usually impossible. Volvulus of the sigmoid flexure usually occurs in patients over thirty years of age, is not accompanied by fecal vomiting, and produces a marked local meteorism and intense tenesmus. In addition to these features the rectum cannot be made to retain more than one liter of fluid. The indications for treatment are as follows: (1) The volvulus must be relieved; (2) The intestinal tract must be immediately and subsequently evacuated; (3) The development of a peritonitis must be combated, and if it develops must be energetically treated; (4) A return of the volvulus must be prevented; (5) The collapse following the operation must be appropriately met. All of these indications are important, but especial weight is to be laid upon a thorough and immediate cleansing of the intestine.—*Finska Läkaresällskapets Handlingar.*

Addison's Disease Cured by Suprarenal Extract.—W. E. Deeks describes the case of a woman of thirty-two years, suffering from Addison's disease, with weakness, breathlessness, dizziness, headache, palpitation, lassitude, and loss of energy. Pigmentation was universal, but deeper, where pigment normally is present, on the exposed parts, where clothing bears most heavily, as neck, hips, and shoulders; also on the mucous membranes of the lips and cheeks. There was no response to various forms of treatment instituted, and it was decided to try suprarenal extract, three grains, three times daily after meals. Improvement began immediately, and within three days vomiting and diarrhœa began to lessen, and the patient began to gain strength and feel better. In two weeks she was very comfortable and enjoying her meals. Examination of the blood showed that hæmoglobin had increased from 32 to 40 per cent. In three weeks pigmentation was fast disappearing. Later reports showed that she was doing well.—*The Montreal Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 6, 1902:

SMALLPOX—UNITED STATES.

		CASES	DEATHS
California, Los Angeles	Aug. 16–23	1	
Sacramento	Aug. 16–23	2	
Colorado, Denver	Aug. 16–23	2	
Illinois, Belleville	Aug. 23–30	1	
Indiana, Indianapolis	Aug. 23–30	3	
Iowa, Ottumwa	Aug 2–30	2	
Kansas, Wichita	Aug. 23–30	3	
Maine, Portland	Aug. 23–30	1	
Massachusetts, Boston	Aug. 23–30	5	
Brockton	Aug. 23–30	3	
Lawrence	Aug. 23–30	..	1
Somerville	Aug. 23–30	2	
Missouri, St Joseph	Aug. 23–30	9	
St. Louis	Aug. 24–31	12	
Montana, Helena	Aug. 1–31	1	
Nebraska, Omaha	Aug. 23–30	2	
New Hampshire, Manchester	Aug. 23–30	1	
New Jersey. Camden	Aug. 23–30	7	
Newark	Aug. 23–30	4	1
New York, New York	Aug. 23–30	6	1
Ohio, Cincinnati	Aug. 22–29	2	
Cleveland	Aug. 23–30	76	6
Hamilton	Aug. 23–30	3	
Middletown	July 12–Aug. 9	11	
Pennsylvania, Erie	Aug. 23–30	1	
Johnstown	Aug 23–30	12	1
McKeesport	Aug. 23–30	2	1
Philadelphia	Aug. 23–30	4	
Pittsburg	Aug. 23–30	12	5
South Carolina, Charleston	Aug. 23–30	1	
Wisconsin, Green Bay	Aug. 23–31	3	
Janesville	Aug. 23–30	1	
Milwaukee	Aug. 23–30	1	

SMALLPOX—FOREIGN.

Argentina, Buenos Ayres	June 1–30	..	3
Austria, Prague	Aug. 2–16	1	
Trieste	Aug. 8–16	1	
Barbados	July 13–Aug. 12	47	
China, Hongkong	July 12–19	..	1
France, Paris	Aug. 2–16	..	2
Gibraltar	Aug. 10–17	1	
Great Britain, Dundee	Aug. 8–16	1	
Glasgow	Aug. 16–23	1	
London	Aug. 8–16	24	5
India, Bombay	July 29–Aug. 5	5	5
Italy, Palermo	Aug. 2–9	5	2
Netherlands, Rotterdam	Aug. 16–23	1	
Russia, Moscow	Aug. 2–9	1	
Odessa	Aug. 8–16	2	1
St. Petersburg	Aug. 2–9	4	
Spain, Corunna	Aug. 8–16	..	20
Uruguay, Montevideo	July 9–23	43	2

YELLOW FEVER.

Colombia, Panama	Aug. 18–25	1	
Costa Rica, Port Limon	Aug. 7–14	1	1
Ecuador, Guayaquil	Aug. 8–16	5	2—Imported.
Mexico, Coatzacoalcos	Aug. 16–23	5	1
Vera Cruz	Aug. 16–30	33	4

PLAGUE.

China, Hongkong	July 12–19	21	20
Egypt, Alexandria	April 14–Aug. 13	72	35
India, Bombay	July 29–Aug. 5	..	32
Calcutta	July 26–Aug. 2	..	11
Karachi	July 27–Aug. 3	12	5
Madagascar, Tamatave	July 6–22	18	14

CHOLERA—INSULAR.

Philippine Islands, Cebu	July 9–20	90	52

CHOLERA—FOREIGN.

China, Hongkong	July 12–19	6	5
Egypt, Alexandria	Aug. 5–13	8	7
Cairo	July 22–Aug. 13	556	490
Assiout Province, including Moucha	July 15–Aug. 13	536	434
Behera Province	Aug. 12–13	13	4
Beni Souef	Aug. 11	1	
Charkieh Province	July 12–13	6	5
Galioubieh Province	Aug. 6–13	20	11
Gharbich Province	Aug. 13	..	1
Guizeh Province	July 25–Aug. 13	159	93
Menoufieh Province	Aug. 9–13	6	6
Minich Province	Aug. 9–13	24	13
India, Bombay	July 29–Aug. 5	..	1
Calcutta	July 26–Aug. 2	..	22
Karachi	July 27–Aug. 3	21	21
Japan, Osaka, and Hiogo	July 26–Aug. 9	2	1
Korea, Chenampo	Aug. 21	Severe	
North Korea	Aug. 21	Severe	

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Original Articles.

HYSTERIA AND ORGANIC DISEASE.

A STUDY OF THE DIAGNOSIS WITH REPORTS OF CASES.*

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THE combination of hysteria with organic disease is a condition with which all physicians are familiar. It is one, however, which still presents puzzling problems, and one in which personal, prognostic, and medicolegal questions of grave character often arise. This is my excuse for putting on record some cases which illustrate these phenomena, and discussing the diagnostic questions which they suggest.

Grouping of Hysterical Symptoms.—The main objective stigmata and subjective symptoms of hysteria major may be grouped under five heads: (1) The anæthesias; (2) The contractures; (3) The palsies and tremor; (4) The attacks, and (5) The peculiar mental state. I leave out the various visceral, vasomotor, and glandular disorders which are either very rare or can be put in relation with the attacks and mental state.

Organic Diseases Commonly Found with Hysteria.—The hysterical syndrome is oftenest associated with organic lesions due to trauma, but the various symptom groups appear also with tumor of the brain, encephalitis, meningitis, multiple sclerosis, tabes, and more rarely with inflammatory disease of the nerves, as in one of my cases.

The Relative Stability of the Different Symptom Groups.—While the impress of the different groups of symptoms varies, there is a certain general law about them. The anæsthesias are the most mobile, fugacious, and amenable to remedial measures. They imply the most superficial involvement of the mind; they appear often to be only a disorder of attention or memory and they may occur without much or any paralysis.

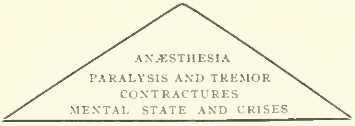
The paralyses indicate a deeper and more stable affection. They are practically always associated with anæsthesia, often with tremor, both of which are less stable symptoms, and the greater the paralysis the more profound this anæsthesia, while the tremor like the anæsthesia may exist alone. They show a much greater tendency to become fixed and in some cases of hysterical hemiplegia there is never entire recovery of the motor power.

Contractures may be fugacious and irregular-like anæsthesias, in the so-called contracture-diathesis, but when established in the severer types they are even more obstinate and difficult to manage than the paralyses. They do not disappear during sleep or even under moderate narcosis, and they act as though they were under the control of some subconscious center lying more deeply and more automatically organized than that which rules ordinary acts. Though originally the result of an emotion or an idea, the contracture gets beyond the power of any modifying mental process that can be directed to its control, and, as we know, in some cases an organic basis may be eventually developed for it.

The mental state of the hysterical with its associated crises, is the most profoundly established of all the syndromes, and necessarily so because in most cases it is inherent in the mind of the patient, and has simply been developed by an exciting cause. Hysteria almost invariably develops in a neuropathic constitution.

Thus on the elemental basis of the hysterical mind there develop, with progressively lessened stability for each, the groups of contracture, paralysis, tremor, and anæsthesia. This arrangement of the symptom groups, which is here indicated diagramatically, is not an absolute one. There are individual exceptions, but it will answer as a general guide.

Let me now say a word regarding these groups of symptoms in detail, and I trust to be pardoned if I go over some ground which is familiar.



The anæsthesias.—There are two types of the anæsthesias, the unilateral and the segmental, though they are often combined. Irregular areas of anæsthesia, was as hysterogenic zones, are largely incidental or accidental matters of suggestion. The unilateral type, or hemianæsthesia, is more extended and complete and uniform than that of organic disease which practically cannot simulate it. It is always accompanied at first with some anæsthesias of the special senses. These disappear, as a rule, sooner than the hemianæsthesia. The vision is affected oftener and longer than the hearing, smell or taste. The trigeminus is especially sensitive to the hysterical insult, while it is least affected in organic central lesions—still, even this nerve usually becomes normal sooner than the optic. The hemianæsthesia is more marked the more widely it is distributed over one side, and the greater the associated paralysis. Like hemiplegia, it may be deepest on the arm, and leave the leg and face before leaving the upper extremity, but usually hysterical hemianæsthesia is evenly distributed over one side. The profoundest types are nearly always associated with some paralysis and tremor, and when the muscular sensibility is involved the paralysis is still more surely present.

Hemianæsthesia may often be transferred or removed in part by hypnotic suggestion or cutaneous irritation.

The anæsthesias of the body, when not of the unilateral type, are distributed segmentally, *i. e.* by limb segments, not in root zones or nerve areas Trunk anæsthesias alone I have never observed. They are unstable and tend to disappear toward

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*Read at a meeting of the American Neurological Association, June, 1902.

the periphery, passing from segment to segment, leaving first the hip, then the leg, then foot. There is never true and sharp dissociation of sensibility, though the pain and thermic senses may be more affected than the tactile, and these more than the deep or muscular sensibility. The tactile anæsthesia, as Mills observed, is more often only a hypæsthesia. Hysterical analgesia is not a true one in the organic sense, for hystericals practically never burn themselves. It has no accompanying pain or paræsthesia, though the patient may have independently headaches and neuralgias.

There is usually some paralysis with it, and the greater the paralysis the more profound the anæsthesia, just as with hemianæsthesia. It is only in decided paralysis that we get the muscular and deep sensibility involved. The temperature sense is more often disordered than actually lost. The limitation of the anæsthesia is not as sharp as in organic disease.

It is only in hysteria that we have anæsthesia of the whole of the body.

The tactile sense is usually a little affected in most cases, but it often remains relatively good long after pain-sense has disappeared.

Loss of deep sensibility and astereognosis is relatively rare. Even in profound types of hemianæsthesia with hemiplegia the position of the limb may be appreciated by the patient.

In general, it may be said that the hysterical monoplegias and hemiplegias carry with them the profounder sensory disturbances. In hysterical paraplegia, however, often no anæsthetic disorder is discoverable. Such cases are, in fact, rather functional spinal disorders than cortical or "ideal" paralyses like the hemi- and monoplegias.

The characteristics of the special sense anæsthesias I shall not refer to, as I have nothing new to offer.

The paralyses of hysteria are also of types that are usually easily recognized, and upon this point I hesitate to dwell very long. We know that those muscles which are symmetrically used, like those of the eyes, face, and respiration, as well as the involuntary muscles—in fine, the automatically used muscles—are rarely affected by hysterical paralyses. That there may be an hysterical ptosis and hysterical facial paralysis is true, but it is certainly extraordinarily uncommon, the monoplegias being the most frequent type and the hemiplegias next.

The general character of the hemiplegia with its absence of involvement of the face and its flaccidity and lessened reflexes is well known. The retention of the superficial reflexes which are absent or modified in organic hemiplegias is a point well insisted upon by Fraenkel.

Hysterical paraplegia is not infrequently diagnosticated, but to my mind, as I have already stated, these cases seem often of doubtful mental origin. They are usually functional disorders due to some spinal condition, for I exclude from this group the cases of astasia and abasia, which represent ideal paralyses of the lower extremities, and also those conditions known as amyosthenic, which come on in "attacks" and belong to the hysterical crises. The true hysterical paralyses are, as a rule, the mono- and hemiplegias. I do not, however, deny the occasional existence of hysterical paraplegia, but believe it must always be accompanied in some stage by anæsthesia.

It is extremely rare in hysteria also to have a quadruplegia—a paralysis, that is, not so much of the whole limb as of the hands and feet. One of my patients suffered from this type of hysterical paralysis and the rarity of this phenomenon makes it, I think, of some clinical interest. It would be impossible to make a diagnosis of an hysterical quadruplegia without there being a great many sypmtoms which would corroborate the diagnosis. But these existed abundantly in my patient.

Contractures.—The presence of contractures, especially in connection with apparent paralysis, furnish often most puzzling phenomena in hysteria. I have reported a case which was under long observation at the Montefiore Home, of a woman with hysterical contracture of the hand, which lasted for over a year and which simulated very closely a true organic contracture. It did not disappear in sleep nor under anæsthesia; it was, however, finally cured. The character of the contracture was determined more by the absence of other evidences of organic disease, such as atrophies and joint disturbances, and by the presence of associated subjective hysterical phenomena, and by the final cure. Some cases of hysterical paraplegias with contractures are extremely difficult to distinguish from organic disease, particularly if they are of very long standing, since we know that in very old cases actual spinal lesions may develop. There is sometimes no absolute criterion of the nature of a contracture except the associated phenomena. As a rule, however, it occurs suddenly and represents a condition of exaggerated voluntary contraction, while organic contractures are rather slow in development and are the sequelæ of paralysis. Hysterical contractures suggest the presence of an unconscious but extremely active volitional effort, and the patient seems actively to resist attempts at bending the part. They are not relaxed as the patient wakes from sleep or when in a warm bath. They may affect extensors as well as flexors, or both sets of muscles may act evenly, holding the hand or foot in straight extension. There is no trepidation or tremor or exaggeration of reflexes with the phenomena. There is a tendency for the smaller joints to become thickened by a periarthritis, so that some organic change is superadded in turn to the functional condition. Contractures usually affect a single member, such as a leg, foot, or arm. But that all four extremities may be involved is shown by my second case. Hysterical contractures usually affect segments of limbs, but sometimes involve the face, tongue, and eyes. It is the segmental contractures, however, which are the fixed and obstinate types. I do not know of any case of trunk contracture alone.

In hysterical contracture there is, then, an acute onset with no pain, no mobility, no cramp, no palsy, no atrophy or D. R., no exaggeration of reflexes or myotatic irritability, no morning relaxation, often no relaxation in sleep; there is an active resistance to attempts to remove it.

Hysterical contractures are, in my experience, much rather phenomena in this country than they seem to be in France. Amongst thirty cases of hysteria major with anæsthesias and paralyses I found contractures in only five cases. Sometimes the contractures occur without the characteristic anæsthesia, but are associated with pain.

It is by no means so easy to explain the grave contractures of hysteria, such as are shown in my second case, on the same theory as that by which we explain the simple paralyses and anæsthesias. It is easy to understand how a person can be anæsthetic in one limb through the influence of an idea, or how there can be a paralysis of it from a simple mental influence, but hysterical contracture often seems to be an active phenomenon, as if there were some separate personality at work upon the muscles, continually throwing vigorous impulses into the parts. According to Janet, the essential characteristic of hysteria is a doubling of the personality. Most of the acts of life are performed under the control of the ordinary or primary consciousness. But there is a secondary or subconscious collection of memories which is at work upon the organism also, modifying its functions or producing active changes in them. This secondary personality, which usually works automatically under the direction or at the stimulus of ordinary conscious volition, becomes dominant in hysteria, and it is this which, according to Janet, would produce the contractures.

The mental characteristics of the hysterical, aside from those shown by their anæsthesias and motor disturbances, are classified by Janet, into the stigmata and the accidents. The stigmata are: Amnesias, abulias, and modifications of character. The accidents are: Subconscious acts, fixed ideas, emotional and motor attacks and explosions, somnambulisms and deliriums. Under these heads Janet writes an interesting treatise. But he finds, I think, much more in the hysterical than strictly belongs to them. It is true that hystericals may be weak of will, may have no power of attention, may be peculiarly forgetful, may have morbid fears and doubting manias, may have attacks of automatism and somnambulism, mental confusion, deliriums and ecstasies, etc. But the majority of such disorders are more characteristic of the primary neurasthenics or of the abortive types of degenerative types of insanity, such as doubting mania, the various phobias, and the fixed ideas, than they are of the major hysterical, as seen here.

Morbid fear, doubting mania, and somnambulistic attacks may be imposed upon or associated with hysteria, but they are not characteristic of the types seen in ordinary practice, as I at least have seen the cases. The most characteristic trait is a kind of dementia or mental enfeeblement with a mental depression, amounting almost to melancholy, a lack of will to settle things, or to act, a weakness of self-control and an impressionability or suggestibility which is abnormal. There is a distinct change in character, this being shown in a greater lack of independence, a tendency to self-consciousness and diffidence, and a loss of former interests in life and their affections. There is a narrowing of mental activity and interest in every direction. These characters include some of Janets, but not by any means all, or the most striking of them. The development of morbid fears, of fixed ideas, of delirium, or any extraordinary amount of amnesia is not in the clinical picture.

It is understood that we are referring here to the state of the major hysterical and not simply to the so-called ordinary or "garden" product known as the hysterical woman who is usually only a very emotional, very selfish, and very foolish creature.

The attacks, or crises of hysteria, are, of course, characteristic enough phenomena, but in my experience they are relatively uncommon in major hysteria. There were no crises of any kind in the three cases which I report. It cn only be said that the original onset of the disease partook of the nature of a crisis.

In the diagnosis of hysteria the anæsthesias furnish the most certain criterion, and the paralyses are usually admitted as good helps. The fixed contractures are more puzzling, the tremor is very similar to that of multiple sclerosis or alcoholism, but can usually be readily detected by the associated symptoms. The mental state is most readily recognized when it shows a sharp differentiation from that previous to the onset of the disease. Crises may occur without indicating a fixed or major type of the malady; that is, they are incidental in many persons of unstable nervous system.

As to prognosis, anæsthetic hysteria without much or any paralysis is usually amenable to cure.

Profound paralysis, with great accompanying anæsthesia, is much more serious, especially if it lasts more than a few weeks. Most paraplegias get well or nearly well if there are not other grave, complicating stigmata, and this is still more true of monoplegia and quadruplegia. I think nearly all contractures are eventually curable. The mental state is the hardest of all to readjust. The older the case of hysteria, the more fixed it gets and the more difficult to cure. Still, we always regard hysteria as ultimately and essentially a curable malady.

Reports of Cases.—The following cases seem worth placing on record because one was accompanied by an autopsy which enabled us to prove that some of the anæsthesia was organic, but not all. Another case illustrates a universal type of agitation simulating alcoholic paralysis. The other cases have also some special interest, one of which, I believe, illustrates hysterical anæsthesia superimposed on the trunk anæsthesia of locomotor ataxia.

I am under great obligations to Dr. J. R. Hunt for his careful observations on three of these cases and for his preparation and study of the treatment in the second case. Also to my house physician, Dr. Hand, for his help in making observations and completing the records.

Case I.—**Fracture of Spine and Tranmatic Hysteria**—Mrs. R., aged twenty-eight years; married; admitted to Insane pavilion February — 1902, with a history of having jumped from a window while in a state of acute alcoholic excitement. On admission she was delirious and had to be restrained in bed, but there was, apparently, araplegia paralysis. The history obtained from her husband was that her father committed suicide and that two sisters were peculiar and hypochondriacal; that she had been on a drinking bout after her father's death several years previously, but was not habitually addicted to alcohol. Previous to her recent trouble and accident she thought she was pregnant and had been advised by a friend to take a quantity of alcohol to bring on a miscarriage. She followed this advice and got into a state of delirium, during which she jumped from a window thirty feet from the ground, landing on her buttocks on the stone pavement below. She had been drinking for several weeks previous to this. She had had a child born several years ago with great difficulty, and for this reason dreaded another pregnancy. She had been of a somewhat hysterical temperament, having occasional laughing and crying spells, but otherwise there is nothing abnormal about her history.

Her delirium was so marked during the first twenty-four hours in the pavilion that careful examination could not be made. At the end of that time she became quieter, and it was discovered that complete paraplegia had developed. She was seen by me at this time and ordered transferred to the general wards of the hospital. This was February 11. The record of her physical condition on admission, from Dr. Hand, house physician, shows that her general nutrition was good, expression apathetic. Eyes reacted to light and accommodation. Tongue coated and moist. Heart sounds weak; no murmers. Pulse rate, 128; respirations, 28; temperature, 100°. The lungs were normal, liver and spleen not enlarged. The extremities were anæsthetic and paralyzed. Knee-jerks present, also ankle clonus. Incontenence of urine and fæces. Arms were normal. Urine 1,024, dark, trace of albumin, no sugar. Microscopically, some blood and pus cells present. Three days later the urine was 1,022, alkaline, with slight amount of albumin, mucus, blood, and pus cells.

The patient was examined by me February 11, 1902, in the presence of the section class. She was then shown to have paraplegia, which was complete with absence of knee jerks and ankle clonus. Complete flacid paraplegia with anæsthesia extending from the feet upward to the third dorsal level on the left side on twelfth dorsal on the right.

The right side of the face in the distribution of the trigeminus was anæsthetic and the left side was normal. The right side of the tongue was anæsthetic, there was apparent total amblyopia of the right eye. Hearing on the right side was defective to bone conduction. Smell and taste were abolished on this side. There was some anæsthesia of the hands, not very distinct, and apparenty of the gauntlet type. The anæsthesia of the body extended from the third dorsal behind on the left side to about as far as the twelfth on the right side.

On February 12, the following day, another examination was made by Dr. J. L. Hunt. Palpation then showed slight prominence about the first and second lumbar vertebræ. There was also great tenderness to the right of the spine, and the whole lumbar and sacral regions were sore and the seat of pain. Corresponding to the spinal prominence points of hyperæsthesia were noted on either side, going about in a girdle shape. The mental condition is dull and apathetic, but the patient is not delirious. There are no cranial nerve palsies. The right arm is weak, but movements of both arms are present. Reflexes are present, no disturbance of sensibility or ataxia. Costo-hypochondriac breathing not impaired. Abdominal walls can be contracted, but owing to amount of fat, amount difficult to judge. Abdominal reflexes present on both sides. There is complete flaccid paraplegia. No knee nor Achilles jerks. No form of plantar reflex of any kind. There is absolute incontinence of urine and fæces. Anæsthesia and analgesia of buttocks and genitals, down back of thighs and legs, and both feet below malleoli.

There is now no anæsthesia above the limit of about the second lumbar distribution. Anæsthesia of face gone.

February 17.—Electrical reactions were taken of the muscles of the thighs, and they were found to respond to the faradic currents, direct and indirect. Femoral groups contracted sluggishly. The patient complained of constant, very sharp, shooting pains on the front of the thighs, also painful girdle sensation below umbilicus.

Movements of the toes and ankles are not appreciated, she feels the movements in the knees and hips, but cannot locate accurately. Movements cause pain in the back and sacral region. Ecchymoses and extravasations are present over the sacrum, but no bedsore.

February 13.—The patient's apathetic condition is still present. Pulse very rapid, running to 140. In the afternoon the patient passed into a semicomatose condition, in which she continued till the next day, when she became more conscious. On this day there was no incontinence of urine or fæces, but the bladder had to be catheterized. The patient took nourishment well.

On the fifteenth, right arm still weak, sensation good. Sensation of face and special senses normal. Incontinence of urine and fæces. From this time the patient's condition grew gradually worse. She became more comatose, temperature ran from 99° to 100°, till the 20th, when it dropped to 96.25. On the 23d, it rose to 97.75°, when she died. The pulse during this time ranged from 120 to 110. Respirations, normal.

Autopsy was made forty-eight hours after death. The spinal column was removed in toto, including sacrum and coccyx. Examination of the column and cord was made by Dr. Hunt. It was found at the first lumbar the anterior longitudinal ligament was ruptured. The body of the vertebra was fractured straight across about its middle with some comminution. The fragment projected anteriorly attached to the anterior spinal ligament. There was also a fracture at the junction of the left articular process with the lamella, so that the first lumbar spine was slightly movable laterally. The spine beyond the fracture preserved its natural features. All the ligaments between the twelfth dorsal and first lumbar were torn, so that the spine presented an abnormal mobility at the seat of fracture. Some of this may have been artificially produced at the autopsy. There was also fracture through the lowermost segment of the sacrum with extravasation of blood. The cord was removed by sawing through the articular processes posteriorly. No hemorrhage in the vertebral canal was found, except at the end of the cauda equina. Intermeningeal is a hemorrhage the size of a bean. The dura at the site of fracture had not been torn, although spicules of bone were projecting around it. Macroscopically, the cord was crushed in the upper sacral and lower lumbar regions. Conus medullaris maintained normal contour. On section no signs of medullary hemorrhage.

Sections of the cord were hardened and stained by the Weigert also hæmatoxylon, Niessel, and Marchi methods. The sections were made by Dr. J. R. Hunt and Miss Onuf.

These showed that the injury to the cord reached about as high as the second lumbar segment. Sections at this level show some slight crushing and distortion, but a fairly intact cord. Below this level the injury was more severe, affecting, however, almost entirely the parts posterior to the central canal, involving both posterior horns and the posrior columns, but leaving the anterior horns and anterior and lateral columns fairly normal. At no point was the cord crushed entirely across or destroyed throughout its whole extent, hence the flaccidity of the paralysis and loss of knee-jerks must have been due partly, perhaps, to the shock and partly to the injury to the posterior roots and horns at the upper lumbar level. Sections could be made directly from the part of the cord most injured. The lesion extended as low down as the sacral cord, and throughout its extent involved only its posterior portion. Secondary degenerations could be observed by the Marchi method in the lateral and posterior columns, following the ordinary course. In the neighborhood of the lesion there were the usual degenerative changes in the nerve; there were no hemorrhages and no evidence of reactive inflammatory process.

Case II.—Mary S., aged thirty years; occupation, sewing and housework; married ten years; four children, three miscarriages, three children living.

Family history.—No alcoholism nor neuropathic tendencies elicitable.

Previous history.—First commenced drinking two years ago, and for the first year drank only occasionally. Second year not so moderate, about every two or three months had drinking attacks, each lasting about a week. Drank whiskey, consuming half a pint a day. No drugs used. Is an excessive tea drinker, sometimes using as much as two quarts daily. Has had domestic troubles for past two or three years. Left her husband several times, and one year ago they separated. He left her. The three children were consigned to an institution in Worth street. After this she used alcohol more freely. About four months ago she first noticed weakness and staggering in the legs with numbness and tingling in the feet; at this time there was no weakness nor paræsthesia in the hands. This lasted three weeks. During this time she began to notice weakness in the hands; if she went to pick up an object it would fall out of her hands. Slight numbness in hands.

The day of the onset of the rigidity she had had very severe, sharp pains in the legs with muscular contractions, accompanied by what the patient described as "a tightness and drawing sensation" in the epigastrium, simulating a true girdle very closely. The rigidity came on rather suddenly at 10 P.M., March 16, 1902, Sunday, while the patient was on the street. An ambulance was summoned by a policeman. She was admitted to the alcoholic pavilion of Bellevue.

Examination—(J. R. Hunt).—At examination one week later the following status was made:

There was marked gross tremor of the arms, head, lips, and tongue which was increased on intention. The tremor was so violent that the patient was held by a nurse. Odor of alcohol on breath. The patient was extremely excited and had been somewhat wandering during the preceding night. The entire body was rigid, especially below the waist line, so that the limbs and trunk could be lifted and supported by the heels. The arms were flexed, also the fingers, the legs were extended and the feet in pronounced plantar flexion, as were also the toes. The spasm in the arms could be overcome, but not without causing pain. Those in the lower extremities resisted all efforts, the manipulation causing considerable pain. There was voluntary movement in the arms, but none in the lower extremities. The heart acted very rapidly, the sounds were loud but clear. no murmurs. Respiration rapid and equal. The pupils were dilated, all reactions present, ocular excursions normal. Facial innervation normal. also palatal and lingual, but accompanied by gross tremor, as noted above. The tendon reflexes in the arms were exaggerated. In the lower extremities, owing to the rigidity, not elicitable. No plantar reflex elicitable in lower extremity. No abdominal reflexes elicitable. The examination of the spinal column was negative, but movements and manipulation caused great pain, referred to the lumbar region. For one week after admission the patient was catheterized every six hours. There has been no recurrence of this, the bowels are constipated. There was no vomiting at this time and no evidence of wrist-drop.

Sensory examination at this time (see chart) showed complete absence of tactile, pain and temperature sense from the level of the navel to the toes. This included also deep sensibility, although deep muscular pressure could be distinctly perceived. The direct manipulation of the nerve trunks and muscles at this time caused no pain. There was general analgesia or hypalgesia of the face, head, arms. and trunk, with the exception of a band around the navel corresponding to the aforesaid girdle feeling. The tactile sense in this area was not distinctly disturbed.

The special senses on the left side—sight, hearing, taste and smell—were lost. Present on right. Conjunctival and corneal reflexes were absent or only suggested on both sides.

Was admitted to the medical ward 22, Bellevue, April 1, 1902. At this time bilateral wrist-drop was first noted. The tremor of the face, tongue, and arms had practically disappeared, and only returns in the arms under some unusual excitement. The contractures in lower extremities are as noted. The trunk is fairly mobile.

Sensory examination showed anæsthesia of the hands from the wrist down (glove anæsthesia) and in the lower extremity from the knee down (stocking anæsthesia), including all forms of sensation, deep as well, only deep sensibility is limited and not entirely lost in these regions.

Electric examination at this time showed normal reactions in the arms to the galvanic and faradic currents.

April 22.—*Status*. Cranial nerves negative. Upper extremities. Hands are in position of bilateral wrist-drop, more complete on left. If the hand is lifted it drops heavily. On elevation of hands contractures of flexors of wrist are noted. but can be overcome especially palmaris longus. Muscles of shoulder girdle and upper arm not paretic. In the flexors of the hand and fingers both of which are in a state of contracture, when voluntary effort is made no force is exerted. No movement is induced. The same is true of the intrinsic muscles of the hand corresponding to the ulnar nerve. Contractures in lower extremities practically as noted Slight motion is possible in ankle and hip-joints. Also in joints of toes. All these cause pain. The calves are tender on very slight deep pressure. This is not true of the soles of the feet.

Note. Urine 1,025, acid, no albumin nor sugar. Dense white sediment, negative. Temperature in medical ward averaged 99°. Respirations at times very high, at times as high as 64. Pulse inclined to rapidity, rarely under 80, sometimes 118.

Ears poorly formed, especially helices; Darwinian tubercle on left. Torus palatinus. Abdominal reflexes present, but weak. Hearing little diminished on left, and there is contraction of both visual fields, especially left, to form. No hysterogenic zones. Tenderness over fundus uteri. Any effort to overcome contractures causes pain, but pressure over nerve trunks is negative. Myotonic irritability increased in arms, diminished in lower extremities. No myoid tumors. There is occasional tremor of left foot and of both hands, especially under excitement. During last menstruation had attacks of vomiting, and during electrical examination developed hysterical crisis, which lasted for several hours, accompanied by vomiting, paroxysmal tachycardia, increased respiration, and intense mental excitement.

Sensation (see Chart).—Over entire left side sensation to pain is diminished or lost. The degree varies from time to time. On right side pain is felt, but not acutely. Over the upper extremity from the elbow to finger tips light touch and temperature sense are lost. From wrist to finger tips loss of pain sense. Sensation of pressure and articular sense well preserved, except in finger tips, where there is uncertainty. Localization of deep pressure is good. On lower extremities there is loss of pain, touch, and temperature senses from knee to tip of toes. Deep pressure is felt, but causes no pain. Contraction of both visual fields to form, especially left.

Electrical examination. May 1, 1902.—Muscles of arms and legs react to faradic current when applied directly and indirectly. Likewise to galvanic, directly and indirectly requiring in the lower extremities fairly strong currents, 10 to 15 m. a. There is no change in   in either extremity. The muscles of the calf (   ) do not produce any locomotor effect (contractions).

CASE III. **Traumatic Hysteria; Contusions; Injury and Burn of Hand; Contraction; Anæsthetic**

Stigmata of Hysteria.—Mr. Henry C. K—— aged fifty years; married; one child; business manager. Temperate all his life in alcohol and tobacco, had no serious sickness, only slight bilious attacks. No nervous disorders, no syphilis. Perfectly well at the time of his accident. Was in the last car on the train which was crushed in the collision in the Grand Central tunnel, January 8, 1902, in the front of the car. All that he knew was a crash, until he found himself in the midst of a mass of wrecked timbers and human beings. He was helped out and taken to a hospital, where it was found that the tenth rib on the life side was broken and the right knee contused. Righ hand burned, he says, in the third degree, right shoulder, arm and side of head burned. Taken to Flower hospital, where he had severe vomiting; not unconscious. Kept there two weeks and four days, then went home, where he remained. Was in bed for about two weeks. Two weeks after the accident and before leaving the hospital began to have tremor in both hands, could not sleep well, was very nervous while at the hospital, and had to be given anodynes. Since has been nervous and depressed; had sweats and palpitation, sleeps poorly, only about two hours a night. Memory poor, cannot read nor fix attention. Has dizzy turns, but no loss of consciousness. Is unable to walk well on account of injury to legs, and when he does walk holds his back very stiff. Right arm and hand, which were burned in accident, show tremor of large oscillation.

Examination showed systolic murmer over heart. No lesion of lungs nor viscera. Urine normal. Walks with limp. No decided paralysis. Right hand in state of extension, rigid, cannot be shut. Right arm in constant tremor, so he cannot use it. No paralysis of cranial nerves nor of lower limbs. Knee-jerks feeble on right, normal on left. Dynamometer, right 0, left 20. Tongue protrudes evenly. Left side of face rather more innervated than right. Pharyngeal reflex present. Anæsthesia to touch and pain over right side of face, tongue, and distribution of trigeminus. There is a concentric limitation of the visual field on the right. Loss of bone conduction and some aerial conduction on right side, smell on right side, and taste on both sides. No babinski. Hand in state of resistant extension. No apparent arthritis or evidence of articular inflammation, no scars, the rigidity seems to be of an hysterical kind. Attempts to close the hand are resisted. There is no pain.

Case IV.—**Tabes and Hysteria.**—Male, aged forty-five years; denies lues; no alcoholism; has been a very hard worker. About one year ago noticed neuralgic pains in the distribution of the left trigeminus. About three months later these disappeared, and he began to have girdle pains and about the level of the third and fourth dorsal, accompanied with a great deal of nausea. These persisted and were so severe that the patient came under my observation. He then showed some static ataxia, Argyle-Robertson pupil, slight hand of hypæsthesia in the course of the third and fourth dorsal segments on each side, but more upon the left. He had also weakness of the bladder and occasional nocturnal enuresis. He was very nervous, mentally depressed at times, having occasional attacks of hysterical crying. He had suffered a good deal from domestic strain and personal misfortunes. In the six months that he was under my observation he developed hyperæsthesia of the chest and analgesia of the extremities down to the ankles, the feet being normal. There was some slight hyperæsthesia and dysæsthesia also over the region in which there was analgesia. At one time he was observed to have this analgesia reaching to the wrists of both extremities, but not involving the hands. The hyperæsthesia here being accompanied with a very slight amount of dysæsthesia. Thermic sense was, if anything, exaggerated. The muscular sense or deep sensibility was not disturbed.

THE FAMILY PHYSICIAN OF THE PAST, PRESENT, AND FUTURE.*

By S. A. Knopf, M.D.,
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Mr. President and Fellows of the American Academy of Medicine:

The family physician of the past still lives in the memory of many of us. He was not so rare an individual in years gone by as he is now. In most families the family physician was an indispensible, important, and sometimes a very dignified personage. He was a hard-working man, seldom of wealth, but universally beloved, and revered by all. He was rarely feared, except now and then by the smaller members of the family, who thought to have reason to dislike him at times for his seemingly autocratic behavior. Yet, as a whole, he was the friend of all, the advisor of the family in many matters even not purely medical. He was the confessor of many a troubled heart, old and young; his remuneration was not large; he was often paid by the year a round sum, which, when there was much sickness in the family, made the average pay for a call ridiculously small. Yet he did his duty unswervingly. He would drop in to see the family whenever he was nearby or could spare the time, although he knew that all were well. In many families he had seen the children grow up from babyhood, for it was he who helped the mother when the little strangers arrived.

Could all the pleasant, touching, and heroic incidents be told in connection with the old family doctor as many of us knew him, it would be a revelation to many a young physician who now starts out in life with the sole aspiration to establish himself in a great city and become a great consulting physician, or a great surgeon, known for his operative skill, the great number of capital operations he had performed, and the great throng of students who flock hither to hear him or to see him operate. The old family practitioner, who in many instances was, indeed, the physician of the soul as well as of the body to those intrusted to his care, to whose true, heroic, and humane picture my pen, I know, cannot do justice, is gradually passing out of existence.

I do not mean to say that there are no more family practitioners, but I believe you will all agree with me when I say that there are few of the old type of family physician left. The present family physician is not held in nearly as high esteem as our fathers and fathers' fathers in medicine were held. Furthermore, I believe, you will also bear me out when I say that there are now fewer family physicians absolutely and relatively to number of population than there were fifty years ago.

Who shall be held responsible for this decrease in numbers of family practitioners, the decrease in esteem, this depreciation of a once so exalted position? No person, no one class, but rather scientific events and our present social conditions are the cause of this disappearance, and the disinclination of many even well-to-do families to attach to themselves a general practitioner as a family physician. The discoveries in bacteriology and in sanitary science. the wonderful strides made in surgery, the multiplication of specialties, and last but not least, the multiplicity of different systems of medicine, such as homœopathy, eclecticism, etc., not to mention Christian scientists, faithcurists, ostheopaths, somopaths, and other paths, are responsible for the passing away of the older type of family physicians.

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*Address delivered before the American Academy of Medicine, at the annual meeting at Saratoga.

The family physician of the present is rarely held in just esteem. In some families he is called in simply to decide what specialist should be consulted; in others he is allowed to attend to minor ailments, while in serious cases the specialist is often called in without the family physician being consulted. Again, individual members of one family often manifest a preference for this or that system of medicine. Having myself had for a preceptor one of that old type of physicians who could not bear the idea that there should be any but the one regular school of medicine, and to whom the designation allopath was as distasteful as homœopath, I had imbibed his dislike, his distrust, and his disdain for any system of medicine but the regular. Shortly after graduation, I was fortunate enough to become the physician to a very nice and cultured family. I had been successful in attending the head of the family, and I flattered myself to have gained thereby the confidence of all the members. Soon, however, I found out that I never was called in when any of the children were sick. I endeavored to comfort myself with the belief that it was probably my youth which was the cause, and that these good people did not care to trust the precious lives of their children to so young a physician. A subsequent, event, however, taught me that it was not discrimination against me, but rather discrimination against the school of medicine in which I had been reared and to which I was so proud to belong. One day I met a homœopathic physician coming out of the house of this family, and later I received the explanation from the father to the effect that his wife would never allow her children to be treated by any physician except by one belonging to the homœopathic school. My idealistic conception of a family physician received a severe shock, and has received a good many more since. I now know of a family where the husband goes to a physician of the regular school, the wife to an osteopath, the two daughters to a homœopathic lady physician, and the mother-in-law to a Christian Scientist.

As I have said before, there are, of course, some general practitioners who have a number of families which they attend exclusively, but even their position is not an enviable one. To be frank, as things are now I do not blame the young medical man when he dislikes the idea of becoming, and always remaining, a general family practitioner. Physicians are entitled to financial prosperity as much as any other profession or trade. Ours is a liberal profession. It has its ideals and its ethics, and has also the reputation of being the most unselfish of all professions, and I pray that it may remain forever thus. Yet, we are men, husbands and fathers, and we too would like to see our loved ones in comfort. When we lay down our burdens, or when we are called off suddenly, when we fall victims to the fulfillment of our duties, we, too, would like to feel that our wives and children shall not be in want. Now, there is no gainsaying that, when we compare the earnings of the specialist with those of the family practitioner of the present day, the latter is at a great disadvantage. Supposing the general practitioner calls in a great surgeon to confirm his diagnosis in a case of appendicitis and an operation is decided upon; whether the patient is taken to a private hospital or operated at home, in the majority of cases he passes completely out of the hands of the general practitioner. The surgeon has his own assistants who aid him during the operation and attend to the dressing of the wounds of the patient until his complete recovery. The great surgeon receives from $500 to $1,500 for the operation and the family physician, who was the means of saving a life by a timely calling in of the surgeon's service, receives from $2 to $5 for his visits, according to the circumstances of the patient. It is this great discrepancy between the remuneration of the services of a great surgeon and those rendered by the conscientious, honest, and faithful family practitioner, which makes the young men decide on their specialty while yet in the third or fourth year of their college life.

Now I do wish to state right here that nothing is further removed from my mind than the wish to minimize the value of specialism. The field of modern medicine and surgery is so vast that not even the most brilliant mind, the most skilful operator, could master it all. As medicine and surgery stand to-day, it is simply beyond the capability of human intelligence to be a great diagnostician of internal diseases, a great surgeon, gynæcologist, obstetrician, oculist, laryngologist, and aurist at the same time. Men who devote their whole lives, their whole energy to the study of one of the many branches of medicine must ever be the counsellors and teachers of the general practitioners.

The relation between specialist and family physician could, however, be changed to the advantage of the latter without detriment to the former. Let me take again the illustration of the great surgeon who is called in to confirm the diagnosis of appendicitis made by the family practitioner and who receives, say, $500 for the operation which follows. Would it not be perfectly just if the after-treatment, such as dressing the patient's wounds and watching over him to see that no mishap occurs, would be left to the family physician, for which he would receive a remuneration a little more in proportion to the fee charged by the operator? Were such a practise in vogue I am convinced many a general practitioner would feel more kindly disposed toward some of our great operators than they do now, and the family physician of the present would rise to a higher level of importance and esteem than the public of to-day is willing to concede to him. There is much which the consultant, the great surgeon, or celebrated specialist in other branches can do to bring the standing of the family physician of the present day to a better recognition and appreciation on the part of the family by which he is engaged.

I have spoken of the family physician of the past and of the present, and now permit me to picture to you the family physician of the future, such as I see him in my mind's eye, such as I wish he might be while this twentieth century is still called new, and such as I know you all would wish him to remain as as long as mankind is heir to disease. The tuberculosis problem in which I have been interested for a number of years, has taught me many things which are applicable to general medicine, to the duties and vocation of the family physician, and to the solution of the social position of the general practitioner of to-day. The one positive conclusion I have arrived at, through what I believe an earnest, unbiased, and careful study of the subject, is that the tuberculosis problem will and can never be solved without the help of the family practitioner, and that consumption as a disease of the masses will never be succesfully combated until the day in which every family has its family physician No matter how strict the sanitary regulations which boards of health may issue, no matter how many sanatoria and special hospitals for the consumptive poor we may have, we must look to the family physician for the bulk of the work in fighting the "great white plague." We must look to the family physician for the discovery of the early and curable cases; we must look to him for the carrying out of the sanitary regulations; without him our sanitary ordinances will do only half the work they are intended to do. Without the family physician only the more advanced and often hopeless cases will come to our notice. Without the family physician for rich and poor, and particularly for the poor, there will be a constant supply of new tuberculous cases, created daily in the unsanitary tenements of the poor.

What has been said of tuberculosis is certainly applicable to nearly all other diseases. Most ailments increase in severity where nothing is done to check their progress. Many diseases have their etiology in ignorance, and here again you will have to pardon me if I use for illustration that most characteristic disease of the masses, namely tuberculosis. Malnutrition of the poor we are apt to attribute to want of food. Those of us, however, who have some experience in the tenement-house life of large cities will know that there is relatively more waste of food substances in the houses of the poor than in the houses of the well-to-do. It is often nothing but ignorance on the part of the willing but untrained housewife of the laborer which makes his food expensive, but not nutritious. The poor girl from the shop or factory, when she marries, does not know the art of choosing the right food and preparing it appetizingly and tastefully, The result is often not only malnutrition of husband, wife, and children, but, alas! also discontent, love for stimulating liquors, crime, and disease. In a wealthy family, if a child or grown person grows thin in spite of plenty of food, the family physcian would be consulted, and not infrequently would discover the cause of malnutrition to be the fact that the food given to the patient was not of the proper kind, and, with a change in the right direction, the patient would improve. The poor alone have no one to turn to for advice; they only go to the dispensary when really sick; they have neither time, nor are they observant enough to discover slight ailments, such as an impaired digestion and lack of assimilation, conditions which are the true forerunners of consumption and other grave diseases. Again, those familiar with the life of the ordinary workingman will know how he and his family often shrink from the thought of entering a hospital. These men will make all possible sacrifices in order to keep the sick member of the family at home and provide such medical attendance for him as they are able to procure. But timely and regular attendance is rather the exception than the rule among poor families where there is a consumptive or any other kind of invalid. These poor people will first try all kinds of quack remedies, ask their druggist for advice, or, attracted by some glaring advertisements of a sure cure for consumption or all other ailments, fall into the hands of some unscrupulous charlatan.

It is evident that there would not only be a direct benefit to the families of the laboring classes from timely and judicious treatment of any of their sick members, either at home, in a hospital, or in a sanatorium, but the community at large would be a direct and indirect gainer. By providing, for example, medical attendance to families unable to pay a regular physician, or by placing the consumptive patient in a sanatorium in time, the pulmonary invalid has 75 per cent. of chances to be cured, and is prevented from infecting his own kin and neighbors. Seventy-five out of a hundred consumptive patients will be prevented from becoming burdens to the community. All this would be direct gain to the community, but the indirect gain to the commonwealth by curing and making strong and useful citizens of seventy-five out of every hundred tuberculous persons, who were otherwise doomed to death in the prime of life, is well nigh beyond calculation.

There is no doubt that tuberculosis and many other diseases of the masses can and should disappear in civilized countries, and it devolves upon us medical men of the twentieth century to devise means and propose measures to our municipal authorities, State legislatures, and philanthropists that will best accomplish this much-desired end. The old Scotch proverb "an ounce of prevention is worth a pound of cure" is applicable in all diseases, and particularly to phthisis pulmonalis. We all acknowledge Koch's bacillus as the true etiological factor in tuberculosis, but we also know that in health the accidental inhalation of a few bacilli, the swallowing of some tuberculous milk, or even a scratch infected with tuberculous matter, are really of any consequence. The healthy nasal secretion is batericidal, the ciliated epithelium of the upper respiratory tract is a physical hindrance to the bacilli. The gastric secretions, too, are, in a large measure, bactericidal, and the phagocitic power of the white blood corpuscles is, in the healthy individual, the best safeguard against the invasion of the bacilli.

It is the badly-housed, underfed, overworked people, weakened by disease, intemperance and excesses, who soonest fall prey to the tuberculosis bacillus and to the germs of all other infectious diseases. The family physician employed by the municipality would insist that the dark, dreary, badly-ventilated tenement-house must disappear By giving to the laboring classes better tenements, where sunshine, light, and air are plentiful, with at least six hundred cubic feet of space alloted to every individual, we will save many a one not only from becoming tuberculous but also from becoming a prey to other diseases.

Phthisiogenetic diseases, such as smallpox, scarlatina, measles, or girp, are all diseases, which the earlier they are discovered the more chance there is of their taking a favorable course. The one who discovers the first among the well-to-do is the family physician. He may discover the early symptoms of these diseases on his regular visit before the sufferer himself has an idea of being a patient. In the family of the poor the disease must be far enough advanced for a layman to discover it before medical aid can be hoped for.

What great good cannot the true family physician accomplish by a regular periodic examination of the chests of a family entrusted to his care! Venereal diseases, excesses and intemperance may be classed under one heading, and may be called a trinity of evils resulting from ignorance. While the social reformer and clergyman may do their grand work in helping to combat them, again the family physician has to do the bulk of the labor. He who should be, and often is, the confidential friend of everyone of the family, old and young, will be best able to warn the young man of the danger which besets him when starting out in life. If a member of a family has been unfortunate enough to contract a venereal disease, the family physician will see that proper treatment is instituted and all precautions taken to prevent infecting others or a reinfection of the patient himself. Again it is the family physician, friend, and advisor who may exert the most beneficent influence on old and young by pointing out to them the danger of excesses of any kind, and particularly intemperance; for let us not forget that alcoholism is not only one of the most important phthisiogenetic diseases, but also the cause of a number of the most serious nervous and mental disorders, leading, alas! too often to crime and moral degeneration of whole families. In some European sanatoria for tuberculous and scrofulous children, statistics show that more than 25 per cent. of the little inmates are of alcoholic parentage. You know that our insane asylums harbor from 40 to 60 per cent. of patients in whom the anamnesis shows alcoholism to be the true etiological factor.

The physician acquainted with the tendencies of the individuals entrusted to his care will know when to sound the note of warning. He will be able to combat the idea which is still very prevalent among the laity that alcohol is a good remedy for consumption, a good remedy in stomach disorders, or an indispensible stimulant to the worker. The physician will exert all his influence to show that alcohol is not a food, but, when taken in excess, a dangerous, powerful poison, destroying body and soul, undermining the strongest constitution and causing untold misery and want in many once happy and prosperous families. With such a medical advisor given him by a wise and beneficent government, the honest but poor laborer will be protected from tuberculosis and other diseases, and the moral influence which the true physician can exert in these environments must be of incalculable value to any community.

Mr. President and Gentlemen, if from what I have said you have already partially divined my conception of the family physician of the future, permit me to complete, or rather summarize, this conception in the following words: The family physician of the future will be the cultured, refined gentleman, who through his college training has been duly prepared for the great profession he has chosen to follow. A five-years' course in a medical college, not owned or controlled by a private corporation, but by an endowed independent university or State institution, and an additional year of obligatory general hospital training will have fitted him to be a sanitarian, a skilful physician, a trained general surgeon, wise enough to know when council is needed; a physician to be engaged by a number of private families among the well-to-do or by the government as a guardian of health of a certain number of indigent families. In both cases his remuneration should be large enough, so that he can perform his duties without worry for his daily bread. Leisure and opportunities should be at his disposal, to follow occasionally some special scientific pursuits, if he is so inclined.

The family physician of the future has, to my mind, a mission to perform, so high, so noble, so unselfish, that only the best of men, the greatest souls would wish to aspire to fill such an exalted position. The work which this family physician of the future has to fulfill is greater than that of the family physician of the past or of the present. He will rise in importance and in recognition to the highest level in his social as well as in his professional relations. To him the statesman, the social economist, the philanthropist must look for help; for the family physician of the future, whether practising in the palace or in the hut, in the crowded tenement of the metropolis, or among the peasants in the far-off hamlet, will be the leader in the physical and moral improvement of the race, and in making the men and women of the twentieth century true images of their creator.

10 West Ninety-fifth Street.

A GUNSHOT WOUND OF THE ABDOMEN, INFLICTING NINETEEN PERFORATIONS OF THE INTESTINES AND FOUR LACERATIONS OF THE MESENTERY, WITH RECOVERY.

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The patient, John Walker, colored, aged twenty-one years; nativity, Mississippi; occupation, laborer; social condition, single, was received at the St. Louis City Hospital at 7.10 P.M., December 11, 1900. Present condition: The patient received a gunshot wound of the abdomen about one hour before coming to the hospital. Examination revealed a wound of the right iliac region, just above McBurney's point. The patient was immediately prepared for operation, the usual antiseptic and aseptic precautions being observed. After thoroughly washing and antisepticizing our hands—this procedure requiring about twenty-five minutes—the patient was placed on the operating table and anæsthetized, chloroform being used. At 8.15 P.M. an incision five inches in length was made at McBurney's point. On attempting to palpate the intestines, after entering the peritoneal cavity, I was surprised to find the intestines walled off by firm adhesions; the latter were between omentum, ascending colon, and cæcum. The adhesions were torn and an entrance made in order to reach the small intestines. It was then found that the omentum was attached to the entire right side of the peritoneal cavity, dividing this cavity into two closed spaces, the one above containing no intestines, while the under one contained the small intestines and the sigmoid flexure.

The small intestines were delivered through the rent in the adhesions and examined. The perforations found were as follows: Two just above the cæcum in the ascending colon, one about three inches from the cæcum in the ileum, two in the ileum about three feet from the cæcum, twelve were in the lower portion of the jejunum, these were distributed very closely within eleven inches of the intestines, the latter were very badly contused and lacerated; finally, two more perforations were found in the sigmoid flexure. The two perforations just above the cæcum and in the ascending colon were separated by a mere band of intestinal tissue; this was cut away and the edges of the wound enlarged, so that all of the contused and lacerated tissue was removed, and when the perforations were closed, normal tissue was approximated instead of devitalized contused tissue, as would have been the case if the edges of perforations had not been cut away.

The Czerny-Lembert suture was used in closing the perforations; seven separate perforations were closed in this manner, while that portion of the jejunum which contained the twelve perforations was resected, and an anastomosis of the intestine was made with Murphy's button. In addition to the perforations in the intestines, there were four rents in the mesentery; two of the rents were in that portion of the mesentery immediately below the gut in which the twelve perforations were situated. These were removed when making the resection of the gut; the other rents were sutured, as the blood supply to the gut beyond these points was not disturbed.

The procedure which caused greatest difficulty was in suturing the perforations in the sigmoid flexure; the adhesions were so firm at this point that it was very difficult to deliver the gut through the opening in the right iliac region.

The abdominal wound was enlarged downward until a better field for work was secured. The perforation in the anterior wall of the gut was comparatively small, while that in the posterior wall was about one and a half inches long, the bullet having passed through obliquely.

After inspecting the entire length of the gut for further wounds and satisfying ourselves that there were no more, the peritoneal cavity was flushed out with normal saline solution; twelve gauze drains were inserted in the various recesses of the peritoneal cavity, viz., above the omentum, below the omentum, above and below the mesentery, into the pelvis and up toward the liver, so that the drainage was established above and below the liver.

This procedure has been practised at the City Hospital for the past two years with gratifying results in gunshot wounds of the abdomen. After placing the drains the abominal wound was sutured and reduced to a small size, so that the drain could not be forced out by the straining efforts of the patient. An abdominal pack of chloride of mercury was applied and the patient placed in bed; the head of the bed being elevated about fifteen inches, so as to facilitate drainage in the direction of the abdominal wound toward the pelvis. The time occupied in performing the operation was three hours. The patient stood the long, tedious operation very well. The pulse was 120, respiration, 36; temperature 100° F. The course of treatment after the operation was as follows:

December 12: Slight tympanites present; no distinct signs of peritonitis. One-tenth grain doses of calomel were given every hour until one grain had been taken; this produced one small action from bowels. The patient vomited on several occasions. Three drops of carbolic acid were given twice during the day; the vomiting disturbed the patient considerably, and I decided to give him seidlitz powder; this was allowed to effervesce, so that most of the carbon dioxide was discharged before giving it to the patient; with this, three drops of carbolic acid were given; there was cessation of the vomiting after this.

The patient's condition remained unchanged up to December 17, when there was a decided change for the better. During this period six to eight drops of carbolic acid with a seidlitz powder were given daily; there was a free movement of the bowels daily, and the patient did not complain of any discomfort. The tympanites which existed immediately after the operation subsided.

His condition continued to improve. On the tenth day after the operation Murphy's button was passed. For several days previous to this date the patient had complained of pain in left gluteal region. Examination revealed a tumefaction with fluctuation at this point; the parts were antisepticized, cocainized, and an incision was made; about half a pint of pus escaped. On inserting my finger into pus cavity I felt a bullet imbedded in the tissues; it was extracted and found to be of 44-caliber. After this the temperature, which had been increasing, began to decline. On third day after the pus and bullet were removed his temperature was 100° F. His condition continued to improve steadily, and he was discharged from the hospital March 4, having completely recovered.

During his first fifteen days the patient was nourished by liquid diet only, no solid food of any kind was given until his temperature began to decline; a semi-fluid diet was then substituted, such as custard ice-cream, whey, and peptonized milks, so that the approach to solid diet was gradual.

I wish to call attention to the manner in which the drains were removed. Instead of removing the entire drain at one time, only a portion was removed each time, so that drainage could continue along each tract made by the individual drain until the tract closed behind the drainage material; this procedure was carried out with each drain.

Some criticism may be made of the site selected for the abdominal incision. The reason the incision was made at McBurney's point was that it was at a point where the bullet when passing through the peritoneal cavity would most likely injure the cæcum or the ascending colon. When this incision was made, it was decided that a median one would also be made if the conditions present should justify such a procedure; this was unnecessary, as it happened that all of the injured viscera could be examined through primary incision. The points I wish to emphasize are as follows:

(1) The edge of each perforation was cut away in order to get into normal tissue, *i. e.* tissue which was not contused; so that when the edges of the wound were brought together, repairing process would be more rapid and certain than it would have been if the contused edges of each perforation had been turned in. There can be no doubt that contused tissue around perforations made by bullets often break down; this process going to and often beyond sutures. This condition has been demonstrated in post-mortems. From this observation I believe all perforations produced by a bullet should have their contused edges cut away before closing them.

2. Whenever we are dealing with gunshot wounds of the abdomen with perforation of the intestines by a bullet, drainage should be instituted. It is impossible to estimate how much infectious substance is carried into the peritoneal cavity by the bullet from outside of the cavity. When the bullet passes through the intestine it carries with it the contents of the organ. Besides this, the contents of the intestine will also pass through the perforations into the peritoneal cavity, so that there is a certainty of a widespread infection; one that is not removed by the flushing of the peritoneal cavity in a degree thorough enough to satisfy one that the peritoneum can take care of itself afterward.

3. The infectious substance is not the only factor to deal with. The manipulation of the abdominal viscera always produces a slight degree of contusion, so that the momentary lowering of the vitality of the peritoneum in the presence of infectious media, in many instances, terminates in a peritonitis of a varying degree.

4. The drains should not be disturbed before the fifth or sixth day, and then only a small portion should be withdrawn at a time. This manner of withdrawing the drains allows a better drainage than by an immediate removal of the entire length of the drain.

5. The diet in the above case was a liquid one up to the fifteenth day; after this period a gradual increase to a solid one, covering a period of one week.

6. The number of perforations made by the bullet was remarkable. The number of perforations in

the gut which was removed, *i. e.* twelve in eleven inches of intestine.

I have the resected portion of the intestine, which was inspected by the members of the society before which this report was read. I was unable to present the patient, as he was convicted of manslaughter after recovering, and is now serving a two-years' sentence in the penitentiary. At some future time I may have the opportunity of presenting him to the society.

NASAL DISTURBANCES IN TYPHOID FEVER AND THEIR SEQUELÆ.

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Among the nasal disturbances in typhoid fever, epistaxis was until recently the only familiar phenomenon, and it was considered as a sign of the general affection. The rhinoscopic examination of the condition during the course and after cessation of the disease was seldom, its treatment never, resorted to. Nevertheless, it is worth while to examine the nose in every case of typhoid fever, and to treat the disturbance found, since, not so infrequently, quite disagreeable disturbances are experienced over an extended period.

The nose and the nasopharynx present, during typhoid fever, the state of a dry catarrh. The mucous membrane is usually reddened and loosened, and it frequently appears, particularly upon the turbinated bodies, in a deep, dark red, and velvety swelling. The secretions are sparse. The entrance and anterior portion of the nasal cavities often present a fuliginous deposit, whereby, together with the narrowing of the cavities, mouth breathing is produced.

The usual signs of coryza, such as sneezing, increased discharge, etc., are exceptional. The hyperæmia of the nasal mucous membrane is frequently so intense as to exude sanguinolent mucus by mere cleansing of the nose. Upon the anterior portion of the septum an erosion containing thrombosed vessels or blood eschars is the frequent cause of the bleeding. The nutritive disturbances caused by the bacillus Eberth, or, more probably, by its products, produce the bleedings in conjunction with the abundance of capillaries, the vulnerability of the anterior portion of the nasal septum, and the fragility of the vessels.

The bleedings occur in 50 per cent. of the cases during the stages of incubation and the first fever, more rarely in the beginning of the second week, while they decrease at the height of the disease, to become again more frequent during the last fewer days and during convalescence. Epistaxis may frequently return during a brief period, and may occasionally become so intensified as to form a great danger; and, in fact, some patients have bled to death.

In those isolated, severe cases of hemorrhagic typhoid fever, epistaxis plays quite an important part. It frequently occurs in young persons, rarely below the tenth year of age, or after the fortieth or forty-fifth, and then almost invariably in persons with predisposing conditions, as *e. g.* chronic alcoholism.

Curschmann[1] has observed epistaxis 110 times among 1,700 cases, or 6.5 per cent.; Liebermeister[1] in 7.5 per cent. of the cases.

When erosions or ulcers of the septum, with simultaneous epithelial abrasion, erosion, or ulcer of the opposite lower turbinated body of the nose, are present in the nasal cavities, synechia are readily formed. These are otherwise, in most instances, artificially produced, through injuries, particularly after cauterizations with the galvanocautery, when they were made, as in former years it was frequently the case, with the flat burner, and the healing process was not duly watched. When the croupy membrane is thrust off, the conditions for the formation of the adhesion are most favorable.

The causes of formation of intranasal adhesions are varied; they may be congenital or acquired, the latter the result of disease or artificial. The nosogenous occur in syphilis, lupus, rhinoscleroma, and acute infectious diseases. No such cases have, to my knowledge, been observed after typhoid fever, but I am in the position to report two such cases:

Case I.—E. H., thirty-five years old, suffered for many years from nasal catarrh and from so-called "inner abscesses" of the thighs, which appeared in 1876 after typhoid fever, and which were operated several times by curetting with removal of the bone. His nasal troubles also dated back to the typhoid. He complained of a raw sensation in the throat, excessive discharge of phlegm from the throat and nose, obstruction of the nasal cavities, and headaches. A fibrocartilaginous adhesion was found in the right nasal cavity, which was thus divided into two separate sections. He was treated in 1878 with irrigations, in 1886 with cauterizations by means of the galvanocautery, and in 1889 90 by nine unavailing attempts at breaking the connections with a forceps. In December, 1890, I broke through the firm adhesions by means of the electric drill, and discharged the patient at the end of two months as cured.

Case II.—E. K., a woman, thirty-three years old, complained of hardness of hearing in the right ear, which was at first noticed during an attack of typhoid fever, contracted in September, 1892, but despite apparent improvement, lasting several weeks, had persisted for two years up to her first presentation. During the typhoid intense bleeding came from the right nostril, lasting the first time about fifteen minutes, and recurred four times, but less severely. The patient, who had never before the typhoid suffered from nasal trouble, noticed a non-offensive discharge, which was intensified for about four weeks after the typhoid, and continued with interruptions up to her first presentation. Headaches appeared once or twice weekly in the right side with dulness over the forehead. There existed also right anosmia and occasional noises in the corresponding ear. The watch was heard in A. D. on pressure only. Examination revealed a chronic catarrhal otitis media and a cicatricial adhesion in the right nasal cavity, between the septum and the lower turbinated body. After removal of the adhesion, the headaches disappeared, the aural noises were considerably relieved, and the hearing power was somewhat improved. The watch is perceived at 1″, the whispered voice at 1′, and conversation at 4′. I would not like to express a positive opinion about the first beginning of the chronic middle-ear catarrh, or rather about its determination, since it probably had existed before the typhoid; at any rate, it cannot be doubted that it was considerably impaired by the typhoid fever, and particularly by its nasal disturbance.

The nasal disturbances in typhoid fever, therefore, consist in dryness of the mucous membranes, abrasion of epithelium, erosion, particularly at the anterior portion of the septum, with occasional, frequently intense and dangerous bleedings. The erosion develops at times into an ulceration, and leads finally also to perforation of the septum. On the other hand, it leads to adhesions with the opposite surface of the lower turbinated body and their above-described sequelæ.

It may be *a priori* accepted that the nasal accessory cavities are affected in typhoid fever. The anosmia in my second case points to an implication of the right ethmoid labyrinth.

Zuccarini[2] found suppuration of the nasal accessory cavities in three cases of typhoid with erysipelas. Siebenmann[3] saw empyemata of the sphenoid cavities in three autopsies of corpses succumbed to typhoid. Harke[4] noted, among one hundred autopsies of adults, sixteen who had died from typhoid fever, and among these, eleven cases with suppuration in the nasal accessory cavities. In two cases all accessory cavities were found diseased; the maxillary antrum alone in two, and with the sphenoidal sinus in two; the sphenoidal alone in three, and with the frontal in one; and the ethmoid with a large perforation of the septum in one case. The causal connection of the suppurations with the acute infectious disease could not be verified in all cases; some positively point to an earlier period.

Grünwald[5] considers the typhoid as the more than probable origin of a case presenting the combination of empyema of the left maxillary and sphenoid cavities. Hajek[6] does not think the near relation between most acute infectious diseases and the affections of the accessory cavities to be firmly established. In influenza and diphtheria only, it has positively, in erysipelas, but probably, the character of the primary infectious disease, while in the remaining infectious diseases the processes of the accessory cavities rather represent the sequelæ of a secondary infection.

The respiratory tract, particularly the larynx, is, in some cases of typhoid fever, the seat of severe lesions, which appear as catarrh, ulceration, and palsies, complicated with œdema and perichondritis; but this is not within the scope of my theme.

Observations on the above-described disturbances are generally few; but they would certainly increase considerably if more attention were paid to the nose and its accessory cavities during typhoid fever. Antiseptic irrigations and powders are to be applied to the erosions, plugging to the bleeding, and the occurrence of adhesions may also be avoided by proper treatment. Discharge of blood in unconscious or sleeping persons into the nasopharynx, when the nose is plugged in front, has sometimes led to death. It is, therefore, advisable to plug the nose in severe cases from the nasopharynx.

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Chronic Form of Plague in Rats.—It is not sufficiently recognized in laboratory experiments that a chronic form of plague exists in rats.' From an epidemiological point of view it is of great importance to observe that such chronic infection often occurs. Careful post-mortem examinations on rats, months before inoculated, no matter how, show chronic pathological changes, such as in capsulated caseous nodules in the submaxillar glands, caseous bronchial glands, and fibroid induration of the lungs. In all such cases can virulent plague bacilli be demonstrated, either by culture method or in animal inoculation. Such observations are of the utmost importance for the epidemiologist.

DIAGNOSIS AND PATHOLOGY.

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In this age of progress we find, in all the sciences, new methods of work, new and improved ways of approaching and solving problems.

As this march of progress in all scientific fields of labor continues on to higher planes of advancement, we cannot fail to be forcibly impressed with the tendency of the age to discover and utilize more accurate and more practical methods of work. In the great scientific achievements of the present time medicine is no laggard in this field of progress.

Never before in the history of our science have our labors been marked with such a tendency to practical, clinical methods of investigation, practical clinical study of abnormal conditions, and a practical and scientific application of our knowledge in the treatment of disease.

Already many of the uncertain ways of observation and investigation have given way to the more modern and more exact methods of observing and studying causes, conditions, and phenomena of abnormal processes.

Practical clinical medicine is becoming the demand of the age. Speculative theories must give way in the presence of scientific realisms. Clinical facts must take the place of theoretical teachings. Methods of greater accuracy and of more practical every-day utility to the physician must displace the earlier, uncertain, and less scientific methods of investigation and study.

Early in the history of our science medical diagnosis was based most largely upon the clinical history of the disease and a few of the most prominent clinical symptoms.

Later to these means were added the physical signs obtained by palpation, percussion, and auscultation, and more recently to these have been added those evidences found by more exact clinical methods of observation, and a more elaborate study of the minute pathological conditions and processes.

Clinical history of disease, and clinical phenomena as revealed by symptoms, must ever claim their importance in diagnosis. Equally as important and even more so are the physical signs, but in a very large number of diseases it must be conceded that the most important, less misleading, most assuring, and of the greatest aid to the diagnostician are the observable, direct pathogenic factors, and the true pathological conditions. For instance, to diagnose anæmia by pallor of the face, and mucous membranes, vertigo, and dyspnœa is much less positive and less scientific than to ascertain by clinical microscopy and clinical chemistry (or other means) that the blood contains only 2,000,000 red corpuscles per cubic millimeter and only 40 per cent. hæmoglobin. Or by the same means of investigation to learn that the red corpuscles are normal in number, and that the anæmia is due not to a diminution of the red corpuscular elements of the blood, but simply to their poverty in hæmoglobin. Or by carrying our investigations a step farther and finding by microscopical examinations of stained blood specimens that the presence of microcytes, macrocytes, poikilocytes, normoblasts, and megaloblasts reveals to us the fact that the anæmia is of a grave, pernicious form.

To diagnose cystitis by pain in the bladder, frequent micturition, alkaline urine, and an abnormal precipitate is far less complete and much less accurate than to ascertain by microscopical examination that the urine contains polynuclear pus cells in which are found many gonococci, or by further investigation to learn that the inflammatory process is produced by the presence of the colon bacillus, tubercle bacillus, staphylococcus, or some other pathogenic microorganism.

To diagnose malaria by blueness of the finger nails, chill, headache, subsequent high fever, and excessive perspiration is certainly less positive and surely less scientific than to see, by microscopical examination, the living, motile plasmodia in the red blood cells, the crescents and sporules in the plasma, and thus by inspection alone determine positively whether we have to deal with an infection caused by the benign tertian or the pernicious estivo-autumnal germ.

The practical means or methods of investigation in diagnosis of disease which reveals to us most positively and most correctly the pathological conditions and their direct causative factors are to-day the methods that should be used in clinical work.

When pathology first became a part of medicine its teachings consisted entirely of the study of gross pathological changes (gross morbid anatomy). Later came the study of those abnormal changes in diseased structures which are discoverable only by the microscope (pathological histology). Very little reference was then made as to how or why these changes occurred.

To-day the study of the morbid anatomical changes, both gross and microscopical, are only a small part of the work of the modern diagnostician. He must now seek to understand the mode in which these changes occur, the reasons why they appear, the effects they produce, and the results to which they tend.

Thus in the study of disease the etiological factors, the histological changes, the symptomatic phenomena, and the tendency of the disease processes toward recovery or death must all be subjects of investigation and study by the modern diagnostician. A failure of complete bedside clinical examinations is, no doubt, often due to the fact that many medical men spend the greater part of their time in the study and practice of some special part of medical science at the expense and sacrifice, very frequently, of a thorough and practical knowledge of diseases in general. Specialism, of itself, is too wont to consider the needs of one system, or of one organ of a system, at a sacrifice of a study of the whole, losing sight of the great fact that all the organs of the body must work together.

Man, in one sense, is a unit, made up of many parts, and, frequently, especially in medicine, we cannot hope to treat with success a part while ignoring the whole.

The medical practitioner also very frequently fails to obtain a true and full conception of the disease he treats, owing to the fact that his time and interest, in medical work, are confined most largely to the investigation and study of only one, or several parts, and not all of the various processes and phenomena of disease.

To illustrate more fully, one physician may take a special interest in observing and studying the symptoms of the various diseases at the neglect and sacrifice, perhaps, of a knowledge of the abnormal changes producing them (the symptomatologist). Another may spend the greater part of his time and talent in the study of remedies and the application of various measures intended to restrain or correct these various abnormal symptomatic manifestations without a close investigation of their true causation (the so-called therapeutist). Another may take greater interest in the examination and study of the histological changes, the abnormal cellular growths and abnormal reactions of various cellular structures, secretions and excretions of the body at a sacrifice, perhaps, of a close observation and study of the clinical symptoms which these changes produce (the laboratory pathologist and histologist). Another may find himself drifting into that special field of work where he studies the form, habits, life-history, methods of culture, and pathogenic activity of the various forms of microorganisms capable of producing these pathological changes (the laboratory bacteriologist). And still another may observe the symptoms, processes, and results of direct inoculation of these various pathogenic germs in lower animals, and thereby be able to give us valuable information as to the pathogenic activity and the resulting pathological changes caused in living tissue by these various disease-producing germs (the experimental pathologist).

These different fields of labor are all very essential to the progress of our science, and continue to furnish us, from time to time, with vital facts in medicine, but life is too short and the duties in these fields of labor too numerous for any single individual to attempt to carry, into detail, the work of these different important branches of our science.

However, as our achievements of the present time, and all further progress in the future, must ever rest upon a full and complete knowledge of disease in all its parts, we are forced to acknowledge that no medical man can attain the modern ideal of a competent bedside physician without a practical knowledge at least of these all-important branches of our science.

Thus the true physician of to-day, if he would be really worthy of the full confidence of his patrons, complete master of his position, thorough and practical in his work, and attain the eminence of a successful and competent diagnostician, he must be able to play the part, to a good extent, of clinician, microscopist, bacteriologist, and pathologist. Symptoms of disease are simply expressions of pathological conditions.

Pathological conditions must be the result of causes. Causations, alterations, and manifestations are inseparable in pathological phenomena. Etiology, pathology, and symptomatology are links of a chain of factors in disease and its phenomena which are always found united. The physician must ever continue to travel from effects to conditions and from conditions to causes, if he would obtain a full and complete conception of the disease he treats.

In health, in contradistinction to disease, the anatomical structures, the physiological functions, the chemical reactions, and the physical constitution of the various parts of our body are practically normal and undisturbed.

In disease there may be alteration of structure, a disturbance of function, many new and strange chemical reactions, or a change of the physical constitution of the parts affected. We thus have to consider in the study of pathological phenomena, pathologic anatomy, pathologic physiology, pathologic chemistry, and pathologic physics. The means at our command in the study of pathologic physics are inspection, palpation, percussion, auscultation, and mensuration.

The personal appearance, apparent age, temperament, general nutrition, weight, height, vital index, altitude decubitus, posture, gait, expression of countenance, the eyes, nose, mouth, tongue, the skin in regard to nutrition, tone, and humidity, and whether pigmentation, vascularization, anæmia, or œdema is present, and many other facts of clinical importance can be noted by inspection alone. By palpation and the sense of touch the presence or absence of pain or tenderness may be determined, the size, shape, mobility, and immobility of many parts of the body, normal and abnormal, may be ascertained.

The dryness, moisture, heat, coldness, density, and resistance of body structures, also various vibrations—such as frictions fremitus, râles, thrills, and abnormal impulses of many kinds—may be felt.

The methods of percussion and auscultation are simply the practical application of accoustics in diagnosis. Sounds produced in the various normal and abnormal structures of the body by percussion may differ in intensity, pitch, quality, and duration. A change in the normal physical constitution of a part will give rise to a change in these elements of percussion sounds. These changes or variations of sounds from flatness to resonance and from resonance to tympany must be properly interpreted. Regional variations must be carefully studied and the associated physical conditions learned. We must be able to estimate the absolute and relative value of these differences in percussion and auscultatory sounds as indices of tissue change. Correct sound interpretation and the significance of these various auditory sensations produced by percussion and as heard by auscultation, is the secret of success in this part of the work of the diagnostician.

In pathologic chemistry we have another large field from which to gather numerous facts of great importance to the diagnostician. In the chemical examination of the normal and abnormal fluids, secretions and excretions of the body our science has not yet limited the knowledge that can be gained of disease in this field of investigation. In the pathologic chemistry of the urine the presence of sugar, albumin, pus, blood, bile pigment, indican, chromogens, and other abnormal constituents furnish us evidences of various pathological processes of great value.

The absence, deficiency, or excess of hydrochloric acid in the gastric juice, and the presence of lactic acid, fatty acids, pus, blood, etc., are important evidences of pathologic chemistry of the gastric contents.

The percentage of red and white blood corpuscles, serum, hæmoglobin, blood iron, fibrin, mineral salts, the normal or disturbed isotonicity of red corpuscles and plasma, coagulability, the presence of an excessive amount of blood pigments, biliary pigments, biliary acids, uric acid, leucin, tyrosin, xathine bases, etc., are some of the important clinical facts to be ascertained in the chemistry of the blood.

A chemical examination of the exudates, transudates, products of pyogenic inflammation, contents of cystic growths, etc., aid us very materially in our efforts to ascertain the pathology and etiology of many diseased structures of the body.

We shall not attempt to enumerate the unlimited number of clinical facts that can be observed in pathological physiology and pathological anatomy or histology. Without this enumeration we can clearly see that we have many ways or methods of making diagnoses.

To illustrate more fully, we will take for example a case we have not seen—a patient who, we learn, was taken sick suddenly with a chill, fever, rapid breathing, cough, expectoration of blood, and of rusty-colored sputum.

A diagnosis of pneumonia from evidence like this is purely a *symptomatic* diagnosis, or a diagnosis solely from clinical history of case.

We see a second patient who is also taken quite suddenly with fever, no cough, no pain, and no marked acceleration of breathing. We examine the lungs by percussion and auscultation and find dulness over the lower lobe of one lung, diminished vesicular murmur, crepitant râles, bronchial breathing, prolonged expiratory sounds, and increased vocal fremitus. A diagnosis of pneumonia based on such an examination is called a *physical* diagnosis.

A patient with a chronic cough and who expectorates a mucopurulent secretion hands us a specimen of his sputum. We examine it microscopically and find it contains many tubercle bacilli. A diagnosis of pulmonary tuberculosis by clinical evidence of this kind is called an *etiological* diagnosis.

We examine a specimen of urine and find a specific gravity of 1035. By Trommer's test or Haine's test or some other reliable test we find that the specimen contains an abundance of sugar. A diagnosis of diabetes mellitus by this means is called a *chemical* diagnosis.

We examine, microscopically, a thin section of a tumor, and find it is composed of round or spindle-shaped cells of varying size, arranged about large protoplasmic bodies called giant cells, with very little intercellular stroma. A diagnosis of giant-celled sarcoma by this method is called an *anatomical* or *histological* diagnosis.

Differential and direct diagnosis and also diagnosis by exclusion are still other valuable methods that can be used in many cases.

When we take into consideration or use several or all of the different methods of diagnosis which are applicable to a given case, we call it a *clinical* diagnosis.

A full and complete clinical diagnosis, therefore, is the practical application of all the methods of diagnosis, physical, chemical, microscopical, etc., that can be used in a given case. All microscopical, chemical, etiological, and histological diagnoses are usually called laboratory diagnoses.

As these so-called laboratory diagnoses embrace such an important part of a thorough and complete clinical diagnosis, the bedside clinician ofttimes finds his work very meagerly done, owing to the fact that the laboratory facilities are not at hand.

In cases in which the diagnosis is unsettled, or in various complicated cases in which consultation is sought, it is often unsatisfactory to the patient and frequently of but little more satisfaction to the attending physician to be compelled to wait for the consulting pathologist to return to his private laboratory and examine for himself the specimens of blood, sputum, urine, gastric contents, etc., and report on them at some future time.

These methods of practice result very often in an incomplete or incorrect diagnosis at the bedside, as the subsequent laboratory examinations frequently prove. They are not only very often unsatisfactory to the patient and his physician, but such methods of work fail entirely in demonstrating to the attending physician the pathological facts or etiological factors revealed by the clinical laboratory examinations.

Besides, in cases in which the diagnosis cannot be positively made without a microscopical examination of the blood, or a chemical examination of the urine, in which immediate treatment is imperative, delays of this kind may often prove to be perilous to the interests of the patient, as in diabetic coma, uræmic intoxication, septic coma, grave cases of dysenteric, gastric, comatose, hemorrhagic, and algid forms of pernicious malaria, etc.

To overcome this difficulty to a very large extent the writer has devised a portable miniature laboratory-in-hand case for use at the bedside in clinical work.

The same idea has been presented to the profession in this country by Dr. Camac of New York City, who planned a less complete case called the "Camac portable-clinical-apparatus case."

The small portable laboratory, as herein shown, is accompanied with a portable microscope, such as is used by Dr. Thayer in clinical work by the bedside.

By means of this outfit all practical methods of diagnosis by clinical chemistry and clinical microscopy can be made at the bedside of a sick patient.

The portable-clinical-apparatus case is nineteen inches long, sixteen inches high and seven inches wide. Its weight with contents is twenty-nine pounds.

The case of portable microscope is nine and three-quarter inches long, six inches wide and two and three-quarter inches high. Its weight with microscope and accessories is six and one-quarter pounds.

The clinical-apparatus case contains the following list of articles: Stethoscope, stomach tube, ophthalmoscope, hæmocytometer, Tallquivists' hæmoglobin scale, small centrifuge, urinometer, ureaometer, six urinary test tubes, small vial of blue lithmus paper, small vial of red lithmus paper, filtering paper, small funnel, straight-glass pipette, six inches long; curved graduated pipette, with rubber bulb for ureaometer; fine platinum loop on glass rod, coarse platinum loop on glass rod, two pairs of cover-glass forceps, one pair of glass slide forceps, dissecting needle, small lancet, small glass dropper, four culture tubes with culture media for diphtheria bacilli, typhoid bacilli, and various pyogenic microorganisms; one tube of fresh culture of typhoid bacilli for Widal test, two swab tubes, one-half ounce cover glasses, two dozen glass slides, two small staining cups, two concave glass slides for Widal test, one-half ounce Canada balsam, one-half ounce oil immersion, one-half ounce Ehrlich's triacid stain, one-half ounce watery solution methylene blue, one-half ounce carbol fuchsin, one-half ounce of one-half per cent. sodium nitrite solution for diazo-reaction of urine, one-half ounce ferri chloridi for Uffelmann's test for lactic acid in gastric contents, one-half ounce dimethylamidoazobenzol solution, one-half per cent. in alcohol; one-half ounce Lœffler's methylene-blue solution for staining diphtheria bacilli, one ounce Haynes' solution, for diluting blood in glass pipette in counting red corpuscles; one ounce solution for diluting blood in counting white blood corpuscles, one ounce one-per-cent. solution formalin in 90 per cent. alcohol, one ounce sulphuric ether, one ounce nitric acid, one ounce acetic acid, one ounce silver nitrate solution for precipitation of chlorides in urine, one ounce solution for precipitation of phosphates in urine, one ounce Roe's test for bile, one ounce chloroform, one ounce hydrochloric acid, one ounce Haines' solution for detecting sugar in urine, one ounce two per-cent. solution of carbolic acid in water for Uffelmann's test for lactic acid in gastric contents, one ounce stronger ammonia, one ounce bromine in bottle in metal case with screw top, two ounces commercial alcohol, two ounces absolute alcohol, two ounces sulfanitic-acid solution for testing urine for diazo-reaction; two ounces of 40 per cent. solution caustic soda. The case also has room for other solutions which may be desired in other special clinical tests.

The following are some of the most important clinical facts that can be ascertained at the bedside of patient by the above outfit:

Number of red corpuscles per cubic millimeter of blood; number of white corpuscles per cubic millimeter of blood; percentage of hæmoglobin, color index; the presence or absence of microcytes, macrocytes, and poikilocytes; the size of the red corpuscles, whether smaller than normal size (microcytosis) or larger than normal size (macrocytosis); the presence or absence of mononuclear, leucocytosis (lymphocytosis lymphatic leukæmia); a normal or diminished hæmoglobinic tint of red corpuscles indicating a normal or diminished amount of hæmoglobin; the presence of an abnormal amount of fibrin in blood by an increased density of the fibrin network, or fibrin threads in plasma between corpuscles.

The presence of malarial infection may be determined by the following evidences in the examination of fresh blood specimens: (1) By the presence of the plasmodia in the red-blood corpuscles; (2) By an abnormal amount of free vibratory blood pigment in plasma; (3) By pigmented leucocytes; (4) By sporules in the plasma; (5) By the presence of crescents or ovoids or fully-developed gametocytes.

By fixing and staining the blood specimens the following clinical facts can be determined:

The presence or absence of normoblasts, microblasts, and megaloblasts—nucleated red corpuscles found in grave anæmias; the presence or absence of acromatophiles or polychromatophiles; the presence or absence of polynuclear leucocytosis (inflammatory or suppurative leucocytosis); the presence of lymphatic leucocytosis, as found in lymphatic leukæmia; the presence or absence of myelocytes, as found in myelogenous leukæmia; the presence of an abnormal number of eosinophilic leucocytes.

The following are some of the bacteriological and chemical examinations and tests that can be made: The blood serum test, or the Widal test, in the diagnosis of typhoid fever; the detection of tubercle bacilli, pneumococci, staphylococci, streptococci, etc., in the sputum; the presence of these microorganisms and others in the various secretions and excretions of the body. Histologically, evidences of disease may be found by the presence of an abnormal number of alveolar cells from air vesicles of lungs, epithelial cells in urine from tubules of kidneys, excessive amount of squamous epithelium from bladder, shreds of mucous membrane from stomach in gastric contents, etc.

In examination of urine the following chemical and microscopical examinations can be made and the clinical facts as stated below ascertained: Specific gravity and reaction of urine; percentages of chlorides, phosphates and urea; the presence or absence of sugar, albumin, bile pigment, and indican; the presence or absence of the diazo-reaction; the presence of an abnormal amount of uric acid, oxalate of calcium crystals, or other abnormal constituents, as leucin, tyrosin, etc.; the presence of triple phosphates, ammonia-magnesium phosphates, as are frequently found in fresh specimens of alkaline urine in chronic cystitis; the detection of granular hyaline and epithelial casts, pus, blood, gonococci, colon bacilli, tubercle bacilli, streptococci, staphylococci, etc.

In examination of a specimen of gastric contents the presence or absence of free hydrocloride acid and lactic acid can be readily determined.

The case also contains sterile culture with proper culture media for the diphtheria bacillus, typhoid bacillus, and the most common pyogenic microorganisms. We might add other microscopical and chemical examinations to the above list which can be made by means of this outfit, but we think we have enumerated a sufficient number to prove the utility and practicability of this portable laboratory outfit in clinical work by the bedside.

Figure 1 shows the microscope case and the clinical-apparatus case closed with contents inside.

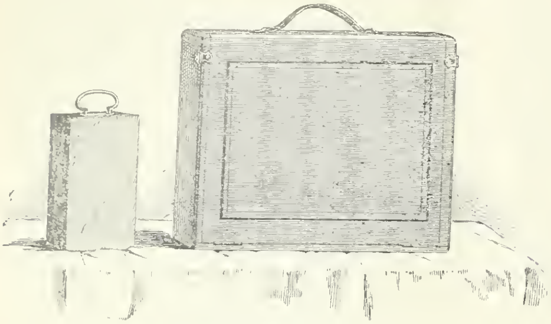

Fig I.

Figure 2 shows both cases open and most of contents on the outside ready for microscopical and laboratory work.

The career of pathology as an applied science in clinical work by the bedside can hardly be said to have more than begun. For years past we have had college pathologists and laboratory pathologists, but the customs and practices in medicine, heretofore, have certainly been at fault in not offering greater inducements and more encouragement toward the permanent establishment of practical methods and proper facilities whereby we can add, more rapidly, to the profession more thoroughly competent bedside pathologists.

The above outfit has been devised and brought to the attention of the profession with a view of taking a step toward the encouragement of a clinical application of pathology in bedside work. It must be conceded that it is of the utmost importance that the study of clinical pathology and laboratory pathology be intimately associated.

In practical work we cannot separate the clinician and pathologist. We trust that these methods of clinical work, as herein suggested, will be a step in bringing closer together the work of clinical medicine and pathological medicine, and by so doing, will aid the modern diagnostician in becoming what is so much desired and so much needed—a practical, clinical, bedside pathologist.

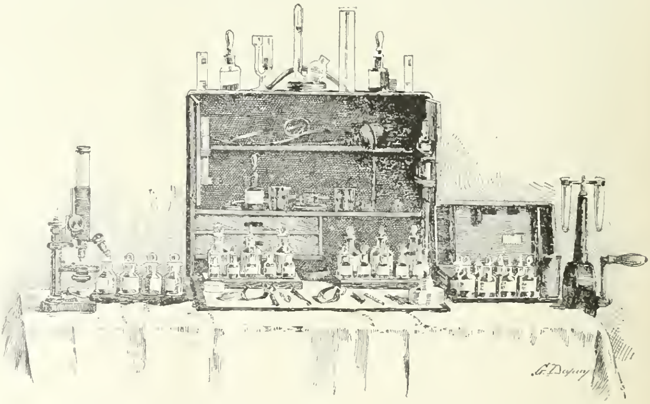

Fig. II.

Rheumatoid Arthritis.—F. B. Hamilton believes that in his own case and three others the cause of the arthritis was spinal irritation. In war time he received a gunshot wound which injured the sixth cervical vertebra, and twenty-one years later he began to suffer, all the joints of both extremities becoming involved. He is a complete wreck. The only three remedies that have relieved his pain (and this they have done for the past two years) are iodide of sodium in ten-grain doses, piperazin, and a tonic composed of quininæ suplh., ferri redact., āā ʒi; ext. nucis vom., zinci phosphidi, āā gr. x; acidi arsenosi, gr. iv; ext. gentian, ʒi. M. et fiant caps. No. 60. One after each meal —*Memphis Medical Monthly.*

A Case of Acute Tuberculosis of the Peritoneum.—Dudley P. Allen reports the case of a young woman of nineteen years, previously in good health, although not robust, who, on April 15, suddenly had a feeling of chilliness and some general abdominal pain, which by evening was referred to the right iliac fossa. The next morning, when admitted to the hospital, her temperature was 103°, pulse 120. The case was diagnosed as one of acute appendicitis, but, on opening the abdomen, the appendix was found to be normal, while masses, resembling tuberculous material, were found studded all over the intestines, and the peritoneal surface of the abdominal wall. A mass was found filling the pelvis posteriorly to the right of the broad ligament, but, on attempting to shell it out, it ruptured, and a considerable amount of yellowish, purulent material escaped. The conclusion was reached that it represented the right ovary, but it could not be removed, and all that could be done was to drain the cavity. The author holds that cases of even advanced tuberculous peritonitis should be operated upon—some of his patients remain in good health at the present time, many years having elapsed since operation.—*The Cleveland Medical Journal.*

The Leucocyte Chart in Pneumonia.—John T. Hewetson concludes, from his researches, that the leucocytosis of pneumonia is due entirely to an increase of the polynuclear finely granular oxyphiles, and probably begins on the first day of the illness. If the patient's reaction is vigorous, and the dose of toxin not overwhelming, the leucocytes increase steadily day by day, reaching their maximum about the day of the crisis. In mild cases, however, the leucocyte curve may anticipate the crisis and commence to fall before that day, whereas in severe cases the leucocytic increase is maintained for several days after the crisis, and then falls gradually. A mild attack of pneumonia gives rise to a mild degree of leucocytosis. A severe attack with vigorous reaction produces a high degree of leucocytosis, and a severe attack with poor reaction produces little or no leucocytosis. It is probable that a falling leucocyte count, as well as an absence of leucocytosis prior to the crisis in a severe case of pneumonia, is to be regarded as a clinical phenomenon of very grave omen. On the other hand, it must not be assumed that every case of pneumonia giving a definite leucocytosis will recover.—*The Birmingham Medical Review.*

MEDICAL RECORD:

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TYPHOID FEVER.

THE annual epidemic of typhoid fever, which seems to be upon us earlier than usual this year, is directing attention anew to the mode of extension of this scourge. When the water-borne theory of typhoid fever was first preached, and especially when the late Mr. Ernest Hart lent the aid of his eloquence and enthusiasm to the propaganda, the problem seemed to have been solved, and the tea-kettle policy was accepted as one the general adoption of which would ensure the abolishment, not only of typhoid fever, but of cholera, dysentery, and many other of the plagues of mankind. And, indeed, the installation of pure water supplies in many of the typhoid centers of the continent of Europe did reduce the morbidity from this disease most remarkably. The same result has followed the purification of water supplies or the introduction of filtration systems in this country, and the cities where the disease prevails most extensively at this writing, such as Philadelphia and Chicago, are notorious for dirty water.

But these facts prove only that water is one medium for the conveyance of the germs of typhoid fever; they do not prove that those germs may not be transported by other agencies. On the contrary, they prove that there must be other modes of spreading the disease. In New York City, for example, at least in the Boroughs of Manhattan and The Bronx, the water supply is, for the greater part of the year, above reproach, and even when, in the autumn, the water is tinctured with decaying vegetation and is more or less disagreeable to sight and taste, repeated examinations fail to reveal in it any evidences of typhoid contamination; nevertheless, in the last week of August over two hundred cases of typhoid fever were reported to the Board of Health, and the deaths from this cause numbered more than from any other reported disease, except tuberculosis. In many of these cases the disease was acquired elsewhere, the sufferers having brought the germs with them on returning from their summer holiday, but in others, in those who have not been outside of the city, infection must have occurred here, and otherwise than through the drinking water. Again, in Chicago, where the water supplied to a large part of the city is admittedly bad, the curious fact has been noted that the greatest mortality from typhoid fever is in the district supplied with the least contaminated water. Investigation, prompted by this discovery, has revealed another fact that the disease prevails most in the so-called "Ghetto," where the people are prone to the consumption of raw vegetables, the supply of which comes from market gardens in the suburbs which have been flooded with the overflow from vaults and cesspools.

Other modes of dissemination of typhoid bacilli there doubtless are. The experience of the Spanish war directed attention to the part played by flies in the spreading of infection. Dr. Prudden long ago showed that the specific germ of the disease could be sealed up in ice cut from contaminated ponds and set free with its vitality unimpaired when this ice was melted in the drinking glass, and recently Dr. Veeder has advanced, in the MEDICAL RECORD, very convincing arguments in support of his belief that one prolific source of typhoid infection—possibly a main source in rural districts—is soil contamination.

These and other facts prove conclusively that it is not safe to accept the water-borne theory to the exclusion of all others, and even the boiling of water, while a most necessary precaution wherever the supply is not above suspicion, is not sufficient. Infection through food must be guarded against as well. And, of course, for the sake of others, all discharges from a person sick with typhoid fever must be sterilized before being thrown away. The measures detailed in one of the tracts issued in times of emergency by the efficient Health Commissioner of Chicago, if faithfully executed, would suffice, in a short time, to take typhoid fever out of the domain of practical medicine and make it of historical interest only. These are, briefly: Boil all drinking water for twenty-five or thirty minutes. Pasteurize all milk and cream. . . . Wash your hands carefully before handling any article of food or drink. . . . Wash thoroughly all vegetables and fruit intended to be eaten raw. Wash in water that has been boiled and then cooled. Keep flies out of the house as much as possible. . . . Cover all food supplies, so that flies may not have access to them. Disinfect every discharge [of a typhoid-fever patient]. . . . Sulphate of copper (blue vitriol) is the best typhoid disinfectant—one pound (costing ten cents) dissolved in two and one-half gallons of water. Keep a pint of this in the vessel for discharges from both the bowels and the bladder. Stir thoroughly for a few minutes; let stand for fifteen minutes and the poison will be destroyed."

However the poison of typhoid fever may be conveyed from the sick to the well, we know where it is elaborated, and if the supply of fresh material could be shut off, that already existing—whether in water or in the soil, or floating as dust in the air—would soon become exhausted. The first duty, therefore, of the physician attending a case of typhoid fever, especially in the country and in towns where the sewage empties into a river or is used for fertilizing, is to insist upon the complete disinfection of fæces and urine. In no other way can the community be protected.

Yellow Fever in Spain?—In a despatch from Madrid, under date of September 10, it is stated that a number of cases of a disease having pronounced symptoms of yellow fever have been reported at Pazos Borden, in the Province of Pontevedra.

REORGANIZATION OF BELLEVUE AND ALLIED HOSPITALS.

THE first report of the recently appointed trustees of the above public institutions was handed in for the consideration of the Mayor of New York City on July 1. The fact that these hospitals are in few respects fitted for the work for which they were established has not only been notorious for a considerable period, but for the past two or three years has been widely advertised in journals, both lay and medical. The MEDICAL RECORD has been prominent in making public the conditions prevailing in Bellevue Hospital, and has been especially energetic in the demand that it and its allied hospitals should be placed as quickly as possible upon a proper footing.

The appointment of a board of trustees composed of honorable and trustworthy citizens, whose president, a physician of high repute and wide experience particularly qualifies him for the position—is a step in the right direction, and may be taken as an earnest that radical reforms will be introduced, and that the public hospitals of New York City in place of being a reproach will become a credit to the metropolis of the United States.

In regard to Bellevue Hospital the report says: "Some of the unfavorable conditions we have been able to improve, others, in spite of all our efforts, remain practically unchanged. They can only be remedied, in our opinion, by the erection of an entirely new hospital in the place of the collection of buildings that has borne that name for so many years. The main structure, which contains 718 of the 939 beds of the whole hospital, was erected in 1817, eighty-five years ago. It was used as an almshouse until 1846, when the paupers were transferred to new buildings especially planned for them on Blackwell's Island, leaving this old building to serve as the chief public hospital of New York City. This it has done to this day, and has never been remodeled nor substantially altered from its original design. All the patients must still be received and examined in the one room in the basement, with its poor light and bad ventilation.

"There are between eighty and one hundred applicants for admission a day, and men, women, and children are received into the same room, there being no other available. All varieties of disease and injury follow each other in rapid succession throughout the day and night, and patients must often be transferred to the wards before a proper diagnosis can be made. During the past five months upward of 4,118 ambulance cases alone were brought to the door of this room. Here may be seen the very sick, the intoxicated, the insane, and even those who have been fatally injured.

"Under such conditions the quiet and privacy necessary for a proper and thorough examination are impossible."

Reference is made to the insufficiency of the accommodation of the house staff, there being but sixteen rooms for the forty-three physicians, and to the extremely bad conditions which exist in the quarters provided for the employees. The pay, too, of the "hospital helpers" is shown to be wretchedly inadequate, the result being that the class of help obtained is, as a rule, inefficient and untrustworthy, and is responsible for many of the scandals that have occurred in the institution during the past few years.

The Board of Trustees, feeling the need of more expert observation, called to their aid several of the other departments of the city; namely, the Bureau of Buildings, the Fire Department, the Department of Health, and finally the New York Board of Fire Underwriters. These reports are given with that of the Board of Trustees, and afford further and conclusive evidence of the pressing need of immediate and radical reform in the management and construction of Bellevue and its sister hospitals. The administrative changes of note which have been undertaken by the Board of Trustees are the reorganization of the nursing service and changes in the pavilion for the insane. The responsibility for the nursing of patients in Bellevue Hospital has been hitherto divided between two schools, the New York Training School for Women Nurses and the Mills' Training School for Male Nurses. The former school has had charge of the wards for women and children, and the latter school the wards for the men. The two schools are entirely independent of each other, and each has had its own superintendent. This arrangement is peculiar to Bellevue and has been the source of some of the many evils that have afflicted this hospital. In other hospitals all the patients, men and women, are nursed by women; men being employed in the male wards simply as orderlies to assist in the heavier work. In Bellevue the men's wards have been utilized to train male nurses, no women entering them, except the superintendent of the school. In this the Board consider that the hospital has rendered a service to the public, but has not been quite just to its own patients. The Board believes, as do the Medical Board of Bellevue Hospital and the New York County Visiting Committee of the State Charities Aid Association, that there should be a woman head nurse in charge of every ward in the hospital—except in certain wards—with one or more male nurses under her in the male wards to do such work as is too heavy for women or as can more properly be done by men. These male nurses should receive training as at present, but to secure the best possible nursing service in a ward it is necessary that the head nurse be a woman. The board of managers of the two training schools have become convinced of the soundness of these views, and have decided to place the entire nursing service under the direction of the Superintendent of the Training School for Women Nurses, with assistants to aid her in the instruction and oversight of the pupil nurses, both male and female. This centralization of authority will, it is believed, largely increase the efficiency both of the hospital administration and of the nursing service. Women head nurses have already been placed not only in the male ward of the pavilion for the insane, but also in charge of six other male wards in the hospital, and it is expected that the remaining male wards, with the exception of the male prison ward, the male alcoholic ward, and the male genitourinary wards will be supplied with women head nurses before the end of the year. Male nurses will be trained and graduated as before, but in somewhat smaller classes. Though fewer in number, they will be better nurses, as they cannot fail to profit by the constant oversight of women. The women nurses will also gain in experience, as the male wards contain nearly two-thirds of the patients in the hospital. A committee on nursing, consisting of two members of the Medical Board and two members of the Board of Managers of each of the training schools will supervise the general policy of the nursing service of the whole hospital. The changes in the pavilion for the insane have been on an extensive scale and thorough, so far as was possible. The pavilion itself has been considerably increased in size, and the patients have been placed in charge of an expert alienist.

Mechanical restraint has been abolished, except in cases where it is absolutely essential. Some changes have also been made in the building to permit of a better classification and separation of patients. The bathtubs are about to be removed and replaced by the spray system of bathing, thus doing away with a constant source of danger to the patients from broken limbs and scalding. An attempt has been made, with considerable success, to lessen the overcrowding of the pavilion.

The Board of Trustees recommend the establishment by the State of an acute psychopathic hospital in the city proper. Such institutions have been for many years in successful operation in several German cities, and would undoubtedly fill a long-felt want in New York City.

The report ends with a description of the conditions existing in the allied hospitals, which is, more or less, a repetition, differing but in details from that of Bellevue, and urges in eloquent terms the construction of an entirely new hospital, a new Harlem Hospital, and a new Fordham Hospital, as the only really satisfactory solution of the problem.

New York City, assuredly, should possess public hospitals in keeping with her wealth and advanced civilization; institutions which would be a source of pride to her citizens rather than a slur on their philanthropy and a reproach to their humanity. It is therefore to be devoutly desired that the report of the Board of Trustees may find favor with the Mayor and municipal authorities and be promptly acted upon.

ELEVATING THE STANDARD OF MEDICAL EDUCATION.

The manner in which youths are trained for the medical profession in many parts of the United States has long been a source of deep regret to conscientious physicians, as well as a means of lowering the estimation in which the art of medicine and surgery should be held by the general public.

That 6,000 men or more are yearly qualified as physicians and surgeons in this country is in itself an evil of no small import. The supply is greatly in excess of the demand, but the worst feature of the situation is that a large number of these individuals are incompetent to act as doctors by reason of their defective education. Many medical colleges are conducted entirely upon a money-making basis—the production of a well-trained medical man is quite a secondary consideration—the consequence being that a crowd of persons, badly equipped for the important work before them, are yearly permitted by law to practise the healing art upon the ofttimes unsuspecting and confiding layman.

There are signs, however, that the day of the notoriously inefficient medical college is approaching its end, or, at any rate, that such institutions are coming to be regarded with distrust and suspicion. A strong feeling is now abroad, both among members of the medical profession and enlightened laymen, that a physician before being allowed to practise should undergo tests, sufficiently convincing to show that he is capable of benefiting the community at large and of worthily upholding the honor of his craft.

In the first instance entrance examinations should be satisfying and rigid, and it would be to the best interests of all concerned if a law to this effect were enforced in every State of the Union. A uniform entrance examination for the candidates for the medical profession throughout the country is a necessary primary step, and its adoption would doubtless be followed by the raising of the standard of medical education generally. Several States led by New York, have insisted upon a uniform entrance examination, while others are considering the question. Michigan proposes to establish such a law.

If a law of this nature were made universal—as it certainly will be—most of the superfluous and useless medical colleges must cease to exist, the standard of medical education will be greatly raised, the profession will quickly reach a higher level, and the benefit to mankind will be correspondingly great.

CHRONIC NEPHRITIS.

No disease, not even cancer, has shown a greater increase than nephritis and other forms of kidney affection. Chronic nephritis, or Bright's disease, is obscure in origin, but the causative poison is doubtless initiated by imperfect or perverted action of the tissue metabolism.

The London *Hospital* of August 16 refers to the paper read on the subject by Dr. A. E. Elliot of Chicago at the recent meeting of the American Medical Association, in which he declared his belief that the absorption of toxic material from the intestinal tract plays the most important part in its etiology. The *Hospital* thinks that there is much to be said for Dr. Elliott's contention, and there certainly is this great thing to make one cling to it, namely, that if true, it throws a far more hopeful light upon the treatment of this disease if caught at an early stage, than seems to be cast by other and more generally accepted views as to its etiology. Dr. Elliot points out that when the kidneys fail in their excretory function, the liver cells degenerate, because of the toxic substances which are present in the blood; that the liver then fails to metabolize substances which come to it, and adds its own quota of toxic material to the blood, thus still further irritating the kidney, and that the vicious circle thus formed continually deteriorates the general condition of the patient.

Why kidney affections have increased at so rapid a rate, if Dr. Elliot's theory as to cause be correct, is not a difficult question to answer. The manner in which the majority of the rich and well-to-do persons of the present day live, particularly those in cities, naturally conduces to the conditions arising from intestinal troubles. The greater number of city people over-eat, not to say gorge themselves with rich and indigestible food, and in addition indulge in too much stimulating drink. They are likewise, for the most part, disinclined to exercise; the consequence of this combination of injurious practices and sins of omission being that upon the kidney is thrown the task of excreting toxins likely to hurt its tissue. What wonder then that the ordeal often proves too great, and that the poison permeates the system and widespread degeneration is set up.

If Dr. Elliot be right in his premises, and Bright's disease has its origin in the intestines, the treatment of the malady will be far more easy than if, as many affirm, perverted metabolism be the cause.

The Effect of Weather on the Death Rate.

The London *Hospital* of August 23 has a timely article on weather and mortality. In Great Britain, for the past few months, the weather has been singularly changeable and inclement, and the rainfall has been far above the average.

It would seem reasonable under such circumstances to anticipate an unusual mortality, but, so far as Great Britain is concerned, these gloomy expectations have not been realized; on the contrary, according to the recently issued quarterly report of the Registrar-General, the number of deaths during that period has been less than the average by some 23,000.

The report of the infant mortality is to the same effect the proportion of deaths under one year of age, compared with the birth rate, was 120 per 1,000, the average in the ten preceding second quarters having been 125. The writer in the *Hospital* advances the ingenious suggestion that the lessened death rate during seemingly unfavorable climatic conditions has, perhaps, been due to the greater care that persons have taken to preserve health. Nature has made us to take care of ourselves, and it seems as if we had not only reaped the reward, but as if we might derive therefrom a wholesome lesson for future guidance. It has been uncomfortable to do foolish things in the way of over-fatigue or exposure, and so people have abstained from doing them. Another reason which probably has tended toward the preservation of health, is that in large cities of Great Britain in which the atmosphere is notoriously laden with smoke and other impurities, the copious rainfall has cleansed the air and rendered it more pure and invigorating.

It would be interesting to learn what influence the uncongenial weather to which this continent has been subjected during the past few months has exerted upon the health of its population. If statistics similar to those of Great Britain should be forthcoming, current views as to the maleficient effect of rainy, changeable weather upon the health, may undergo a change, and inclement weather, in place of being regarded as an unmitigated evil, may be looked upon rather as a blessing in disguise.

The Value of Typhoid Inoculation.

Surgeon-Major Wright of the Army Medical School at Netley has recently made an exhaustive report on the results of antityphoid inoculations in South Africa. The medical officers urged at the beginning of the war that the opportunity be given to make extensive tests of the efficacy of the typhoid serum, but Lord Wolseley for a long time refused to permit inoculations, and it was only at the urgent solicitation of Lord Lister that he finally gave a grudging consent.

Professor Wright says that the success of the inoculations was unmistakable, for both the morbidity and the mortality were much less among the inoculated than among those who had refused to submit to the experiment. In proof of this claim he adduces the statistics of the garrison at Ladysmith. According to the summary of the report cabled to *The Sun*, of the 12,234 composing the garrison there, all of whom were exposed equally to typhoid infection, 1,705 submitted themselves to inoculation. In the period from November 2, 1899, until February 2, 1900, there were 1,489 cases of typhoid among those who had not been inoculated, and only thirty-five among those who had been inoculated, instead of about 250, which would have been their due proportion. There were eight deaths among those who had been inoculated to 329 among those who had not been inoculated. The death rates of the two groups were respectively .047 and 3.12. As a result of the diminished mortality, superadded to the diminution of incidence of the fever, is is claimed that the reduction of mortality from typhoid amounted to a fourfold reduction.

These statistics are, doubtless, comforting and cause the hope that the mortality from this scourge of armies may be reduced, but it must be remembered that the experiments cited were made upon soldiers in garrison and not on the march. Men who are marching under a burning sun in a hot and dry country will drink any water they see, no matter how polluted it seems to be or is, and not even military discipline will make them cherish their thirst for the twenty or thirty minutes needed to boil the water so as to make it safe. And again, even in garrison, the men who had enough faith in medical science to submit to a protective inoculation would also be much less disposed to disobey the sanitary injunctions laid upon them than would the careless or sceptical uninoculated.

The Philippines Health Problem.

Mr. James A. LeRoy, secretary to Professor Worcester of the late Philippines Commission, writes in the *Outlook* of July 26 on the above subject. As secretary to the said Commission, Mr. LeRoy enjoyed exceptional opportunities for gaining an accurate knowledge of the matter on which he discourses.

The occupation of Cuba has been of inestimable advantage to that island, so far as sanitary affairs are concerned, and although the situation in the Philippines in this respect is a much more complex one, yet corresponding benefits will doubtless be conferred on the inhabitants of the United States' far eastern possessions by the advanced hygienic methods introduced by American army medical officers. Mr. LeRoy pays a well-deserved tribute to the energy and executive ability displayed by these men, and recounts, at some length, the various schemes devised by them to fight successfully against disease.

In July, 1901, executive authority was transferred to civilians' hands, and military orders were replaced by organic laws for all provinces under civil control. Under these laws there was begun the organization of provincial boards of health, and of municipal boards as well, wherever native physicians could be found to lead them, responsibility for public health work thus being distributed, with centralized control in the general board at Manila, which is under the Department of the Interior, the president being Major L. M. Maus, temporarily detailed, and in which the native element also finds representation. Professor Paul C. Freer was summoned from Ann Arbor to organize a centralized plan of laboratories, chemical, and biological, for the making of virus, etc. Laws for the regulation of the practice of medicine and surgery, and of pharmacy, for compulsory vaccination, regulating the manufacture of alcoholic beverages, and others of like nature, were passed and put into execution. The combating of rinderpest, which had already destroyed in some provinces 75 per cent. of the draft animals, was carried on; and a campaign was inaugurated against the plagues of locusts, which have, periodically, for centuries scourged the islands and reduced regions to the verge of famine, a fungus disease being imported from South Africa and introduced among the flocks of locusts in province after province.

Rats have been killed on a wholesale scale. A vigorous campaign of vaccination has been carried on, and a strenuous war has been waged against cholera.

With regard to the lack of physicians in the Philippines, Mr. LeRoy has this to say: "Except for the comparatively few educated in Europe, to be found in the most important cities, the native physicians got their equipment at the friar-directed college of St. Joseph at Manila." Editions of the "standard" authorities in use there date back to 1845; the teaching of anatomy is a farce, and, it is said, no female cadaver has ever been dissected there; until within the past few years bacteriology was not taught at all, and, unless they have been bought very recently, it is now taught without microscopes. Comment is superfluous.

That benefits of no mean order have been gained through the American occupation of the Philippines is shown by the very considerable decrease in the death rate of Manila—wholly due to the energetic action of those responsible for the sanitary supervision of the city.

As time goes on, a further improvement in the general health of the inhabitants of the Philippines under American control will surely be manifested.

News of the Week.

New Hospitals Needed.—The report for the five months ending June 30, of the Board of Trustees of Bellevue and allied hospitals, of which Dr. John W. Brannan is president, has been made public. It contains much information of a most startling character to the greater part of the community, both lay and medical, though to those familiar with the public hospitals of the city, and especially with Bellevue, the facts set forth in the report have long been known and deplored. Among other defects at Bellevue, referred to by the Trustees, are the inadequate facilities for the reception of and examination of patients, the overcrowded sleeping rooms of the house staff, the dark and unwholesome quarters of the employees, the indecent condition in the prison wards, the unsatisfactory methods of cooking and serving the food of the patients, and the antiquated and insanitary character of the plumbing throughout. The prison wards are in the basement. The men's ward is about 40 feet long by 20 feet wide and 8 feet high, with two windows on only one side, giving about 500 cubic feet of air to each of the thirteen beds, the minimum exacted in the tenement-houses by the Board of Health being 600 cubic feet. In summing up their views the Trustees assert that there is but one remedy for the conditions set forth, and that is the construction of an entirely new Bellevue, a new Harlem Hospital and a new Fordham Hospital. A new Harlem Hospital is already assured, the site having been purchased and an appropriation for the new building having been approved by the city authorities. Certain steps have also been taken toward the erection of a new Fordham Hospital, the State Legislature having at its last session passed a bill authorizing the expenditure of $500,000 for site and building. The need for a new Bellevue is even more imperative, and as the construction of a hospital of such a magnitude, will necessarily extend over several years, the report urges that it be authorized at once.

About the same time that this report was published, Mayor Low issued a "talk" on the Health Department, in which he virtually pledged his administration to increase the number of hospitals for the treatment of contagious diseases, and to provide for the purpose a fund of $2,000,000, to be expended in the next three years. After commenting on and commending the official labors of Health Commissioner Lederle, he pointed out the great need of the city for more hospitals for treatment of infectious diseases. London, he said, has 6,500 beds, or one for each 1,000 of population; New York has only 750 such beds, one for each 5,000 of population. New York, through an issue of bonds this year, is adding 225 beds. In New York only nine and one-half per cent. of cases of infectious diseases are treated in hospitals, and the Mayor believes the city can no longer afford to neglect this great element of safety.

A synopsis of the general plan for the new hospitals by Mr. R. C. W. Wadsworth, secretary to the Commissioner, is given in *Charities.* It is planned to devote the hospital on North Brother Island to smallpox patients and convalescents. This arrangement will relieve the wards of the other hospitals. Much preliminary work has already been done on the island. A nurses' home and a sun parlor for convalescents will be erected

The most important step planned is the erection of a large hospital for the treatment of scarlet fever. This will be at the foot of East Sixteenth street, will be six stories high, and will be, possibly, the largest hospital in the world for the treatment of scarlet fever. A disinfecting plant will be constructed, a laundry, a new morgue, ice plant, electric lighting plant, and storehouse. In order to meet the immediate demands in Harlem a disinfecting plant will be established there also, and a tract of land will be purchased for the erection of a hospital. At the Kingston Hospital in Brooklyn additional pavilions will be erected and the Sinking Fund Commission will be asked to provide funds for the purchase of adjacent property. The low ground on which the present buildings stand will be filled in, and the new buildings will be erected on the more elevated site adjoining. A nurses' home, electric lighting plant, and ice plant are also planned. Separate hospitals for the treatment of contagious diseases, smaller but complete in detail, are planned for the Bronx, Queens, and Richmond. A disinfecting plant is already erected on the present poor farm, in the center of Staten Island. These borough hospitals will not maintain forces of nurses and employees the entire time. With but one or two cases to deal with, the expense would be less to transfer patients to the Manhattan institutions. But the borough hospitals will stand in readiness in case of an epidemic.

Closure of a Medical College.—It is announced that the Cincinnati College of Medicine will not reopen this autumn, the reason for this being that the new State law requiring a rigid entrance examination has reduced the number of students below the limit necessary for the support of the institution. Other States are falling into the procession led by New York in demanding that their medical graduates shall possess a decent general as well as professional education, and just in proportion as the procession lengthens so will the number of medical students diminish. But with reduction in quantity will come improvement in quality, and so the standard of the profession and the standing of the practitioner will be raised, widening the chasm between the qualified medical man and the quack, until even Mark Twain will be able to distinguish one from the other.

Discontent in the Bellevue Training School.—The members in the junior class of the Bellevue Training School for Female Nurses are said to be circulating a petition which will complain against the rules of the institution as set down by the new superintendent. One of the most objectionable of these rules, and it is believed the main cause of the discontent, provides that the students shall speak to the physicians and male nurses only on matters of business, and shall hold no conversation whatever with them outside of the hours of duty.

A New Method of Sex Control.—An ingenious Russian official, in command of a Cossack station near the Caspian Sea, has invented a method of sex control, which threatens to rival that of the late Professor Schenck. Being anxious that his district should make a good showing in the matter of boy babies, this consistent underling of the most paternal of governments has decreed that henceforth none but male children shall be generated in the country under his command. In order to make this law effective, he has ordered that the father of every girl baby born in the district shall be punished with fifty lashes with the knout. The veracious correspondent who sends this story to a London paper adds that already several men have received their fifty strokes for failure to comply with the law.

Compulsory Vaccination in France.—A law has recently been enacted in France making it compulsory upon parents to have their children vaccinated during the first year of life, and upon all persons to be revaccinated at the age of twenty-one or within one year thereafter.

Cholera on a Transport.—The transport *Sherman*, which was quarantined for ten days at Manila, arrived at Nagasaki on September 11 with four cases of cholera on board. There were three deaths during the voyage from Manila, and the transport was again quarantined. This is the first time cholera has appeared on a transport after the period of detention at Manila had passed and the ship had been allowed to sail.

Bequests to Philadelphia Hospitals.—By the will of the late Miss Harriet S. Benson, who was regarded as the richest woman in Philadelphia, and had been known all her life as a philanthropist, bequests were made as follows: $10,000 each to the Homœopathic Hospital, the Children's Hospital, the Home for Incurables, the Philadelphia Orthopedic Hospital; $5,000 each to the Pennsylvania Hospital, the Philadelphia Polyclinic, the Medico-Chirurgical Hospital, the Pennsylvania Training School for Feeble-Minded Children, Howard Hospital and Infirmary, Wills Eye Hospital, Hahnemann Medical College, Women's Hospital, Gynecean Hospital, Maternity Hospital, the Women's Homœopathic Hospital, the Children's Homœopathic Hospital, and St. Luke's Homœopathic Hospital.

Expensive Smallpox.—The village of Ossining, N. Y., had three cases of smallpox last summer, and treated them on a houseboat in the river, which was hired at a cost of $225. The launches, towboats, and other craft required to convey the doctor and others to and from this boat cost $325. The provisions cost $375, including $125 for whiskey for the three patients. The bill of the physician, who made fifty visits in twenty-five days, was $2,000, and a number of nurses and attendants expect to be paid at the rate of from $5 to $10 per diem each. In addition, there is a bill of $180 for clothing, and sundry claims for damages, which the village trustees are called upon to pay. Such, at least, is the report of the cost of the outbreak, which was published in the daily paper, and the cost seems rather great.

Major Ronald Ross Coming to America.—A despatch from Liverpool announces on the authority of Sir Alfred Jones, president of the Liverpool Chamber of Commerce, that Major Ronald Ross of the School of Tropical Medicine, and formerly of the Indian Medical Service, who has done so much for the sanitation of many of the malaria-infected regions of western Africa, is shortly coming to this country in response to an invitation to investigate malaria.

Backsliding Cuba.—It was reported in the papers one day last week that the employees in the Sanitary Department of Santiago de Cuba had struck work. The streets were no longer swept, and no rubbish had been moved for two days. The cause of the strike was that the men had not been paid for two months. The city is said to be in a filthy condition.

The Unification of Heroic Remedies.—Of the several congresses of an international character, held in Brussels this month and last, not the least important is one which met this week. Its object was to arrange a standard of strength, to be followed by every national pharmacopœia, for preparations of the most powerful drugs, such as aconite, digitalis, belladonna, etc. At present there is such a diversity in this regard, that in the case of some drugs the maximum dose of a preparation made after the directions of one pharmacopœia might prove fatal if a preparation of the same name, made according to another pharmacopœia, were substituted. The delegate to this congress from the United States was Dr. Horatio C. Wood of Philadelphia.

The Lane Medical Lectures.—The seventh annual course of these lectures were delivered at the Cooper Medical College, San Francisco, during the last week in August, by Mr. C. B. Ball, Regius Professor of Surgery at the University of Dublin.

Obituary Notes.—Dr. EDWARD B. VANDYKE of Philadelphia died at Sunset Point, Rock Hill, N. J., on August 31, at the age of sixty-seven years. He was a graduate of the medical department of the University of Pennsylvania in the class of 1856.

Dr. J. FRANCIS HAMILTON died at Philadelphia on September 1 at the age of thirty-two years. He was graduated from the Medical Department of the University of Pennsylvania in 1893, and was visiting physician to St. John's Orphan Asylum.

Dr. WM. J. WENTZ died at New Providence, Lancaster Co., Pa., on September 5 at the age of sixty-four years. He was a graduate of Jefferson Medical College in the class of 1865, and one of the organizers of the Lancaster County Medical Society.

Dr. WM. O. XANDER died at Philadelphia on September 7 as the result of injuries received in being thrown from his carriage by the running away of a horse he was driving. He was a native of Carbon County, a graduate of Palatinate and Ursinus Colleges, and of the medical department of the University of Pennsylvania in the year 1895. He was thirty-five years old.

Dr. CHRISTOPHER M. BELL of Newport and New York died at Baden-Baden, Germany, on September 3. He formerly practised in this city, but of late has resided at Newport. He was traveling with his wife for recreation at the time of his death.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

QUESTIONS RELATING TO PUBLIC HEALTH—LOCAL GOVERNMENT BOARD'S REPORT—AN EXACTING NURSE—TRANSACTIONS OF THE TUBERCULOSIS CONGRESS—"BRITISH ACADEMY."

London, August 29, 1902.

Sir C. Cameron's address, briefly mentioned in my last, was delivered in the Section of Preventive Medicine and Vital Statistics of the Royal Institute of Public Health, the annual meeting of which has just been held at Exeter. Besides the point I noted, Sir Charles said he thought it would be announced that the experiments in Essex completely negatived the theory of Dr. Koch. It did not seem to be thoroughly established that human and bovine tuberculosis were distinct diseases. Was it possible that the bacilli of man might be identical with those of cattle, though not so potent? Until we had further and absolutely reliable information sanitary authorities would not be justified in permitting the sale of the flesh of animals which were seriously affected, or the milk of cows which had ulcerated udders. He also pointed out how typhoid was caused by a polluted condition of the soil, and said legislation was needed to prevent pollution of oyster-beds and similar places. He also expressed the opinion that new clothes should be sterilized before being worn, as it was proved that they might become infected with scarlet fever, measles, smallpox, or other diseases whilst being made.

In the Veterinary Section, of the same Congress, Mr. Eaton Jones read a paper on Veterinary Supervision in the Housing of Domestic Animals. He said the first care of the veterinary surgeon was to see whether the patient was affected with a disease likely to be injurious to the community—anthrax, rabies, foot and mouth disease, sheep scab, swine fever, tuberculosis, and so on. He then discussed the housing of animals in relation to their health, and that of persons connected with them. His excuse for detailed remarks on this subject was the deplorable state in which he had seen stables and cow-sheds. He needed no such plea, for I think most people have seen animals, particularly cows, huddled together as closely as they could be packed, with no ventilation and no drainage worth the name. The paper was well received and elicited commendatory remarks. The president said the institute was anxious to secure a closer alliance with veterinary surgeons.

Mr. P. G. Bond, M.R.C.V.S., then read a very interesting paper on the "Genesis of Smallpox." He mentioned the old pathological error of the malignancy of cowpox as due to its being confounded with cattle plague. He mentioned, too, that Benjamin Jesty inoculated for cowpox in 1774, which was twenty years before Jenner began his experiments. Other papers on vaccination were also submitted to this congress.

The subject of housing of the working class was taken up with vigor, and, after discussion, a resolution was adopted urging the government to give effect to the recommendation of the Relief Committee.

Another resolution adopted was in favor of appointing a minister of public health. This question was raised in a paper by Mr. Poyntz Wright, which met with considerable support. I do not, however, expect the government will be influenced by the opinions elicited, for the proposal has been urged from time to time, for I know not how many years. Much as there is to be said in its favor, there are some objections, and much as the medical profession would approve, there is no likelihood of the public supporting the plan. Unfortunately, the public is very distrustful of sanitarians—perhaps I should rather say, a section of the public—and any movement in that direction is thought to be costly.

The Local Government Board is our central sanitary authority, and has hitherto "muddled along" with a fair amount of success. But that Board is really a collection of so-called departments, of which the Medical Department is one, and, I fear, by no means the most influential. All that the Board has done to advance public health has been at the instigation of its chief medical officer, and perhaps the Board deserves credit for its admirable selection of the successive holders of that important position.

I fully agree with the Royal Institute that a completely organized ministry of health would be advantageous, but I have little hope of seeing it established within a reasonable period. The great minister who raised the cry *Sanitas, sanitas, omnia sanitas,* had no notion of so practical a result, and his followers have displayed no more zeal for sanitation.

There is one point worth noting in the sympathy felt for the plan. Some people seem to fancy that if a minister of health were appointed he would be an eminent medical man with great sanitary experience, such, for example, as the chief medical adviser of the Board They may give up the illusion. Any such office would go to a political placeman. Governments of all parties have no idea of conferring the best offices on those best fitted for them. If a mere doctor must do the work he must be engaged as a subordinate. The figurehead will have to be a hanger-on of party, who, whatever his qualifications, has to be provided for in some place—and that figurehead will draw the chief salary. The way in which, as I told you, the Registrar Generalship was lately filled up should disillusionize those who think a health minister would have to be a doctor.

The report of the Local Government Board for the year 1900-1901 has appeared. It is the thirtieth annual volume and contains, as usual, the report of the medical officer—Mr. Power. This only occupies twenty-six pages, but it summarizes the work of his staff and introduces their own reports, which are worthy of their predecessors. Vaccination, plague, and other subjects have served to keep the staff alert, and their scientific investigations are of great importance to the community and of interest to the profession.

The committee of a hospital at Swansea have resolved that the staff shall not publish a report until it has received their sanction. What next?

The nurse who prosecuted Dr. Cullingworth for performing an operation on her which she alleged to be unnecessary, has sought the advice of a magistrate because, as she says, she cannot get admission to a hospital for the purpose of having an operation performed, which she told the magistrate was necessary. She did not tell him of her former litigation, nor on whose opinion she now relied.

The *Transactions* of the Tuberculosis Congress held here last summer have now been issued in four bulky volumes. It is well, perhaps, that the proceedings should be authoritatively recorded, although very full reports were given by the journals at the time—your own being in no way behind those on this side.

The "British Academy" is henceforth to be reckoned among our learned societies. It is established to promote historical, philosophical, and philological studies. The King has granted a charter to forty-nine distinguished persons, constituting them the first Fellows of the new body. You will notice that neither science nor pure literature is comprised in the academy. But science has the Royal Society and the British Association, besides the numerous bodies devoted to its various branches.

VIRCHOW.

To the Editor of the Medical Record:

Sir: Virchow was the greatest and grandest intellect that has as yet appeared in the human arena. That reads dogmatic. Men generally look on greatness in the individual in direct proportion to the benefits they or the race receive through him. Of that side of Virchow's life-work eulogies enough will be written. The endeavor here will be to make an etiological study. In doing that Virchow's weaknesses will also be considered. By considering them, the greatness will only be more apparent. Virchow's greatness is not only manifest in his contributions to medical science, but in his many-sided intellectuality. His greatest work is undoubtedly the enunciation and manifestation of the biological law of the phylo-ontogenetic evolution of living things, and its demonstration in man. *Omnis cellula e cellula.* A great weakness was Virchow's inconsistent denial of himself in his opposition to evolution, of which he was perhaps the greatest exponent. While nearly all men to whom the world has given the crown of greatness were really great in one thing, Virchow was great in many things. His greatness was encyclopedic, but his greatest bigness was his humanitarian broadness. All that pertained to the intellectual, social, and political betterment of man found in Virchow an earnest and doggedly persistent student and advocate. "Doggedly persistent" describes one of the master's strongest characteristics. He was not an enthusiast of the emotional type. Interested though he was, cold-blooded persistence in doing marked him. His clearness of intellect, his logical philosophy, his endless detail in investigation, his unwearying industry, could only come from dogged persistency. With no flippancy he might well be termed the "bull dog" of the scientific arena. Who could work with him? Four hours' sleep was the maximum he allowed himself in his active years. It is said of him that he frequently dictated to four note-takers on four different subjects; for instance, a pathological article, a political polemic, a paper on drainage, and an anthropological dissertation at practically one and the same time, dictating to one scribe and then to the other until he came again to the first, and never asking either "what did I say last?" but taking up each subject as if he had been continuously on that one subject. Woe betide the unfortunate who was not ready for him when his turn came, for Virchow was an unreasonably impatient man, as all such workers must be. He was the terror of candidates for examination, especially the "Kreis-physicus" aspirants. In this regard the following is an example: Such a candidate, after waiting long for Virchow's appearance—non-punctuality was one of his weaknesses; Virchow waited for no one, while all had to await his pleasure—and anxiously viewing the cadaver in that dreaded "Examen Zimmer," was met by Virchow as if blown through the door by a cyclone. Without any greeting, the master ordered, in no gentle voice, "Fangen sie an" (begin). The poor candidate stood before the cadaver trembling with anxiety, knife in hand, but not a movement, the perspiration flowing almost in a stream. "Come, come, begin," snapped his autocracy. Not a word, but a gasping mumble. "Speak Greek, speak Hittite, speak Latin, French, German, English, speak anything, but don't stand there like an automaton, mumbling 'm, 'm, 'm. "Donnerwetter, Mann, haben sie keine Zunge?" was the encouraging greeting. The result need not be described.

Slight though he was, Virchow had an iron constitution. That much he owed to his Pomeranian ancestry. A critical study of Virchow's ancestry and posterity, as of many another of the world's great ones, is of interesting value. In the descendant sense, Virchow was a "freak," a "lusus naturæ"; one might say a "lapsus" in the geneological tree. We read of no marked genius in his family history. Certainly none has made its mark to any degree in descendants. It is most often so. This is not to the credit of man's intelligence. The children are insignificant; the world, in its ignorant injustice, makes them feel it in comparison with their sires. We do better with our horses, cattle, and pet stock. In the human family winning producers are the rarity. The exception of continuing ability of the genius order in families proves the rule of man's ignorant self-reproduction.

The unthinking say that such men as Virchow are "self-made." "Ignoribimus," as Haeckel would say. "Nonsense," in plainer English. Virchow was made to be what he was at the moment of the contact of the paternal spermatozoon with the maternal ovule. Virchow himself did nothing. Speaking again, in this connection, of his greatness, the world knows of but one greater scientist, the greatest of all in his profound generalism, "Man was made from the dust of the ground." Scientists, *per se*, have ever since been trying to trace the origin of the dust, trace its course, and answer the negro sceptic's question "how far de dust stick togedder." Virchow has done more than any one else to show us how it stuck "togedder" in his "Law of Cellular Evolution." "Man Is a Cell-state," said the master. Certainly a grand state of the dust was manifest in the man Virchow. He was the voice of the dust as it was present in the atoms of his cerebral molicules. "Self-made!" Away with such ignorance. The truth is that the dust took the bit of genius in its teeth and ran away with the man Virchow. It does the same with the fool, with the brainless descendant of genius, when human ignorance has not stuck it together in the same way. Virchow "self-made"! Few realize that conditions, political environment, had far more to do with the making of Virchow, and European scientists in general, than he had himself. It might be said that these conditions found Virchow not "self-" but ready-made. Is any one insane enough in his Americanism to think that the Pomeranian boy Virchow, with his few environmental advantages, would have become the world's greatest in the environment of the United States? It would be as rational to think of a J. Pierpont Morgan becoming another of the world's greatest if born of native parents in Patagonia. Who thinks, though an apparent truth, that Virchow and others in Europe really owe their greatness to the necessities of the national struggle for existence and individuality among the nations of Europe? Brutal though the words appear, the assertion of a European thinker that the chief duty of patriotic citizens is to prepare food for cannon is true. It is to take care of the "cannon-food," to see that it is well-bred physically and developed mentally, that it, itself, is well fed, well clad, well provided for, that all its resources are stimulated and cared for, that is not only the first necessity of European governments, but the chief cause of the recognition and success of Continental scientists. There every man counts as a national defender, and every woman as a defender-producer. There science is encouraged and supported because the results of investigation contribute to the national solidarity and its surviving power the resources of the nation, human, animal, and industrial, even more than any other factor. Such a man as Virchow is worth more to a European nation than its entire standing army. Not only are such life-preservers in the broadest sense, but they do more to develop and sustain the industrial nation—preserving armamentum—than any other factor. One has only to think of the discovery of the anilin dyes, of the hygienic work of a Virchow, Koch, or Pasteur, to realize the force of national self-preservation in the support of science, to realize how little its votaries are really self-made.

Such men would be dead geniuses in the United States, "dead to the world" as Crusoe or Juan Fernandez, Paternal governments, represented by intelligence, are, generally, not the curse to their people that those of indifferent and corrupt republics have thus far been in the history of the world. War, national struggle in that sense may be a curse, but thus far in the history of men it has done far more for the advancement of the world than peace. Peace is death, war is life, even if it kills so many of the living. War does not make Virchows, but thus far in the world's history its necessities have called them forth and made use of them. Competition is war, and not until industrial and social competition begins to arm itself in verity for the struggle for existence will genius be recognized by the people and put in the saddle of government, that a truceful peace may control the storm that men may survive and struggle without the last resort to cannon-food and murder. Without war in some form there can be no seeming peace, no science, and no civilization. Forget it not, the imminence of war, the national struggle for existence, made Virchow, not he, himself. The imminence of industrial and social war may yet make such men in this country. Forget it not, the struggle to be a nation made this country as it made Washington, Hamilton, Adams, and those we honor as great, what they were. War made Lincoln, Grant, and Sherman, not peace.

Virchow's inconsistent opposition to evolution has been noticed. There is a greatly mistaken conception regarding evolution, even among scientists. The course of evolution is confounded with the thing itself. Evolution, *per se*, stands for the formative, individuation facts in nature. The course taken is another matter. Evolution does not stand for perfection. In what we term nature there is really no purpose, no law. The course of evolution has been from simplicity in formation to complexity. In point of fact, from the simple molecule to the complex, the acme of complexity being the molecule in the brain of such a man as Virchow; from the simple-celled organism, uniting in itself all the essential attributes of the most complex; it can maintain itself, grow, and reproduce itself, as perfectly, according to its nature, as the most complicated machinery in the most complex organism of man. There is no such thing as perfect and imperfect in nature. Those terms simply imply our conception of adaptability. Death is as perfect a representation of dissolution, or individual involution, as life is of biological individuation, or evolution. Health is as perfect a representation of physiological individuation as death is of pathological dis-individuation.

Virchow's opposition to evolution is probably the result of his greatest weakness, for how could the author and exponent of "Omnis cellula e cellula" be an anti-evolutionist? That weakness was vanity, and its twin sister, envy. His susceptibility to flattery is well known. He hungered for it. Great as Virchow was he could not stand greatness in another in his particular field. It was long ere he could think or speak favorably of Robert Koch. He was rudeness itself to other distinguished members of the Berlin medical faculty. He was constantly jealous of his prerogatives as head of the Pathological Institute, and made clinicians of great repute feel it if they wanted to see the microscopical results in their own patients. He was envious of the reputation of Darwin, and hence his opposition to evolution. While there certainly were not two Virchows in the medical world, Virchow would not admit the possibility of their being another in some kindred branch of science. In this regard Virchow's reputed remark of Gerlach, the greatest man veterinary medicine has yet seen, director of the Veterinary College, that "there was but one Gerlach in the world, and could never be a second," is characteristic. With dead men it was different. He delighted to honor greatness in the dead. Above most men he lived to enjoy his own greatness. He was terrifically autocratic and jealous of his authority in most trivial things. Like many Germans, he believed in muffling and protecting the throat. On one occasion a person working in his laboratory happened to have a slight acute laryngitis. Virchow, noticing it, attributed it to the person's wearing very low collars, and recommended standing collars, such as he wore. The person not procuring one, Virchow got him one, and insisted on it being put on then and there. The man not having it on the next day was severely "called down" before the class, and it was weeks before Virchow got over the "insult" to his dignity, and treated the man decently. His plastering his hair down with grease was an insignificant though striking illustration of weakness in one so great. An amusing and often dangerous vanity was his conceit that he thought himself a great physician as well as pathologist. Any one who has worked under him for years can remember his escapes from Virchow's surgical skill if happening to have anything approaching a furuncle visible on his person. Virchow would insist on opening it, and grasp an autopsy knife, perhaps from the man's hand. His indignation at not being permitted to use such an instrument was amusing, as well as instructive. His Pomeranian friends coincided with him in the idea that he was a great physician, and those about him were often amused at the visitations he received from his learned friends for consultation and treatment. His prescriptions belonged to the complicated wonders of the Dark Ages in medicines that led to the revolt of Hahnemann.

One of the greatest characteristics of the German government was the manner in which it recognized Virchow's abilities and honored him with trustworthy positions, even though one of its greatest opponents politically. It takes real greatness to recognize ability in a determined opponent. Bismarck never had a more obstinate one than Virchow in many of his pet schemes, yet he never failed to send him on important missions when the occasion required. The anecdote of Bismarck's challenging Virchow to a duel and the latter's acceptance if Bismarck would agree to his choice of weapons, to eat a pound of raw trichinous pork, is characteristically amusing, whether true or not.

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SHARON, MASS.

Progress of Medical Science.

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The Symptoms and Treatment of Hepatic Cirrhosis.—George G. Sears, from an analysis of seventy-eight autopsies, draws the following conclusions: Hepatic cirrhosis is, in a majority of instances, but one expression of the effect of a systemic poisoning. The degenerative changes in other organs are to be regarded as part of this general process, rather than as complications. The splenic tumor and dilated veins are due in part to portal obstruction, but also seem dependent on the underlying toxic cause, since they are occacionally associated with slight hepatic changes. Dilation of the vessels may have some effect as a compensatory mechanism, but is rarely adequate to prevent ascites. Persistent jaundice and hemorrhage from the digestive tract seldom occur until the connective tissue formation is well advanced. Hemorrhage was found to be almost invariably due, when a full pathological description was given, to some gross lesion, which in most cases was an œsophageal varix. Ascites occurred in practically the same proportion of cases in all four classes, and was a late symptom. Its early appearance was, with rare exceptions, associated with some form of peritoneal inflammation. Continuous fever was never found, except in the presence of complications. A brief elevation of temperature occasionally occurred, for which no cause could be discovered. No evidence was found to show that the course of the disease was not always progressive, but a high grade of cirrhosis was sometimes reached without incapacitating the patients. Surgical treatment may be indicated in a very small proportion of cases, but conclusive evidence is still lacking to show that the ascites in the cases successfully operated upon was due to hepatic cirrhosis and not to coincident conditions.

Cirrhosis of the Liver in Childhood.—John Lovett Morse says that all the forms of cirrhosis which are met with in adults occur also in childhood. In addition there are several forms which are peculiar to children. The symptoms of cirrhosis in childhood are the same as in adult life. So also are the pathological changes. It is not a common disease in childhood, but perhaps less uncommon than has usually been thought. The ordinary forms are found most commonly between nine and twelve years. The form due to obliteration of the bile-ducts occurs, of course, only in early infancy. The peculiar form seen in India and syphilitic cirrhosis are also peculiar to infancy. Cirrhosis with enlargement is more common than cirrhosis with diminution in the size of the liver. All causes which produce the disease in adult life may also produce it in childhood. Additional causes in childhood are congenital obliteration of the bile-ducts and congenital syphilis, the latter being undoubtedly the most frequent cause. Alcohol is responsible for from 10 to 25 per cent. of the cases, its importance varying with the different authorities. Many cases go to show that very small amounts of alcohol, if taken regularly by children, may produce cirrhosis. In about 60 per cent. there is no evident cause. The author thinks it probable that the products of abnormal fermentation or decomposition in the digestive tract are a more frequent cause of cirrhosis in infancy than in adult life, and that it is also probable that the products of bacterial growth in the intestines or elsewhere are more harmful at this age. The cases which have apparently followed overfeeding are presumably due to this cause. On the subject of cirrhosis with congenital obstruction of the bile ducts, the writer says, the etiology is obscure. It is certainly not due to syphilis, but its early onset and the occurrence of several cases in the same family would suggest that the obstruction is due to arrest of development. He suggests the following as a plausible explanation: Irritant substances may pass through the placenta to the fœtus. They may then pass directly to the liver, or reach it indirectly after passing through the general circulation. The conditions necessary for the production of a mixed cirrhosis are then produced. The cholangitis then descends to the larger ducts. Stenosis and obliteration readily follow, because of the extremely small size of their lumen at this time. Additional points in favor of primary cirrhosis are: (1) The constant occurrence of cirrhosis in obstruction of the bile-ducts in infants, compared with its rarity after obstruction of the large ducts in adults. (2) The large size of the liver, which is usually small when due to obstruction in later life. (3) The enlargement of the spleen, which does not occur in uncomplicated biliary obstruction. All these facts make it reasonable to suppose that the disease is due to irritants derived from the mother, which cause a cirrhosis and cholangitis, the cholangitis descending and obliterating the larger ducts.

Journal of the American Medical Association, Sept. 13, 1902.

The Influence of Biliary Acids on Surface Tension.—C. D. Spivak notes the fact that a pinch of flowers of sulphur thrown on water or urine free from bile will float on the surface, but on the addition of one drop of bile to a quart of fluid the sulphur will at once sink to the bottom. This is known as Hay's test, and is based on the law of surface tension. It is due to the presence of bile acids; one part of either glycocholic or tamocholic acid in 120,000 parts of water lowers the surface tension, and the sulphur sinks. No other substance in the body, except soap, has the same reaction as the above. It has been found, however, that acetic acid, alcohol, ether, chloroform, essence of turpentine, benzoin and its derivatives, phenol and its derivatives, and analin also cause the sulphur to precipitate. All fluids with a surface tension greater than fifty dynes per centimeter do not allow sulphur to fall, and in all fluids with a tension less than fifty dynes the sulphur rapidly settles. Lycopodium bears the same relation to fluids with a tension of thirty dynes as flowers of sulphur to fluids with a tension of fifty dynes. Spivak finds the following facts to be true and require consideration in determining the applicability of the test and the conclusion to be drawn therefrom: (1) The specific gravity of the fluid has no influence on the accuracy of the tests. (2) The reaction of the fluid has no effect on the test. (3) In order to obtain correct results, the fluid must be clear. Cloudy or turbid urine must be filtered. (4) The urine must be free from bubbles. (5) Urine examined immediately after it is voided gives invariably the reaction for bile, because heat reduces surface tension. The urine must, therefore, be cooled off before the test is made. (6) In several cases where the reaction for bile pigment by Gmelin's test could not be obtained, the presence of bile acids could be demonstrated by the sulphur test. (7) In a case of syphilis of the liver, the urine gave the reaction for bile acids. (8) The urine for several patients in advanced stage of tuberculosis with swelling of the lower extremities, gave the reaction for bile acids. (9) The stomach contents of a patient removed on two consecutive mornings, and which consisted almost entirely of bile, did not give the sulphur reaction. (10) Urine of three cases of pregnancy in their sixth, eighth, and ninth months, respectively, gave the bile acid reaction; (11) After having experimented with more than one hundred and fifty different powders, Spivak has found that boracic acid, iodoform, acetanilid, salol, calomel, salicylate of bismuth and salicylic acid possess this property as does sulphur, only in a feebler degree.

Medical News, September 13, 1902.

Pathology of Empyema.—David Bovaird, Jr., emphasizes the following points in the pathology of empyema: (1) Its frequency in children. (2) The frequency of bilateral cases. (3) The impossibility of drawing sharp distinction between serofibrinous pleurisy and empyema. (4) The creamy consistency of the exudate in many cases. (5) The frequency of pneumonia, especially bronchopneumonia, as a preceding or accompanying lesion. (7) So far as concerns the bacteriology of empyema, the pneumococcus is present in the great majority of cases in children, especially in the thick creamy exudates. The streptococcus or staphylococcus pyogenes is found in a much smaller percentage of cases, especially in those not associated with pneumonia and characterized by thin purulent exudates. (8) Tuberculosis is present in but a small percentage (6 per cent.) of cases.

Surgical Treatment of Empyema; a Report Based on Seventy-five Cases, Observed Chiefly in St. Mary's Hospital for Children.—Charles N. Dowd gives the following summary of his paper: (1) For simple cases of empyema the following treatment is used: Excision of about one and a half inches of the seventh or eighth rib in the posterior axillary line; light ether anæsthesia is usually employed; the purulent coagula are removed; short rubber tubing, cut partly across, doubled and held by large safety pins, is used for drainage; abundant gauze dressing is applied and changed when saturated. (2) If the patient's condition contraindicates general anæsthesia an incision into the chest may be made between two ribs under cocaine anæsthesia. (3) Aspiration is only used to give temporary relief in patients who are in great distress from the pressure of the fluid, or temporarily to relieve the second side of a double empyema after the first side has been opened. (4) The patients are allowed out of bed as soon as is practicable, and the expansion of the lung is encouraged by forced expiration. (5) Irrigation is only used where there is a foul-smelling discharge from necrotic lung tissue. (6) Secondary operations are not done until good opportunity has been given for healing; usually three or four months should have elapsed after the primary operation, and there should have been no noticeable improvement for about a month. (7) In the secondary operation, the expansion of the lung should be encouraged by incising, stripping back, and, if necessary, removing portions of the thickened pulmonary pleura. (8) The examination of forty-four of the patients at long periods after operation indicates that recovery is usually complete in the simple cases, and that there is surprisingly little deformity in most of the severe cases.

A Case of Hepatic Abscess.—Emma W. Demaree reports this case of hepatic abscess, which developed in a puerperal woman. On the morning of the tenth day after confinement, the patient complained of pain in the right side and back, in the region of the liver, and of a general malaise. In the afternoon there was severe and lancinating pain with vomiting. The patient was most comfortable on the right side. There was marked tenderness in the region of the gall-bladder. There was no tumor. Some hours later there was a severe rigor, followed by a temperature of 105°, with profuse sweating. There was absolutely no trouble to be found with the uterus. Pain and tenderness were wholly confined to the region of the liver. After the first day pain was not a prominent symptom. The treatment was directed chiefly toward securing elimination and sustaining the patient. Exploratory puncture was not allowed. Three days after the onset the patient was much improved. During the previous night a considerable quantity of bloody pus had been passed by the bowel. She had also expectorated material of like appearance. Examination of the pus by microscope revealed what looked like microtome sections of liver in a state of cloudy swelling. After a large amount of this pus had been discharged, a black sand began to pass. Later, at two different times, in advance of the sand, stringy masses were evacuated. These were doubtless the remains of the pus sac, and the inflammatory exudate thrown out in connection with the rupture of the abscess into the colon. About three months after confinement the patient was able to do her work, and was free from the attacks of stomach trouble, of which she formerly complained. The writer asks the question: Did the biliary concretions, which seemed to be the exciting cause of the abscess, form in the gall-bladder and rupture into the liver or did they originate in the liver? As to the puerperal state, the writer thinks it may have had something to do with the pus formation, on account of lessened resistance of the tissues at this time, but the history of the case shows that it was not responsible for the entrance of the pus organisms.

New York Medical Journal, September 13, 1902.

The Diagnostic and Therapeutic Value of Ureteral Catheterization.—L. Gross reviews the history of this procedure, reporting one case in which a diagnosis of pyelitis of the right kidney was made. Irrigations into the pelvis of the organ and into the bladder with ten grams of a 1:1000 silver nitrate solution cured the case. The author's views as to the status of the method are thus expressed: *Diagnostic Value:* To determine (1) Whether the bladder or the kidney is the seat of the affection (2) The presence or absence of a kidney; (3) Which kidney is involved; (4) The site of the lesion; (5) The functional capacity of each kidney; (6) The presence of a calculus in the ureter or pelvis of the kidney and its exact location; (7) The presence of strictures in the ureter and their exact location; (8) The diagnosis and site of ureteral fistulæ; (9) The presence of a pyoureter; (10) A differential diagnosis between diseases of the kidney and the surrounding organs; (11) At times a tuberculosis of the kidney; (12) The diagnosis of pyelitis, pyelonephritis, pyonephrosis, hydronephosis, movable kidney, neoplasms of the kidney, or renal lithiasis; (13) Abnormal congenital conditions of the ureter. *Therapeutic Value:*—(1) To cure pyelitis and certain cases of pyonephrosis and hydronephrosis; (2) To drain pocket formations; (3) To dilate strictures of the ureters; (4) To dislodge small calculi of the ureter; (5) To drain the kidney after nephrotomy; (6) To prevent injury to, and stitching together of, the ureter in certain operations; (7) To prevent and cure renal fistulæ; (8) As a guide to certain operations on the pelvis of the kidney. Strict asepsis robs the method of any danger of infection.

A New Method of Staining the Malarial Parasites, with a Description of the Staining Reactions.—C. F. Craig uses the following solutions: Solution A.—A saturated aqueous solution of methyl violet B. This solution should be prepared with distilled water and should be at least three weeks old. Solution B.—A 5 per cent. solution of eosin. The method pursued in staining specimens is as follows: Very thin blood smears are made upon perfectly clean cover glasses. These smears are hardened in absolute alcohol for from five to ten minutes. They are next carefully dried and stained with solution A for ten seconds; then thoroughly washed in water and stained with solution B for from three to five seconds. The specimens are finally carefully dried and mounted in Canada balsam. As will be seen, the time for staining is very short, which is an improvement over the valuable methods which have heretofore been proposed. The following precautions are to be observed: (1) Both staining fluids should be prepared with the Grubler colors; (2) The methyl violet solution should be at least three weeks old. (3) The smears should be thin and the blood evenly distributed over the cover glass. In thick smears the coloring is very diffuse and the distinction between the corpuscles and parasites nearly obliterated. (4) The methyl violet solution should not be allowed to act longer than twenty seconds at the most, otherwise the staining is too intense. (5) The eosin solution should not be allowed to act for more than five seconds, for the same reason. (6) The specimens should be thoroughly dried before mounting, and thoroughly washed and dried between the applications of the stains. The stain colors the red cells a uniform dark blue, giving to the infected red cells a peculiar and destinctive color, enabling one to at once pick them out from the others. It differentiates protoplasm, nucleus, and chromatin.

American Medicine, September 13, 1902.

Cases of Carcinoma and Sarcoma Recently Treated by Electric Sterilization.—G. Betton Massey refers to a paper in which he reported a series of thirty-eight malignant tumors that had been placed under the cataphoric diffusion of electrolytic salts of mercury and zinc for destruction and sterilization, with the following results: In eight cases a cure was obtained; in twenty cases the local disease was removed, but the patient succumbed ultimately to metastases that were apparently existent at the time of the application; in eight cases the method, while still new, had failed to stay the progress of the local disease, and in two cases the patients died during the treatment A later review of these cases shows one patient, reported as cured with recurrent carcinoma of the breast and axilla, has died from metastatic growths in the mediastinum without return of the local disease. The remaining seven successful cases have stood the test of two more years without redevelopment of the disease. In addition to these, fifteen other cases have been treated. Of these, nine appear to be cured, two patients were temporarily helped without arrest of the disease, and four patients died shortly after the application was made. The widely differing character of these cases and the desperate nature of those terminating fatally gave, however, very little ground for a statistical inquiry, the chief value of this report, according to the author, lying in the study of the individual cases described.

Surgical Features of Typhoid Fever.—Thomas McCrae and James F. Mitchell sum up their two years' experience as follows: There have been treated 275 cases. Of these a certain number had unimportant complications, as boils or abscesses, the cultures from which, in every instance, yielded pyogenic cocci. Periostitis and perichondritis have been seen occasionally, always subsiding without surgical interference. Glandular affections, especially mastitis, occurred, but were not serious. Abscess of the liver occurred once, with recovery, the cultures being practically negative. There have been symptoms of cholecystitis in five cases, of which three subsided without operation, one patient was operated upon and recovered, while in one the gall-bladder ruptured and general peritonitis resulting in death followed. Appendicitis was suspected on admission in three cases and developed once during the course of typhoid fever. Perforation of the intestine occurred in eight patients. Of these seven were operated upon with two recoveries, a third dying of toxæmia after a week. All of these seven were recognized within nine hours, except two, in which hemorrhage from the bowel accompanied the perforation. In one case operation was not advised, because the patient was evidently in extremis. Exploratory laparotomy was done in two cases, in which no perforation was found. In one the symptoms proved to be due to intestinal hemorrhage; in the other to a low grade of peritonitis. The first patient died, the second recovered. Eleven patients with suspicious abdominal symptoms were not operated upon. Of these, two died and the autopsies showed no perforation. The remaining nine recovered.

Philadelphia Medical Journal, September 13, 1902.

Note of a Case in Which the Time Required by an Inappropriate Food to Produce Scorbutic Symptoms Was Accurately Noted.—J. D. Milton Miller reports the case of a child first seen at three and a half months who developed scorbutic symptoms exactly eight weeks after the commencement of condensed milk in the dietary. The child was undersized, and its digestion was not capable of assimilating the amount of proteids suitable for its age. A deficiency of proteids—in other words, a too dilute food—is often an influential factor in the production of this disease. Its food had been changed from time to time, and at twelve months it weighed seventeen and three-quarter pounds Before the attack of indigestion which preceded the use of condensed milk, the child, who was at that time eleven and a half months old was getting 2 per cent. of proteids. It was, besides, fairly well, although it was underweight. So it is more than probable that the scurvy was the direct result of the condensed milk. For a week after the condensed milk was first given the child was fretful and had no appetite, and this period was followed by the appearance of genuine scorbutic symptoms. The condensed milk was at once stopped, and a diet of fresh cow's milk and barley water was given, with fresh beef juice and the juice of half an orange daily. The child completely recovered within a week.

A Case of Puerperal Neuritis.—Charles J. Aldrich states that paralysis complicating and following the puerperal period is sufficiently rare to merit a detailed report of all cases. The case reported is that of a woman aged twenty-seven years. She has had three children, the youngest ten months. She never had a miscarriage. During the latter months of her last pregnancy, she suffered much pain in her legs, which felt powerless and heavy. Her arms were strong. Examination showed her heart, lungs, and abdominal and pelvic organs to be normal. There was no ocular affection, nor any weakness or paralysis of any muscles or group of muscles in the face or upper extremities. The walk is ataxic—distinctly so—and a marked foot drop is present on the right side. She cannot stand with her eyes closed. She stands poorly even with them open, when the heels and toes are placed together. Both knee-jerks are absent, as well as front tap and Achilles jerk, and plantar reflexes. There is a well-defined anæsthesia of the sole of the right foot and toes. There is a distinct atrophy of the intrinsic muscles of the feet, most marked in the right. There is also some atrophy of the anterior tibial and peroneal groups, most marked on the right side. Tendon reflexes in the upper extremities are quite indistinct. The tongue is protruded straight. The right labio-nasal fold is deepest. The left pupil is the larger. Both react promptly to light and accommodation. The palpebral openings are equal. The disks and fields are normal. A fine lateral nystagmus is present. The sense of position is not good. The diagnosis of puerperal neuritis, paraplegic in distribution and ataxic in type, seems fully warranted.

How to Recognize Tuberculous Changes in the Apices of the Lungs on Percussion.—Henry E. Stadlinger believes that the method which he describes will lead to an earlier diagnosis than the ordinary method of percussion by comparison. The first step is to find the amount of respiratory mobility of the lungs at their posterior bases. Both expiration and full inspiration are marked with a pencil. This will show if the lungs functionate well. At the apices the lung tissue is mapped out from the surrounding tissues. The patient should stand as near the center of the room as possible The percussion of the two apices is compared If there is a difference in pitch, there will be a difference in the width of the apex resonance area. It is then needless to go further. But if there is no difference, then the apex is mapped out from the surrounding tissues: first the inner border line is found, and continued to the sternoclavicular articulation. The posterior border line is also found. Then, from the supraclavicular space, the outer border line is found, and marked. This outer line is curved with the convexity pointing toward the median line, and, crossing the clavicle about its outer one-third it disappears in the axilla. This line is followed posteriorly to the suprascapular region. The border line is difficult to obtain at this point. After both sides are mapped out, they are compared by measuring them with an ordinary tape, from a point at the acrimoclavicular articulation to where the inner border line crosses over the shoulder. Then a measure is taken from the same point to the outer border line, and this distance is subtracted from the first distance found, and the result is the width of the apex resonance. In cases of deformity of the chest one or other apex may show the border line higher or lower, but if the width of the apex resonance is the same, this is of no importance. But if one of the sides is narrowed, the case is different. The exact figure of the normal width cannot be given, but it is approximately about 4½ to 5 cm. Respiratory mobility at the apices should always be noted. The stethoscope should always be used.

The Lancet, September 6, 1902.

The Clinical Use of the Ipecacuanha Alkaloids.—R. B. Wild extols the virtues of emetine, of which he uses two salts, the hydrochloride and hydrobromide. Solutions of these in 20 per cent. alcohol remain clear indefinitely. The hydrobromide in such solution, one grain to the ounce, is very active and reliable, the adult dose being from 5 to 20 minims as an expectorant and depressant and from 1 to 3 drams as an emetic. The emetine is superior to cephæline, to the third alkaloid in ipecac root and to ipecacuanhic acid.

Note on the Origin of Urine Albumin.—The experiments of Ludwig Aschoff support the view that the albumin present in nephritic urine is derived from the blood and is different from the specific kidney albumins. According to the results hitherto attained, there appears to be a difference between the blood serum albumin and the kidney epithelium albumin. But other experiments point to the existence of a relationship between the proteid constituents of the different epithelial cells as well as of the blood cells, inasmuch as the injection of one kind of cell may yield a serum which acts on several species of cells.

A Plea for Tenotomy of the Tendo Achillis in Complicated Fractures of the Lower Extremity.—W. T. Thomas calls attention to the fact that, while the great majority of fractures of the lower extremity are readily adjusted and call for no special remark, certain fractures are always troublesome and difficult to treat, *e. g.* (1) Fracture through the lower end of the femur; (2) Olique fractures of the tibia; (3) Fracture of the tibia and fibula low down; and (4) Fractures of the os calcis. When the chief deforming agent is the gastrocnemius, its action must be prevented, and in slight deformities this is readily brought about by flexion. Traction often increases the trouble or proves irksome after a few days, even if it does not damage the skin. When the muscle is acting at a great mechanical advantage, the hope that it may be overcome by steady slowly-increasing traction is often doomed to disappointment. By traction on the leg in a very oblique fracture of the tibia the deformity is often increased, and the attempt to remedy matters by pads often makes matters worse, for although the pointed fragment under the skin in front may be depressed, the sharp end of the other fragment may be, and often is, pushed backward into the calf muscle, and the subsequent result is not satisfactory. Slight degrees of flexion at the knee can be tolerated, but extreme degrees cannot. If, then, it is found that a position compatible with comfort does not relax the gastrocnemius, the tendo Achillis ought to be divided.

Environment as a Cause of Ague.—M. D. O'Connell presents the following summary of his views: (1) Cases of fever, clinically identical with malaria, occur in the blood of which parasites could not be found after repeated search before quinine had been given. (2) The meteorological environment found where such cases occur, and indeed in all malarial climates, increases the amount of water in the blood of those exposed to its influence by impeding elimination through the skin and lungs (evaporation—heat loss) and through the kidneys. (3) There is known to be increase of water in the blood of those suffering from ague (Liebermeister). (4) Increase of water in the blood increases metabolism, *i. e.* heat production, and produces a rise of body temperature (Payne). (5) As environment thus causes diminished heat loss from the body and increased heat production within the body, it is plain that it causes pyrexia. (6) This pyrexia must be of intermittent variety, as the environment which produces it is of intermittent intensity, *i. e.* undergoes diurnal variation. (7) Elimination of water from the blood (sweat) in ague reduces the temperature to normal. (8) Increase of water in the blood produces poikilocytosis, pseudo-parasites, liberation of hæmoglobin, extensive destruction of red blood corpuscles, and melanæmia. (9) An extreme degree of these changes obviously leads to hæmoglobinuria. (10) Increase of water in the blood produces enlargement of the spleen. (11) Removal from the environment that produces increase of water in the blood usually cures ague. (12) All treatment of ague which is efficacious reduces the amount of water in the blood. (13) From these facts O'Connell thinks it is not unreasonable to conclude that those cases of ague or intermittent fever in which no parasites can be found are demonstrably due to the environment under which they arise.

British Medical Journal, September 6, 1902.

Buttermilk as an Infant Food.—Adolph Baginsky concludes that buttermilk, as prepared and recommended by the Dutch physicians, is a good food for acutely and chronically sick infants. Prepared buttermilk is well borne soon after attacks of acute dyspepsia and summer diarrhœa. In chronic diarrhœa and chronic enteritis cases it may be looked upon as a life-saving preparation. It is to be hoped that more observations be made upon its use as an actual food for healthy infants. In the cases which the author has observed for a long time, he has never seen disturbances of nutrition, such as rachitis or scorbutus, develop.

A Phenomenon of Exophthalmic Goiter.—Howard B. Gladstone describes this phenomenon, which is a striking demonstration of the purely vascular nature of the enlargement of the thyroid in exophthalmic goiter. The patient lies on his back in bed with all pillows removed, and then raises his head off the bed and looks toward his feet. He does this with no assistance, using only the muscles of the neck and back. The cervical fascia is put on the stretch, and the tension empties the engorged vessels of the gland on which the enlargement depends in this disease. In this bloodless state, the goiter may be compared to the state in which it is usually found post mortem, where after cessation of the heart's action, its dimensions are much reduced, its vessels not being full. The writer thinks that knowledge of this phenomenon may be useful as an aid to diagnosis in swellings of the thyroid.

A Case of Oyster Poisoning Simulating Smallpox.—Charles Fraser reports the history of a patient aged thirty-three. He had six small distinct vaccination marks, three on each arm. On admission to the hospital, the patient's condition was one of extreme exhaustion. He complained of headache, pain between the shoulders, giddiness, and great weakness. The temperature was 101°F. The mental condition was clear, although the expression was listless The pulse was quick, small, and of low tension. The respirations were rapid. On the forehead was a profuse papular eruption, with a good deal of merging of the individual papules, and hyperæmia of the surrounding skin. The mucous membranes were clear, and the conjunctiva somewhat injected. On the chest, abdomen, and extremities, was a rash of a different type. It consisted of small, round, discrete. slightly raised spots, fading on pressure, and with no feeling of shottiness. Four days previous to his entrance at the hospital the patient had eaten oysters. This was followed the next day by diarrhœa and sickness, and on the second day after this, the rash appeared. The history of an illness of four days' duration, with the appearance of the rash, on the third day, the very characteristic eruption on the face, the great debility and the hurried respiration, with normal lungs, appeared to the author to point to the diagnosis of smallpox. The absence of backache, the temperature of 101° F. with rash developed, and the history of oyster eating five days previously were disconcerting facts. Aside from these facts, however, the evidence seemed to be in favor of smallpox. Two days after his entrance to the hospital, the eruption had entirely vanished. His temperature was normal, and he felt quite well.

Defective Coordination, in Utero, a Probable Factor in the Causation of Certain Congenital Malformations.—John Thomson states that there are at least three types of congenital malformation of hollow viscera in which the main anatomical abnormality present consists in very great muscular hypertrophy, for which no permanent organic cause is discoverable. These are: (1) Congenital hypertrophy of the bladder with dilatation of the ureters and renal pelves, and with no organic obstruction Although in most cases of congenital hydronephrosis there are organic constrictions which account for the condition, still there are a considerable number of cases in which there has been no permanent cause of blocking whatsoever. (2) Congenital hypertrophy of the colon with no organic stricture. In many cases of constipation with dilatation and hypertrophy of the colon dating from early life, there has been no trace of narrowing. (3) Congenital hypertrophy of the pylorus and stomach wall. There are several points common to all of these three morbid conditions. In all, the main abnormality consists in enormous hypertrophy of the muscular coat of a hollow organ which is known to be functionally active to some extent in utero. The amount of the hypertrophy found in cases dying soon after birth is so great that it is generally admitted that it must have been present, at least to a considerable degree, during intrauterine life. In none is there any evidence of such permanent organic obstruction as we should expect to find giving rise to the overgrowths of muscle. No other abnormalities are usually present, except such as may reasonably be regarded as secondary to the muscular hypertrophy. As to the pathology and etiology, the causation of the muscular hypertrophy is the most important point to be settled. The two chief hypotheses concerning it are: First, that it is a primary developmental hyperplasia; a sort of localized gigantism. Although there seems no impossibility in the idea of a local gigantism of the pylorus or bowel, or bladder, the author doubts very much whether there exists a single instance of a localized true hypertrophy of muscle being primary in character. The second hypothesis is, that it is a secondary hypertrophy resulting from overexertion. We may expect that hypertrophy may occur in utero under the same conditions in which it does after birth. For the proper working of all hollow organs, perfect harmony of coordination is necessary, and even slight disturbance of the coordination may lead to greatly exaggerated exertion. It is most difficult to decide upon the nature of this derangement. The writer concludes his paper with a discussion of congenital hypertrophy of the pylorus. He says that the comparatively isolated character of this malformation tells against its being really a teratological condition. The prominence of the spasmodic element in the symptoms after birth suggests the possibility of a similar spasm in utero. The apparent continued growth in size of the pylorus after birth, while the symptoms last, suggests the probability of a similar growth in fetal life. The gradual disappearance of the symptoms in some cases, while there is reason to believe that the anatomical condition remains unchanged, and the immediate improvement after stretching of the pylorus in others, which are, under the circumstances, points in favor of a functional causation. They also suggest that the disturbance is of a transitory nature. In one case in which the pylorus was stretched, the child improved at once, and has remained well for three years. This seems a further indication of the transitory nature of the case.

Münchener medicinische Wochenschrift, August 19, 1902.

Treatment of Phthisis by Subcutaneous Injections of Arsenic.—H. Cybulski uses for this purpose a mixture composed of natr. arsenicici .2, sol. of ac. carbolic (½ per cent.) 20. For the initial injections the Provaz syringe is only partially filled. The dose is increased .1 every day or every second day until an entire syringe full is injected at one time. In all cases the injections were given daily for a period of twenty days. Of ten patients treated by this method four showed improvement. This improvement consisted in a reduction of the fever and night sweats and an increase in the appetite, bodily weight, and general strength. No effect was produced upon the intestine or heart Albumin never appeared in the urine, and hence the kidneys were not irritated by the injections. The lung lesions did not appear to be in any way influenced by the treatment.

Diagnosis of the Inherited Phthisical Disposition.—Georg Sticker says that an inherited predisposition to phthisis may be suspected in all those persons who show a reduction of inspiratory power or, more properly speaking, when the ability for inspiration is reduced out of proportion to the general muscular power of the individual. For measuring the inspiratory power the author has devised an instrument known as the thoracodynamometer, upon which the result obtained in any individual case is recorded in kilograms. The normal inspiratory power measured upon this instrument corresponds to from 32 to 46 kg. For estimating the general muscular power the hand dynamometer is used. Normally, the maximum pressure exerted by the right hand records upon this instrument from 25 to 44 kg. By the combined use of these instruments therefore the relation of the inspiratory to the general muscular power may be estimated, and an hereditary predisposition to phthisis affirmed or negatived.

Duration of the Results Obtained by the Sanatorium Treatment of Phthisis.—F. Reiche submits the following figures as coming from the sanatorium at Hansestadte; up to the end of 1901 1773 persons had submitted themselves to at least four weeks' treatment in this sanatorium. Of these, upon discharge, 1364 were able to return to their ordinary avocations; 312 were only partially able to do so; sixty-six were totally incapacitated from any further work; one died in the institution. These figures include all patients who were received from 1895 to 1900 inclusive If we take the cases as they were discharged by years during this period and estimate the proportion who at the end of 1901 were capable of persuing their ordinary avocations, we obtain the following figures: 1895, 52.7 per cent.; 1896, 65 per cent.; 1897, 67 7 per cent.; 1898, 58 1 per cent.; 1899, 61.7 per cent.; 1900, 62.4 per cent. The following had died to 1901 (the year relates to the date of their discharge): 1895, 27.3 per cent.; 1896, 17.1 per cent.; 1897, 14.2 per cent.; 1898, 18.3 per cent.; 1899, 11.6 per cent.; 1900, 4.8 per cent. While these figures are encouraging, they nevertheless show that the sanatorium treatment of tuberculosis is only of indirect value in the conflict against this disease, and that other ways and means must be brought into play before the final victory can be obtained

Munchener medicinische Wochenschrift, August 26, 1902.

Inflation of Air Pillows and Cushions.—Landgraf advises that all air pillows and cushions be provided with valves similar to those used in bicycle tires. They can then be inflated by the means of an ordinary bicycle pump, and the disgusting method of inflating them with the mouth, which is now in almost universal use, will be eradicated.

Early Diagnosis of Hereditary Subluxation of the Hip-Joint.—Peter Bade says that a determination of the position of the adductor folds of the thighs is of great value in the early diagnosis of this condition. If a normal child is placed upon its back and the legs extended and closely approximated it will be seen that the inner and lower extremities of the adductor folds exactly meet. If, however, there is a subluxation the inner and lower extremity of the fold on the affected side will fall below the similar extremity of the sound side. The author has used this sign as a means of diagnosis for some years, and has found it to give the greatest satisfaction. One case is reported in detail.

The Influence of Chronic Pulmonary Tuberculosis upon the Nerves and Senses.—H. Engel emphasizes the influence of tubercular processes upon the nerves and senses, and the frequency of the so-called neurasthenic tuberculosis. It seems probable that the neurasthenic appearances are brought about primarily by the action of the tuberculous toxin upon the nerve centers, although in many instances this action undoubtedly extends to the entire nervous system. The treatment of neurasthenic tuberculous patients demands the greatest care. In most instances they must be treated essentially as neurasthenics, and brought within the close personal control of the medical attendant. In such patients the administration of stimulants and narcotics must be carried on with the greatest caution. Neurasthenic stomach disturbances often give rise to the greatest apprehension, since they, as a rule, markedly interfere with the general nutrition. Usually such disturbances are the most successfully treated by lavage.

Berliner klinische Wochenschrift, August 18, 1902,

Extensive Pyometra in a Uterus Bicornis Puerperalis.—Emil Senger's patient had passed through a normal pregnancy and labor. The puerperium was likewise normal up to the twenty-second day, when the patient developed a temperature which was irregular but continuous. This condition continued for about two weeks, when Senger was called to see the patient. An examination showed the presence of a large tumor to the left of the uterus and in evident connection with the same A diagnosis of parametritis with circumscribed peritonitis was made, and an immediate operation advised. Previous to operating, an exploratory puncture showed that the tumor contained a thick purulent fluid. Upon opening the abdomen it was found that a true uterus bicornis was present. The right uterus was the one in which the pregnancy had taken place. The left uterus was the seat of the trouble. This had been occupied by a portion of the decidua, etc., which had not been expelled. Infection had in some manner taken place, and had given rise to an extensive pyometra in this uterus. The contents of this uterus were evacuated, and the whole thoroughly cleansed. It was not amputated on account of the bad condition of the patient, the pulse suddenly becoming very high and the respirations rapid and shallow Following the operation the fever subsided, and the general condition of the patient improved greatly Seven days after the operation the tempertaure again became elevated. For this reason the abdomen was reopened and the left uterus amputated Recovery followed in due time.

Berliner klinische Wochenschrift, August 25, 1902

Differentiation of the Typhoid, Colon, and Dysentery Bacilli.—Martin Klopstock has combined the two media recommended by Barsiekow in an endeavor to evolve a medium which would give a satisfactory differentiation between typhoid colon and dysentery bacilli. For the combined media, 1 per cent of lactose is added to the nutrose-NaCl. solution, which contains 1 per cent of glucose. In this medium, after twenty-four hours' incubation, the dysentery bacillus produces acid, but no coagulation; the typhoid bacillus produces acid, clouding, but no coagulation; the colon bacillus produces acid and complete coagulation.

Deutsche Medicinische Wochenschrift, August 21, 1902

Simultaneous Appearance of Erysipelas and Scarlet Fever in the Same Person.—P. Haller reports the case of a patient who developed facial erysipelas. Upon the morning following the evening on which the diagnosis was made an abundant scarlet rash appeared upon the chest and arms. This rash spread rapidly, and was soon accompanied by the characteristic tongue and throat appearances of scarlet fever. The scarlet fever ran a normal course and terminated in recovery. Streptococci were cultivated from the facial erysipelatous lesions. It is firmly established that erysipelas is due to a streptococcus infection. The simultaneous appearance, therefore, of this disease and scarlet fever in the same person would seem to show that the latter disease is not of streptococcus origin, since it can hardly be supposed that the same microorganism could give rise to two separate diseases at the same time in the same individual.

French and Italian Journals

Cases of False Metritis of the Menopause.—A. Doléris presents an instructive paper on the diverse troubles which are incident to the "critical period." Certain authors have described a pathological entity under the name of metritis of the menopause. At this period there is often amenorrhœa for several months, followed by prolonged hemorrhage for some days. During this time the uterus is enormous, succulent, and very soft. It bleeds easily, and is subject to various malpositions. There is almost always leucorrhœa. The cervix is enlarged and turgid. The muscle is also affected, and there occurs a veritable pseudohypertrophy. The lesions are rather those of pseudohypertrophic atony, preceding atrophy. The muscle fibers have not the solidity and strength to maintain the muscle tonus. There is also senile degeneration of the vessel walls. The physiological troubles of the menopause are local and genreal; the local troubles consist of the uterine changes; the general troubles of general reflex troubles. The treatment of these troubles is very diverse. Hydrotherapy, in the form of cold douches, astringent injections, and antiseptic injections are made use of. Faradization gives good service. An alkaline régime is prescribed, and for arthritics, a vegetable and milk diet. Iodide of potassium is sometimes ordered. Application of oxide of zinc is used to combat eczema of the vulva. And finally hygienic measures, as life in the open air, are most valuable.—*La Médecine Moderne*, August 27, 1902.

Mental Torticollis.—E. Feindel says that mental torticollis is a tic of the neck. It is sometimes an intermittent gesture of rotation of the head, and then again it is an attitude of torticollis, which is prolonged for a longer or shorter time. It is, in fact, like every other tic, a psychomotor trouble, made up of two inseparable elements: a mental trouble and a motor trouble, the one being subordinate to the other. The predominating mental trouble is a weakness of will. This condition resembles that found in childhood; there is, to a certain extent, in spite of the progress of years, an infantile mental state The arrest of psychical development is often only partial and unequal. The unbalanced condition of certain of these patients is especially marked. These patients may, besides, present fixed ideas, obsessions, and impulsions. The motor trouble is the movement of rotation of the head. In the beginning it is a co-ordinated act, but by repetition it becomes habitual and automatic. Then, when its provoking cause has disappeared, the torticollis continues without any cause. If the excessive muscular contractions cease, there is nothing left of the torticollis. It leaves no traces of its existence, only to reappear a short time later. Sometimes the patient can correct the torticollis by an antagonistic gesture. The muscular contraction may be clonic or tonic. The movements may vary; there is the simple turning of the head to one side, and the inclination of the head to one shoulder, and the elevation of one shoulder, and so on through all the category. Mental torticollis is a chronic malady, without any tendency to spontaneous recovery. The prognosis is much better if the patient is treated early in the disease. It may then sometimes be cured. Although there are many methods of treatment, the most highly recommended is that of Brissaud—motor re-education. In severe cases it is well to order rest in bed and isolation before treatment is begun.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, August 28, 1902.

Fibroma of the Uterus in a Child of Thirteen Years.—M. P. de Cavaillon has communicated this interesting observation. The history of this patient, both personal and family, was negative. At the age of twelve years she first menstruated—a normal sign of puberty. The flow was striking only by its abundance. During eight months this child, at nearly regular periods, was afflicted by marked menorrhagia. When seen in December, 1901, the patient was in a state of extreme anæmia—pale mucosa and skin, maleolar œdema, digestive troubles, and palpitations, etc. Examination revealed a large mass of the size of two fists, occupying the pelvis, freely movable with the uterus. There was no affection of the sphincters. The pains extended to the perineum, and were especially felt during the period of flow. Intervention was proposed, but was not possible at the time. Later the menorrhagia was arrested for three months, but the pains increased. A new examination showed that the tumor had grown in size. The diagnosis of large uterus was made, but the difficulty was to tell the nature of the hypertrophy. The idea of menstrual retention had to be eliminated. Pregnancy was suggested, but that hardly seemed possible on account of the age and the social position. Operation was finally undertaken. Laparotomy revealed an enormous uterus, the surface of which was furrowed with enlarged veins. Puncture of the uterine cavity revealed nothing, and hysterectomy was performed. The wound was sutured in three layers, and a drain was inserted in the lower part. The tumor was very large, and weighed three kilograms. It was entirely concerned with the wall of the body of the uterus, and the cervix was not implicated at all. The mucosa presented no macroscopical ulcerations. The operation was followed by recovery. The tumor had developed as if the patient had been an adult. Its evolution had been abdominal rather than pelvic, and this, perhaps, explained the absence of pressure symptoms. If the tumor had remained in the pelvis, the pelvic organs would then have suffered. This tumor, occurring at the early age of the patient, is very rare.—*Journal de Médecine de Paris*, August 24, 1902.

Phlebitis of the Ophthalmic Vein and of the Cavernous Sinus, Following a Dental Abscess.—N. Couderc reports this very interesting case. The patient was a man 32 years old, large and strong. He was not an excessive drinker. He had never been ill, with the exception of a succession of a series of dental abscesses which developed at the same time about carious molars in the lower maxilla on the left side. On the eighth of December, 1898, a new dental abscess appeared on the left side. This was accompanied by fever and very pronounced swelling of the gum. The urine contained no sugar or albumin. On December 11, the fluctuating point was lanced. This was followed by a flow of pus from the wound. Purulent expectoration continued all day. There was no amelioration of the local symptoms: on the contrary, the patient grew worse. The swelling increased and extended behind the angle of the jaw. On the morning of December 13 there was a violent chill, lasting an hour, and followed by profuse sweating. This was repeated that evening and three times the next day. The fever increased, and so did the swelling. The whole left side of the face was swollen, and the trouble extended down towards the neck. The fever continued and the chills recurred every day. The liver and spleen were enlarged. Abundance of fluid was administered, and purgatives as well. The patient was also bled. But it did no good. The tissues were hard. It was a difficult problem to know what to do. On December 17 a very grave new symptom appeared. It was exopthalmous of the left eye, which extended that evening to the right eye. Conjunctival chemosis developed at the same time. Vision was disturbed. The patient, who retained consciousness, complained of severe lancinating pains in all of the inflamed region. Another painful focus developed in front of the left ear. The skin was clammy, the mouth was dry, and the lips fuliginous. On December 18 a large opening was made at the level of the left masseter. The bone was reached, but not a drop of pus appeared. The bone was denuded at every point reached by the probe. It was a subacute necrosis, for it had been scarcely ten days since the beginning of the trouble. After the operation the patient fell into a semi-comatose state. The next day the patient's condition was pitiable. On December 20, he was able to reply with pain to questions. The face was enormous, the eyes protruded, but not a drop of pus came from the incision. The wound was dry. That evening he became delirious and toward morning he died. The infection had without doubt reached the branches of the facial vein, and from there had penetrated by the anastomotic vessels to the ophthalmic vein. This was shown by the exophthalmos and the chemosis, which are constant signs of phlebitis of the ophthalmic vein. From there it reached the cavernous sinus. This was indicated by the delirium, the agitation and the semi-comatose state. It is probable that there existed in the patient at the same time an infectious phlebitis and a diffuse subacute phlegmon, with mortification of the tissues.—*Journal des Praticiens*, August 30, 1902.

Treatment of Localized Pruritus by Faradization.—Bouveyron presents a communication on cutaneous faridization as a general method of treatment of localized pruritus. He concludes that cutaneous faradization (positive unipolar or bipolar) exercises a marked action over pruritus in the greater number of dermatoses, and that this influence on pruritus can ameliorate indirectly the greater part of those cutaneous affections of which the pruritus is an important factor in their production or aggravation. He recommends this method especially to those practitioners who have not at their disposal the apparatus for giving static electricity or the currents of high frequency.—*Lyon Médical*, August 31, 1902.

Primary Cancer Obliterating the Large Left Bronchus; Tuberculous Bronchopneumonia of the Corresponding Lung.—H. Barth reports this case. Primary cancer of the large bronchi is a very rare affection. This patient was a woman twenty-seven years old. She entered the hospital, complaining of cough and oppression. She was of wretched appearance, and suggested a tuberculous history. But this present illness was of only fifteen days' duration. It had begun with cough, malaise, and fever. This was followed by a chill. She was thought to have pleurisy. She then entered the hospital, and the case was diagnosed as one of grip, of thoracic type, complicated with a left-sided pleurisy. There was immobility and rigidity of the left thorax, with feeble respiration, and some pleural friction sounds. There were fine râles over all the lung area. There was mucous expectoration. An exploratory puncture was made, and serous fluid came out of the opening. The later symptoms, as they appeared, rendered the diagnosis of tuberculosis probable. Then a marked retraction of the left side was noted. The patient grew worse and died in less than two months after entering the hospital. Autopsy revealed a tumor three cm. from the bifurcation of the trachea, and almost completely obstructing the caliber of the left bronchus. Histological examination showed this tumor to be an epithelioma.—*Le Bulletin Médical*, September 3, 1902.

A Case of Plexiform Neuroma.—Among the tumors of the nerves there is one, says Clément Delfosse, which until the last fifty years has been completely unknown. It is plexiform neuroma. The case which was studied by the writer was that of a child. The left side seemed normal. The right side was considerably changed. The orbital region was very much increased in size, and, in fact, the whole face was swollen. The upper eyelid, especially, was enormously swollen by a sort of œdema. Its lower border was everted so that it showed the palpebral conjunctiva. The lower eyelid was also distorted, but was not much changed in size. The ear was pushed downward. The right side of the nose was strongly depressed. On palpation, the upper eyelid felt soft, and gave the sensation of a lipo-angioma. After pressing gently on the swelling, and reducing it, there was perceptible a series of sinuous cords, which were hard to the touch. These cords were about the size of the temporal artery in the adult. On careful palpation, they were noted to be of stony hardness, and felt through the skin like bone. They were not tender on pressure and the skin was not changed in appearance. The child had never been injured in this region. The cords were diagnosed as plexiform neuroma. For the orbital tumor, the hypothesis of reducible lipo-angioma was admitted. Operation was performed, and a part of the cords removed. Three days after this the child died quietly, as if it had fallen asleep. Autopsy showed that the organism of the child was in a degenerated condition, and thus it was explained why it had not the vitality to resist the shock of the operation.—*Journal des Sciences Médicales de Lille*, August 23, 1902.

Tuberculosis of the Omentum Cured by Simple Laparotomy; Seven Years Later, Tuberculous Contraction of the Small Intestine; Lateral Enteroanastomosis with a Button; Recovery.—Piollet reports a patient from Poncet's clinic The woman had been in the clinic some years before, and the diagnosis of cancer of the omentum had been made. She was then fifty-five years of age, with nothing interesting in the history. She had suffered from gastrointestinal symptoms, incident to physical privations. There had been alternating constipation and diarrhœa, and pain in the stomach and intestines more intense two or three hours after eating, sometimes followed by vomiting, without hæmatemesis or melæna; progressive anorexia with emaciation. The abdomen, slightly enlarged, was very sensitive to pressure, and palpation detected a tumor as large as two fists, in the lower part of the abdomen. Vaginal touch revealed a large mass, especially prominent in the left posterolateral cul-de-sac, pushing the uterus to the right, and appearing to be entirely independent of this organ. There was no functional genital symptom; the menses, which had been normal and regular, had ceased since the age of fifty, and from that time the patient had not suffered from metorrhagia, nor from leucorrhœa. The lungs were normal. Believing the trouble to be a dermoid cyst or a malignant tumor of the ovary, a sub-umbilical, median, laparotomy was performed. There was a large mass, adherent to the posterior surface of the pubis, at the left border of the uterus, and extending into the small pelvis. This mass was only degenerated omentum. There seemed to be nothing abnormal about the stomach or intestine. The wound was closed without ablation of the mass, which appeared to be impossible. For a few days the temperature was elevated, but soon she was able to leave the hospital improved. The abdominal colic completely disappeared; the vomiting ceased, and for three or four years the digestive functions were normal, excepting a slight diarrhœa for several days. About two years ago the vomiting again appeared. This grew more frequent. The patient began to grow thin and the vomiting became almost incessant, and was preceded by true intestinal colic, with borborygmi. This began chiefly in the right side of the abdomen. The vomited material was the food but little changed, reduced to pulp. Sometimes there was bile and sometimes there was none. The right part of the abdomen was a little hard, but there was no distinct tumor. Diagnosis of probable stenosis of the beginning of the small intestine was made, due possibly to one of several causes. Laparotomy was performed and the omentum was found to be perfectly healthy. The stenosis was discovered in the small intestine and lateral anastomosis was done by means of Jaboulay's button, without suture, and the wound was then closed. The patient, at the time of this report, was in excellent condition. The wound was almost healed, and the painful symptoms had ceased.—*Lyon Médical*, August 24, 1902.

The Journal of Tropical Medicine, *August* 15, 1902.

Climatic Buboes in Kusaie, Caroline Islands.—C. F. Rife reports thirty cases of this disease, fifteen of which were under his immediate supervision, in his school for boys. One of the pupils contracted it on board a ship, where a sailor had had a long attack, and the other boys took it later. All the cases in the school were below the knee: one boy also having two small ulcers on one hand. No one had enlarged glands, except with the first infection. Treatment of the ulcers was rather unsatisfactory. Nothing seemed able to abort them in their long course. Hot fomentations, plain and medicated, were tried without apparent success. After the period of suppuration was passed, the pain was much relieved by dusting the ulcers with calomel. The climate is very moist; in 1899 there were 256 inches of rainfall. Extremes of temperature are 75° and 90°F.

Beriberi at Diego Garcia.—J. Bolton describes an epidemic which, he concludes, seems to teach that the germ of the disease, vegetable or animal, may remain latent in the human body for months, until local conditions favorable to its development obtain. It then proliferates and gives rise to characteristic symptoms. The gang of laborers who imported the disease to Diégo were loathsome in their habits, and as the vessels which brought them were located together with a number of other passengers in the fore part of the "'tween deck," which is always ill-ventilated, damp, stuffy, and dark. So that, coming from one of the Comores Islands with probably the germs of beriberi latent in them, they found themselves on board under conditions favorable to the proliferation of the microbe, and landed at Diégo, with the disease in a mild form. They afterward communicated it to some of their neighbors, but with their departure the disease disappeared.

Revue de Chirurgie, *August* 10, 19

Ano-Rectal Actinomycosis.—Léon Thevenot reports a case in which the parasite penetrated into the bladder which it traversed without leaving any trace to become localized in the anorectal region. The author discusses the various forms of this disease Treatment should be both medical and surgical, the chief medical agent being the iodide of potassium, locally applied Should this fail free incisions should be made, or excisions of the affected foci, with curettage and application of the thermocautery The progress is, however, extremely grave, death being the usual termination, from prolonged suppuration and, perhaps, from a special form of intoxication.

Bloody Operation for Replacement of the Head of the Femur in Irreducible Luxation of the Hip.—G. Gayet concludes that this operation deserves to become the classic method for the treatment of old and irreducible luxations. It is not dangerous, and the results obtained are far superior to those from other methods: the functional restoration is almost ideal, a good technique is absolutely essential to success. An external incision on the trochanter is usually all that is necessary Pathological luxation following acute diseases are so similar to the traumatic that their treatment should be the same. On the other hand, in coxalgic luxation, the general systemic condition, the changes in the bones, and the danger of reawakening the process form contraindications to replacement, except in a few special cases.

Fractures of the Posterior Tarsal Bones.—Etienne Destot says that the examination of a number of radiographs taken after the occurrence of accidents to the foot, shows that there is a region of predilection for the lesions, *i. e.* the posterior tarsal. It is bounded above by a horizontal line 3 cms. above the malleoli, and by a vertical line passing in front of the tubercle of the scaphoid, and includes the lower end of the bones of the leg, the astragalus, the calcaneum, and the articular extremities of the scaphoid and cuboid. The author gives the reasons for the special susceptibility of this region. Of the fractures of the malleolus, the posterior type is the more frequent. Fractures of the astragalus occur on the head or the neck of the bone, or on the posterior apophysis. Fractures of the calcaneum occur by tearing or by crushing. The author urges a study of these lesions clinically and by means of radiographs, and an early diagnosis.

Revue de Médecine, *August* 10, 1902.

The Pathogenesis of Phlebitis.—M. Censier, discussing cases in which simple traumatism or shock appear to bear a causative relation to the phlebitis, suggests that in conditions such as the puerperal state, where there has been general shock, or where the traumatism has acted on a uterine or periuterine venous system already overburdened and dilated, where the dilatation and stasis have acted upon the vessels of the whole lower limb—that there is some complex association of causes, and that some new element, probably some blood infection, must be added to such causes as an arthritic diathesis, individual predisposition, and a subacute rheumatic condition.

The Psychic Element in Hysterical Hemianæsthesia.—M. Bernheim reports two cases which, added to other cases previously reported, he considers a proof that "sensitivo-sensorial" hemianæsthesia may be directly added to hemiplegia by pure psychic dynamism. It may be initiated by medical examinations, which quite unconsciously make suggestion; it may be grafted by autosuggestion upon a diminished sensibility due to organic causes, increased by psychism and transformed into complete anæsthesia; it may have a real organic origin from the influence of some neighboring lesion upon the intracerebral sensory tracts, but the functional trouble, which should be transitory, may survive the organic reality as a psychic image, retained by autosuggestion. This may occur in patients who are not in the least hysterical. Psychic anæsthesia is not always hysteria.

Pathological Forms of Emotional Blushing.—P. Hartenberg describes several cases, and says that a distinction must be made between cases of uncomplicated emotional blushing, and those in which the fear of blushing is added to the original trouble. The first is a well-defined and frequent phenomena, due to shyness or shame, not related to fear, and becoming sometimes so intense as to constitute a real social infirmity. This is the blushing disease, ereuthopathy. When fear is added, the two emotions influence and react upon each other, and the whole phenomena becomes more complicated—blushing creates the fear of blushing—the fear creates the blushing, and the vicious cycle is extremely difficult to treat. Sometimes the fear is intermittent and paroxysmal, coming only with the blush it is then ereuthophobia. Again it may be constantly in the patient's mind, without distraction or relief, as a sort of fixed idea. It is then a veritable obsession of blushing.

Society Reports.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

TWELFTH ANNUAL MEETING.

Held at the Hotel Kaaterskill, N. Y., Sept. 2, 3 and 4, 1902.

(Special Report to the MEDICAL RECORD.)

First Day.—Tuesday, September 2.

The meeting was called to order in the parlor of the Hotel Kaaterskill, Catskill Mountains, N. Y., by the President, Dr. Fred H. Morse of Melrose, Mass. At the opening executive session several new members were elected.

Report of Committee on Static Machines and Condensers.—Dr. WILLIAM JAMES MORTON of New York City presented this report. He said that he had been unable to do much work in this field, and trusted that another would be appointed in his place. One great obstacle to the work was the sharp rivalry between the various manufacturers of static machines and the difficulty experienced in determining what really was the best mechine. The subject was, however, assuming a new and greater importance because of the prominent position taken by the static mechine in connection with the *x*-ray. He believed that the future would bring forth a far better static machine than any yet known. He had been particularly interested in the machine recently described by Gaiffe of Paris, a machine adapted for the production of the *x*-ray. There was certainly a difference between the static machine required for ordinary therapeutic use and that for the production of the *x*-ray. The former was best represented by the Holtz type. The spark was continuous and was well borne by the patient. The spark from machines of the purely Wimshurst type was, on the contrary, very painful, although this machine was extremely valuable for *x*-ray work. The direction for the improvement in static machines seemed to be with regard to the regulation of speed. If the speed could be carried up to one thousand revolutions per minute instead of two or three hundred, then smaller wheels could be employed, and the bulk of the machine could be reduced without diminishing the output. This would be a great desideratum for the *x*-ray worker.

Dr. G. BETTON MASSEY of Philadelphia remarked that all of the high-speed machines with which he was acquainted were very objectionable because of the loud humming noise they emitted. As to reducing the bulk, it should not be forgotten that a certain amount of space was required to insure proper insulation.

Dr. WILLIAM B. SNOW of New York City thought it unwise to insist so strongly upon the need of two separate machines, one for therapeutics and the other for *x*-ray work. If the *x*-ray machine were too heavy for ordinary electrical treatment, some of the plates should be thrown out of action; moreover excellent *x*-ray work had been done with therapeutic static machines.

Dr. J. D. GIBSON of Birmingham, Ala., said that it could not be denied that treatment with the Toepler-Holtz machine was decidedly more painful than with the spark from the Holtz machine, though the former was better for *x*-ray work.

The Action and Uses of the X-Rays in Therapeutics.—Dr. WILLIAM B. SNOW of New York City read this paper. The author expressed the opinion that the best apparatus for *x*-ray work was the static machine, consisting of ten plates, having a diameter of from thirty to thirty-four inches. In the past a low vacuum tube had been generally recommended, but it had been recently learned that their application was more limited than that of the high-vacuum tube. The *x*-rays were characterized by marked chemical effects. Upon living tissues they produce (1) diminished nutrition; (2) inflammation, and (3) deep necrosis. The extent of the inflammatory process depended somewhat upon the character of the ray, but more especially upon the length of the exposures and the idiosyncrasy of the patient. After a series of prolonged exposures if dermatitis were not produced, pigmentation of the part would occur. He was of the opinion that long exposures destroyed abnormal tissue elements of low vitality, but did not unfavorably affect normal tissues unless the exposures were too prolonged. When tumors of considerable size were treated in this way the reaction was apt to be quite marked, not only locally but constitutionally. It was probably the result of the breaking down of devitalized tissue with resulting auto-infection. Lupus and epithelioma of the skin were invariably cured by the *x*-ray, particularly by the brush discharge from a wooden electrode. It was suggested that a new and promising field was opened by combining operation with *x*-ray treatment in cases of cancer. He was of the opinion that no malignant tumor at the present time should be operated upon unless the affected part were subsequently subjected to treatment with the *x*-ray. The best method consisted in the use of the *x*-ray on alternate days. The author believes that laryngeal cancer can be successfully treated by the application of the *x*-rays from a high tube to the exterior of the larynx. His experience indicated that patients did not become more tolerant after a prolonged course of treatment, and that malignant tumors beneath the skin would disappear when subjected to *x*-ray treatment for a long time.

Dr. C. R. DICKSON of Toronto said that he had known the *x*-ray treatment, especially in cases of internal cancer, to produce diarrhœa in a number of instances. It was sometimes quite severe two or three days after the *x*-ray treatment, or just when the tissue was breaking down. As to the action of the *x*-ray, his idea was that the cells of the body, no longer under the control of the trophic nerves, break down much more readily than the normal cells under the action of the *x*-ray. He thought the brush discharge should be used in all *open* cases. When it was possible to "tan" the tissues the patient would be found much more tolerant to the *x*-ray.

Dr. ROBERT REYBURN of Washington, D. C., said that when the Ruhmkorff coil was used for the production of the *x*-ray it was necessary to employ a powerful battery, and the resulting excessive amperage seemed to him to explain the greater liability to produce *x*-ray dermatitis with coils as compared with the static machine.

Dr. J. D. GIBSON said that he had succeeded in causing a number of burns in cases treated by him with the coil. He believed that all chronic inflammations, whether within cavities or elsewhere, could be favorably influenced by the *x*-Ray, and that this new therapeutic agent would prove useful in cases of fibroids showing a tendency to hemorrhage.

Dr. M. F. WHEATLAND of Newport reported a case of chronic appendicitis, occurring in an elderly gentleman, which had been greatly relieved by *x*-ray treatment.

Dr. FRANCIS B. BISHOP of Washington, D. C., said that he had observed remarkably good results from *x*-ray treatment in tuberculous nodes of the neck, and the method possessed the very great advantage of curing with the minimum of scarring. Mention was made of a case of fibroid goiter that he was satisfactorily treating with the brush discharge.

Dr. R. J. NUNN of Savannah declared that *x*-ray burns and constitutional disturbance could be, for the most part, avoided by prudent treatment. One speaker had referred to the production of diarrhœa, and he had himself observed constipation following this treatment. He had seen *x*-ray burns produced as frequently by the static machine as by the coil.

Dr. WILLIAM JAMES MORTON deplored the tendency to obscure results by combining the brush discharge and other methods with the use of the *x*-ray. With an *x*-ray of given intensity he could not see any reason for expecting different effects from the use of the coil and the static machine, though the coil was harder on the vacuum tube. The action of the *x*-ray should be sufficiently intense to reach the part it was desired to treat, and this fact alone forced the scientific physician to employ high vacuum tubes in many cases. As physicists could throw very little light on the true nature of the *x*-ray, and pathologists were far from agreeing upon the nature of cancer, physicians must, for the present at least, depend wholly on clinical observation. The superficial cancers, particularly of the face, could be almost invariably cured without knife, caustic paste, or mercurial cataphoresis, simply by *x*-ray treatment. The other methods removed tissue in bulk, the quantity being determined by the judgment of the operator; the *x*-ray, on the other hand, possessed the power of influencing diseased tissue wherever found. He believed the *x*-ray screen should not, as a rule, be employed, for our aim should be to treat the parts widely. To that end, in the *x*-ray treatment of a tumor of the axilla, for example, he would also treat the entire thorax, both anteriorly and posteriorly. It was also important to keep the tube moving from one area to another. The great trouble in the *x*-ray treatment of carcinoma situated deeply in the abdomen was that such growths do not remain local for any length of time. He had never seen a case of cancer treated with the *x*-ray that had not shown more or less retrogression. He was of the opinion that some of the more limited cases of cancer should be treated by the *x*-ray until only a small nucleus was left, and then the surgeon should complete the cure by a minor operation. In this connection he desired to say that a prominent surgeon, only a few days ago, had written to him, stating that he was an absolute pessimist regarding the curability of carcinoma of the breast by operation, and adding that he only operated with that object in view out of deference to current opinion.

Dr. Snow, in closing the discussion, said that he believed that while it made no difference, as regards the therapeutic effect, whether the *x*-ray were obtained from the use of coil or static machine, provided the vacuum tubes were properly energized, experience had taught him that with the coil he would use up six tubes as against one with the static machine. He had advocated the brush discharge because in certain cases in which the *x*-ray had not been successful improvement had followed combining that treatment with the use of the brush discharge. He favored the use of the brush discharge in all superficial cases.

The Treatment of Cancer by X-Rays.—Dr. Clarence Edward Skinner of New Haven read this paper, which was based on an experience in thirty-three cases. There was complete disappearance of the growth in two cases, permanent reduction in fourteen and permanent arrest in two cases. There was no effect demonstrable on the size of the lesions in fourteen. The general condition of the patient was permanently improved in eleven and temporarily improved in eight cases. A gain in body weight was evident in six, and no influence was apparent in twenty-seven cases. Hemorrhage was lessened in eight cases and uninfluenced in one case. Evidences of systemic toxæmia were noted in fourteen cases. Out of the thirty-three cases there were three apparent cures; thirteen were permanently benefited and were still improving; twelve were temporarily benefited; two were not benefited, and in three the treatment was discontinued too soon to expect any result. Every one of the cases was inoperable and presented a hopeless prognosis. The three cured cases were as follows: Case I.—Round-cell sarcoma of the neck of three years' standing. The patient came under treatment on November 7, 1901, and was suffering constantly. The pain was greatly relieved by the first treatment, and after the sixth treatment it disappeared permanently. Up to the present time the disease had not recurred. According to Dr. William B. Coley, there was no case on record of the permanent cure of a sarcoma of the neck. Case II.—A case of recurrent carcinoma of the right breast with evidences of metastasis in the deep lymphatics of the trunk. The case came under treatment on March 2[illegible] 1902, and up to the present time she had received sixty treatments, directed alternately upon the breast and upon the deep lymphatics of the trunk. The enlarged glands in the neighborhood of the clavicle and in the pectoralis muscle had entirely disappeared, and the patient had gained ten pounds in the past three months. Case III.—A nodulated palpable tumor, probably sarcoma, situated deeply in the lower lumbar and upper sacral regions The case first came under treatment on February 3 1902, and at that time she was suffering a good deal of pain Up to June 7 she received thirty treatments, and was then practically free from pain, and the tumors had been reduced so much as to be no longer palpable. At that time she was operated upon for a tubal pregnancy, and the operating surgeon stated that all that was found to indicate the original growth were three nodules about the size of a pea.

Dr. J. D. Gibson of Birmingham, Ala., said that his experience had been that in superficial cancers the best results were obtained from the use of very soft tubes and close exposures, ranging from seven to ten minutes. In one or two of these cases he had used a high vacuum tube, and while it had caused considerable reaction the cancer did not seem to improve so rapidly as with the soft tube.

Dr. Robinson of Lexington, Ky., said that his experience had been that if there was much involvement of the tissues the soft tubes did not give such good results—in other words, that the soft tube only influenced the superficial tissues.

Dr. N. J. Nunn of Savannah deplored this loose talk about "hard" and "soft" tubes, and suggested that it would be more exact to speak of the penetrating power of tubes, this power to be determined by the power of the tube to penetrate a definite thickness of metal.

Dr. Albert C. Geyser of New York City said that one could not speak with accuracy concerning the penetrating power of a given tube, because this was well known to vary from hour to hour. A valuable and practical way of distinguishing between high and low-vacuum tubes was by the color of the light emitted—green for a high vacuum and blue for a low vacuum or soft tube.

Dr. W. B. Snow observed that it was easy to determine the vacuum of a tube with the static machine by noting the spark gap. If the largest spark gap that could be used were only an inch or an inch and a half, the vacuum in the tube was low, while a spark gap over four inches indicated a high vacuum in the tube. With a coil it was not such an easy matter. It was advisable to use a tube having a large bulb, as the vacuum in such a tube did not change so quickly from the heating of the anode and cathode.

Dr. G. Betton Massey said that if more than he claimed for mercuric cataphoresis were true there would still be an immense field for the *x*-ray treatment of cancer The *x*-ray was easier of application, and would be found particularly useful in cases in which the area was too great for the successful application of a purely local treatment. In recurrent carcinomat of the breast the wide and deep penetration of the *x*-ray should prove especially valuable.

Dr. Robert Reyburn said he believed that the reason the knife failed in the treatment of cancer was that the disease was always diffused beyond the part visible to the unaided eye and the knife, and consequently laid open fresh channels of infection. The treatment of certain cases of cancer by caustic pastes was still popular, because of its far-reaching action, and he believed that the *x*-ray acted in a similar manner, only with the important advantage that it yielded a much better cosmetic result.

Dr. C. R. Dickson spoke of an instrument that had been devised for measuring the penetrating power of a given *x*-ray tube by means of the interposition of a varying number of thicknesses of tin foil.

Dr. SKINNER, in closing, said that he was inclined to agree with Dr. Reyburn that the *x*-ray favorably influenced cases of cancer by exerting an influence on the surrounding cells, whereby the disease was walled off from the rest of the body. All of the cases reported in the paper had been treated with a Morton-Holtz-Wimshurst machine of twelve plates, and the effects had been such as to lead him to hope that still more might be accomplished by a sixteen-plate machine.

The X-Rays in the Treatment of Cancer.—Dr. J. D. GIBSON of Birmingham, Ala., presented in this paper the clinical records of seven cases of epithelioma. He considered the *x*-ray of proper penetrating power, and, when properly used, a specific for malignant growths.

Dr. ROBINSON of Lexington, Ky., believed the only way to conduct this treatment was by the use of a high vacuum tube, and he cautioned against too frequent treatments; twice a week was usually sufficient.

Dr. C. E. SKINNER said that it was extremely important to remember that tubes of different penetrating power were necessary for tumors in different parts of the body. Sometimes a growth would respond well to treatment for three or four weeks, and then would come to a standstill unless a high vacuum tube were substituted.

Dr. D PRESTON PRATT of Chicago said that a simple explanation of the action of the *x*-ray would be found by supposing it to be similar to that of the ordinary electrical current. On the side of the body exposed to the *x*-ray one obtained an acid reaction and on the opposite side an alkaline reaction. Thousands of lines of force were concentrated, and hence the greater the decomposition the greater the change in the tissues. In his own work he was using a low tube on superficial cancer, and by increasing the force of the machine he obtained a greater number of lines of force in a given area, or, in other words, increased the penetrating power of the tube. There was absolute proof that the action of the *x*-ray on the body was due to changes in the ions produced by electrical force. The static breeze should not be used on cancer cases, because it would spread the infection.

Dr. ALBERT C. GEYSER of New York City said that two years ago he had called attention to the advantage of using the static breeze on exposed surfaces.

Dr. GIBSON, in closing, said that he had found the softest ray the most useful in skin cancers, but it required a ray of at least medium hardness to penetrate the body well. He was disposed to believe that the free use of the static breeze in the treatment was dangerous in that it favored the production of sepsis. While the breeze was an eliminator, it also served to increase metabolism, and apparently favored the dissemination of sepsis.

Second Day.—Wednesday, September 3.

Electrotherapy and the St. Louis Exposition.—At the suggestion of Mr. W E. Goldsboro, an associate member of the association, the following resolution was unanimously adopted, and a special committee was appointed to cooperate with Mr. Goldsboro:

Whereas, There is to be held in the city of St. Louis in 1904 an exposition of the arts and sciences of the world as an expression of our advanced civilization; and

Whereas, We understand that the provisions to be made for the exhibit of the progress of electricity will be adequate, and feel that electrotherapeutics deserve special recognition;

Resolved, That the American Electro-Therapeutic Association heartily commends and supports the plans which have been inaugurated for containing an electrotherapeutic display commensurate with the dignity and importance of this branch of electricity.

Epithelioma of the Tongue.—Dr. C. R. DICKSON, of Toronto, Can., read this paper. In it he reported four cases, and raised the question as to whether the ordinary *x*-ray or mercuric cataphoresis was the better. He said that he had not obtained as good results from the *x*-ray in the treatment of this class of cases as in other cases of malignant disease. The chief result was the relief of pain from the employment of mercuric cataphoresis.

Dr. D. P. PRATT said that he had treated four cases of epithelioma of the tongue, and had succeeded in curing two of them. He now believed that the other two had died because he did not know how to treat them. In one of the cases the use of the static breeze had been followed by a rapid spread of the infection, and this led him to insist strenuously that the static breeze should not be used in muscular regions.

Dr. W. B. SNOW said that he had used the brush discharge a good deal for its tonic effect upon open surfaces, and had not met with infection—indeed, it was an excellent antiseptic application. The patient should always be inductively insulated, the discharging rods widely separated, and the wooden electrode insulated by a tapering covering of glass.

Dr. FRANCIS B. BISHOP expressed the opinion that one reason for Dr. Dickson's not having obtained a better effect from the galvanic treatment was that his active pole had too much surface for the amperage employed.

Dr. DICKSON replied that it had not been considered advisable to use general anæsthesia, and it was for this reason that this size had been used.

Some Therapeutic Notes on the X-Rays.—Dr. DICKSON also read this paper. He said that he preferred the static machine and the high vacuum tube, and wrapped the shank of the tube with rubber sheeting to prevent sparking. During the first two weeks of treatment he placed the tube one or two feet from the part to be acted upon, and then gradually lessened the distance to a minimum of six inches. Only in critical cases did he approve of daily treatments, and the average duration of each treatment was ten minutes, although this was occasionally increased to twenty minutes. He avoided producing more than a marked erythema. When the vacuum tube was used in conjunction with a metallic screen the tube should be insulated with rubber sheeting, so as to prevent sparking between it and the screen. Following a suggestion of a writer in a recent issue of the *British Medical Journal*, he had made use of applications of adrenalin solution, and had found that intensified reaction. He had treated with the *x*-ray a case of vascular nævus, and it was gradually disappearing. Various other cases were also described.

Dr. J. D. GIBSON said that he had cured lupus with nothing else but the brush discharge, though he believed with the *x*-ray the cure could be materially hastened. He believed that in the near future carcinoma of the liver would be permanently cured by the *x*-ray. The great problem was to secure drainage, and it was not improbable that this would be attained by cutting down upon the part. The more a case of cancer had been interfered with surgically, the more obstinate would it prove under *x*-ray treatment.

Dr. A. D. ROCKWELL of New York city said that the reason the galvanic current and the *x*-ray relieve pain was that they set up a sort of circulatory drainage, thus diminishing the pressure on the nerve endings. He had used the brush discharge for years, but was of the opinion that it was too frequently employed. He considered the discharge obtained by the use of the converter from the static machine and a step-up process, giving greatly increased voltage, far superior to the brush discharge. In acne he had seen some excellent results from the use of this so-called hyperstatic current, and in a case of xanthoma palpebrarum it had acted admirably.

Dr. W. B. SNOW said that what was known in New York as No. 32 tin composition was the proper substance to use for *x*-ray shields. In closed cavities he made use of the glass shield, and also of specially designed simple glass vacuum tubes, connected with the negative pole of the static machine. He had used the brush discharge with the wooden electrode, and with better satisfaction than Dr. Rockwell had done.

Dr. Willis P. Spring of Minneapolis said that he had lately learned that the soft rubber used by dentists for making artificial teeth is quite opaque to the *x*-ray, and hence is of value as a shield for protecting the tube from short circuiting.

Dr. W. W. Eaton of Massachusetts, said that for over a year he had been using the hyperstatic current, and had found it especially valuable in the treatment of chronic eczema and in the relief of severe facial neuralgias. In cases of carcinoma and sarcoma he favored the use of the galvanic current as well as the *x*-ray. In one case of carcinoma of the liver, treated by a galvanic current of 150 ma. and a clay electrode front and back, the result was good, although the patient could not be said to be completely cured. Each seance lasted fifteen minutes, and was repeated every second or third day.

Dr. D. P. Pratt, speaking of *x*-ray burns, declared that they were due to the fact that microbes from the atmosphere were driven from the surface of the tube into the body. To guard against this it was only necessary to interpose a piece of celluloid, one-sixteenth of an inch thick, between the tube and the body.

Dr. C. E. Skinner denied that this was the true explanation, and added that while it was generally conceded that microbes could not be driven through absorbent cotton one of his patients had been quite badly burned, though the *x*-ray was made to pass through a surgical dressing.

Dr. R. J. Nunn remarked that if it were true that a microbe could be driven in by the *x*-ray, then it must be equally true that medicaments could be driven in in the same way.

Dr. Pratt replied that Dr. Alexander Wiener, a surgeon of Chicago, was at present working in just this line. He had invented a "celluloid cream" as a base, and with it he mixed 10 per cent. creosote. It was found that when this was applied over a tuberculous gland the creosote was driven in by the *x*-ray and the gland was reduced in two or three weeks. Experiments showed that the medicament was actually driven into the body.

A New System for Producing a Slow Alternating Current of Large Amperage for Therapeutic Use.—Dr. Lucy Hall-Brown of Brooklyn, N. Y., described this system, exhibiting the apparatus and citing cases. The apparatus is the invention of Mr. Patten, and has been modified and manufactured by E. A. Callahan of Brooklyn. The system consists in taking any straight continuous current, such as the Edison current, and transforming it into a slowly alternating current of the sinusoidal type, and with a frequency of alternations varying at will from one to fifty per minute. The current can also be transformed into a slow alternating current of a sinusoidal character. The current strength may be varied from zero to 300 or more milliamperes. The apparatus consists of a tub filled with distilled water, and having carbon plates on opposite sides. At the center of the tub is an insulated spindle, which is revolved by clockwork or by an electro-motor. At either end of this spindle is a plate of carbon or metal. By this arrangement the patient is placed upon a shunt circuit. As the revolving plates approach the fixed plates a current is set up in the patient's circuit, and this gradually increases until the nearest point is reached. After passing the terminal plates the current diminishes to zero again, and so on, the direction of the current likewise changing. The clinical effects from the use of the current from this apparatus were interesting, and peculiar, but they had not yet been thoroughly investigated, though they were being studied at the Long Island College Hospital and elsewhere.

Dr. A. D. Rockwell agreed with the reader of the paper that this current would not relieve pain when it was due to a neuritis or any acute or subacute inflammatory condition. His experience with the combined galvanic and faradic currents had taught him that these pains would not be relieved as well as by either the high tension current or the galvanic current alone. On the other hand, he had found it useful in spasmodic conditions. The same would probably be found true of the current from the apparatus now under discussion.

Dr. G. Betton Massey thought this was the best alternator he had ever seen, and the idea of using water to change the strength of the current seemed to be absolutely novel and original. He would expect this current to act well in chronic constipation arising from atony, and in atonic conditions of the uterus and vagina.

Dr. D. P. Pratt said that it was certainly the best instrument of its kind, and he predicted that it would prove more useful than any other similar instrument.

Current Differentiation Illustrated by a Case of Peripheral Neuritis Due to Parenchymatous Degeneration of the Cord.—Dr. A. D. Rockwell of New York City was the author of this paper. The case was presented: (1) because it illustrated a somewhat unusual form of neuritis; (2) as an excellent example of the necessity for careful differentiation, and (3) because of the prompt relief afforded after the failure of all other methods, including the use by others of static electricity. The case was evidently of toxic and central origin and deeply seated. The treatment which he had adopted with complete success was as follows: A cathode of sculptor's clay, three by four inches, was applied to the solar plexus, while the anode was applied by the labile method to the cervical and upper dorsal regions, and occasionally to the left arm. The strength of the current was from 20 to 60 ma., and the seances were of ten minutes' duration and were repeated daily.

Drs. Brower, Eaton, and Massey, in discussing the paper, took occasion to point out that static electricity was so wonderfully convenient of application that there had been a strong tendency in recent years to neglect galvanic treatment.

Dr. F. B. Bishop said that if he were compelled to give up all but one form of electrical treatment he would cling to his old galvanic battery, though constantly making use of static electricity. The action of the galvanic current on the superior cervical ganglia and on the pneumogastric nerve seemed to exert an influence on the entire body. He had often treated localized pain with galvanism, and, long before this pain had been completely relieved, had observed a decided improvement in the general condition.

Dr. J. D. Gibson cited some cases in point, and declared that it was almost impossible to reach deep pains in the lumbar and dorsal regions by means of the static machine.

Some Therapeutic Indications from the Use of the Electric-Light Bath.—Dr. T. D. Crothers of Hartford presented this communication. He said that the sudorific action of the electric-light bath was evidently superior to that of the ordinary hot-air bath. His experience with the electric-light bath had been chiefly among persons suffering from the toxic insanities or conditions resulting from drug-taking. He had given thirty or more baths a week. The bath that he had employed consisted of a room, five feet square and six feet high, lined with tin and lighted by one hundred incandescent electric lamps of sixteen candle power each. The entire body of the patient was exposed to the light in this room, the head being covered with a napkin, because experience showed that the treatment caused a marked drying of the hair. Sweating usually began in from two to seven minutes, and became profuse in from ten to fifteen minutes. The average duration of the treatment was twelve minutes. The regularity and force of the heart's action were increased by the treatment, and this improvement lasted for some time afterward. The patient was allowed to drink water very freely. After the bath, massage was given with hot or cold showers, and the patient then went to bed, the baths being usually given in the evening. The bath was found to promote sleep and diminish the cravings of drug-takers. The particular disorders which seemed to be influenced by the bath were neuritis, myalgia, and extreme nervous irritation. Arteriosclerosis, so common in this class of cases, appeared to be materially benefited by the electric-light bath. That the good effects observed were largely dependent upon the electric light was shown by the inferior results obtained when the hot-air bath was used with showers and massage. The psychical effect of the treatment, moreover, was not to be despised. He had not examined the blood with reference to leucocytosis, but the elimination of urea had been invariably augmented by the bath.

Dr. W. B. Snow said that in the apparatus employed by Dr. Crothers the therapeutic effects were evidently due to heat. Light, as a therapeutic agent, undoubtedly had a great value, but Finsen, in Europe, and Dr. Margaret A. Cleaves, in this country, had shown that to secure this effect of light our methods must be modified. He believed that the glass bulbs of the electric lights cut off a good deal of the therapeutic action of the light. If one were aiming at the therapeutic effect of heat, then higher temperatures should be used than in Dr. Crothers' cases.

Dr. Robert Newman of New York City, said that this light treatment was nothing more than an imitation of the effect of the sun, and it was well known that life could not be sustained without the sun. He believed the electric light was destined to play an important part in our therapeutics.

Dr. M. M. Johnson of Hartford said that he had observed the work of Dr. Crothers with the electric-light bath, and was positive that part of the effect was due to the light. In an ordinary hot-air bath, one does not see, as in the electric-light bath, little spots appear on the skin, indicating a profound effect on the cutaneous and nervous systems.

Dr. Charles O. Files of Portland, Me., spoke of the use of the electric light in the treatment of tuberculosis. Here the whole person, including the head, should be exposed. He made use of a bath having two arc lights and thirty-five incandescent lamps, arranged so that they could be used collectively or separately. He had found in some tuberculous cases in which coughing was so incessant as to make sleep almost impossible that the ozone, or something else, in the bath, promoted sleep very remarkably and also caused increased secretion.

Dr. J. D Gibson said that he had been using the electric arc lights for several years in the treatment of tuberculosis. He used arc lights of eight thousand candle power in a room measuring 16½ by 6 by 8 feet. It was necessaryto protect the eyes from the glare.

Dr. Robert Reyburn remarked that while we all knew the effect of the sun's rays, experiments published about a year ago showed clearly that the transparency of the human body to the sun's rays was but little known and appreciated.

Dr. Crothers, in closing, said that when there was any hyperæsthetic condition of the body the affected part became intensely red under the action of the light bath. For a day following the bath there was a feeling of distinct exhilaration and contentment.

Some Obstacles to the Progress of Electrotherapeutics.—Dr. Charles O. Files of Portland, Me., was the author of this paper. He said that one of the first obstacles encountered was the dense ignorance prevailing even among physicians concerning medical electricity. Again, the rapid strides of antiseptic and aseptic surgery had also retarded the progress of electrotherapy, not to speak of wilful discouragement emanating from certain surgeons. Unfortunately, electrotherapy had been impaled upon the horns of pessimism, on the one hand, and optimism on the other. The remedy was to be found in the general diffusion of knowledge among physicians and lay men relative to the curative properties of the electric current.

A Portable Electric Apparatus for Medical Use.—Dr. Robert Reyburn of Washington, D. C., exhibited this apparatus. It consisted of a wooden box, about six inches square, containing five dry compound cells, each made up of three cells, thus making the total voltage 22.5. The batteries, which cost forty cents each, are made for small electric-light outfits. According to the resistance employed, the apparatus would yield a current of thirty or more milliamperes. Instead of the expensive and delicate milliamperemeter, he used in connection with this portable apparatus Queen's galvanoscope. This can be calibrated experimentally with sufficient accuracy. One milliampere deflects the needle 10°. In place of the water rheostat he makes use of a rod of carbon, having a resistance of about four thousand ohms. This carbon rod is specially made for electrical measurements, and has a sliding metallic collar, by which rhe current is readily passed through varying lengths of the rod.

Newman's Portable Galvanic Battery.—Dr. Robert Newman of New York City described his apparatus. He said that he originally designed this battery years ago, but had more recently modified and improved it. All parts of the battery are visible, and the apparatus is portable. The cells are empty in transit, and are only filled at the place where the battery is to be used. The ordinary acid bichromate fluid is carried in a concentrated form, and is thrown away after the battery has been used. A dilution of acid of one in ten or one in twenty is sufficiently strong, and two and a half ounces of bichromate of potassium are added for each ounce of the battery fluid. The battery consists of twenty hard rubber cells, with zinc and carbon rods for the elements. If desired, the battery can be used with only ten of the cells filled. The apparatus is provided with a simple and convenient current selector.

The Diffusion of Iodine by the Electric Current.—Dr. M. F. Wheatland of Newport presented this communication. The paper contained a description of experiments carried out with the idea of clearing up certain misunderstandings regarding the diffusion of this substance. These experiments showed that iodide of potassium followed the well-known physical laws governing electrical decomposition, and that there was no reason for believing that iodide is projected into the tissues by the *positive* pole, as asserted by some writers.

Dr. Robert Newman insisted that cataphoresis was only one part of electrolysis. He said that in the electrolysis of iodide of potassium the positive pole would attract the iodine and the oxygen of the acids, while the negative pole would attract the base, the alkalies, and the hydrogen.

Dr. D. P. Pratt said that he had succeeded in driving in iodine with the positive pole, but it had returned immediately.

Arthritis Deformans.—Dr. Francis B. Bishop of Washington, D. C., presented this paper. He said that the diet of these patients should consist of beef, mutton, and similar proteids, with very little bread and with milk and eggs and water in abundance. Static electricity, in the form of sparks, to the joints, or, as some prefer, the wave current should be employed. Where there was effusion into the joint he applied the galvanic current in such a way as to cause a good-sized blister. Many cases had been treated by him with more or less success by electricity alone, but no severe case of long standing had been cured by electricity alone. The speaker said that, in spite of authoritative statements to the contrary, he was free to declare that arthritis deformans, even when advanced, could be cured by electricity and proper dietetic treatment.

Dr. Snow said that he had treated upward of thirty cases of rheumatoid arthritis, many of them with excellent success. It had been his uniform practice to put these patients on a meat diet He had not used the galvanic current, but was free to admit that Dr. Bishop's results with that current were better than he could have obtained from the static machine alone. He founded his prognosis on whether a skiagraph showed the cartilages to be destroyed. The origin of the trouble was still a moot question, but the indication for treatment was clear, *i. e.* improve the general nutrition, and this electricity would do most effectually. At the present time he believed that the *body* hot-air treatment was of benefit in these cases, though not sufficient by itself. The pain could be very promptly relieved by the brush discharge

Dr. D. R. Brower of Chicago said that he had long ago been compelled to take the position that these patients require a nitrogenous diet—an abundance of red meat. He had also found it desirable to exclude sugar, and, to a considerable extent, sugar-producing substances.

Dr. C. E. Skinner believed that the disease originated in some central nervous disorder. He agreed with what had been said about the diet, including that regarding the exclusion of sugar. The dry hot-air body treatment had proved, in his hands, a valuable adjunct to electricity, though the local hot-air treatment was useless.

Dr. N. C. Nutting of New Hampshire said that he had found starch and sugar very detrimental to rheumatic subjects. It had been his habit to have them eat freely of meat and to drink very large quantities of water.

Third Day.—Thursday, September 4.

The Relation of Psychic Suggestion to Electrotherapeutics.—Dr. Maurice F. Pilgrim of Boston discussed in this paper the philosophy of the healing of disease and the relation to true medical treatment of such fads as Christian Science. Great stress was laid upon the important part played by the *vis medicatrix naturæ*, and a word of caution was uttered against hasty and enthusiastic generalizations and deductions from observations of the supposed effects of medicine and other means of treating disease. Emphasis was laid upon psychic suggestion as an important adjuvant to electrotherapy, and the profession was urged to rescue this important means of relieving the sick from the ignorant and unscrupulous. The absurdity and mischievousness of the doctrine that psychic suggestion could not be made operative unless the person to be treated renounced belief in all other modes of treatment were dwelt upon, and its perniciousness made clear. It was the author's firm conviction that the relation between psychic suggestion and electrotherapeutics was natural and should be a closed one. In closing the lengthy discussion which this paper elicited, Dr. Pilgrim said that no one believed more thoroughly in electricity than he, yet he was far from believing that it could cure all cases. By using psychic force in connection with electrical treatment without saying a word to his patient, he had been able to get better results than from electrotherapy alone.

Illustrative Cases in the Cataphoric Treatment of Cancer.—Dr. G. Betton Massey of Philadelphia presented this communication. In it he reported a number of cases to illustrate the efficacy of this method of treatment. Some of the clinical records were accompanied by photographs showing clearly what had been accomplished.

Officers Elected and Place of Meeting.—*President*, Dr. C. R. Brower of Chicago; *First Vice-President*, Dr. Maurice F. Pilgrim of Boston; *Second Vice-President*, Dr. C. Frank Osman of Boston; *Treasurer*, Dr. R. J. Nunn of Savannah, *Secretary*, Dr Clarence E Skinner of New Haven; *Executive Council*, Drs. F. H Morse and Charle O Files. The next annual meeting will be held at Atlanti City in September, 1903

Therapeutic Hints.

Atrophic Rhinitis.

℞	Menthol		gr xx
	Aristol		ʒss
	Benzoinol		ʒi

M Sig. Use in atomizer.

C G Coakl

Trachoma.—

℞	Copper sulphate		gr i
	Salicylic acid		
	Cocaine hydrochlorate	āā	gr ii
	White vaselin		ʒiiss

M Sig. Apply at night; wash off in the morning

—*Merck's Arch*

Aural Anæsthetics.—

℞	Cocaine hydrochlorate		gr xxiv–ʒs
	Distilled water		
	Glycerin sterilized	āā	ʒiiss
	Dissolve; add absolute alcohol.		ʒiiss

M. Sig.

—Hau

Ear-drops.

℞	Carbolic acid liquefied		gr. v
	Cocaine hydrochlorate		
	Menthol	āā	gr. xv
	Alcohol		♏ 75

M. Sig. Drop in ear for three to five minutes.

—Hech

Epilepsy.—

℞	Acidi hydrobrom. dil		♏x
	Ferri bromidi		gr. i
	Potasii bromidi		gr x
	Sodii salicylatis		gr. ii
	Spir. rectificati		
	Glycerol. pepsini	āā	♏x
	Olei gaultheriæ		♏ss
	Liq. ammon. cit. (B. P.)		

M. Sig. One dose.

—Collins

Neuralgia.—

℞	Peppermint oil		ʒviii
	Tincture aconite		ʒs
	Chloroform		ʒii

M. Sig. Apply every half hour

Detroit Medical Journal, June, 1902

Tænia.—

℞	Oleoresin of male fern		
	Chloroform	āā	¼ oz
	Glycerin		ʒii – ʒss

M. Sig. One dose in the morning, followed by an ounce of castor-oil.

—J. C Patterson

Insomia of Neurasthenia.—

℞	Camphor. monobrom		gr ii
	Ext. cannabis indic		
	Ext. hyoscyami	āā	gr. ⅓.
	Ft. pil. No i.		

Sig. Two to five pills daily.

Debove and Gouri

Burns.—Robert T. Morris says that in extensive burns of the second degree, accompanied by shock, he places the patient, clothes and all, into a bathtub of hot water, injects morphine hypodermatically and anæsthetizes the patient with ether before removing the clothing or dressings. This avoids pain and lessens the degree of shock

Fruits.—The relative value and importance of fruits are said to be according to the following order: Apples grapes, bananas, oranges, peaches, pears, apricots, pineapples, plums, strawberries, raspberries, blackberries.—*Medical Times.*

Pruritus Ani.—F. S. Meara (*Merck's Archives*) reports two cases of violent itching of the anus and vulva relieved by the local application of a strong solution of suprarenal extract, repeated at intervals of twelve hours.

Hereditary Syphilis.—Jacobi states that the infant should be nursed by its mother, but never by a wet nurse; treatment should be carried out for two years, but intermittently. The best medication consists of calomel $\frac{1}{8}$ gr. three times daily for weeks, iron if anæmia be present, mercury with chalk in doses of $\frac{1}{6}$ to $\frac{1}{3}$ gr. Mercury does not affect the mouth and bowels of the infant as readily as those of the adult. Inunctions are valuable, but may irritate the skin. In extensive skin lesions bichloride baths, 1-1000, act well. Iodides are not necessary in the secondary stage, but are useful in sphyilis tarda. For iodism give chlorate of potash and atropine. Iron and arsenic are the drugs for malnutrition.

Frequent Micturition will often be relieved by the use of hyoscyamine sulphate in doses of 1-250 of a grain every hour.—*The Surgical Clinic.*

Pruritus Vulvæ.—A 10 per cent. guaiacol vasogen applied on cotton at night, and repeated for several evenings, will cure pruritus vulvæ in a short time.
SELLIGMANN.

Dysentery.—G. B. Richmond recommends twenty grains of sublimed sulphur combined with five grains of Dover's powder as effecting a cure in dysentery. In patients so treated there was no tendency to relapse or to chronic diarrhœa, alternating with constipation. This method is considered by him superior to ipecac.

Rigidity of Cervix.—Partridge says that in a rigid cervix nothing acts so well as a hypodermatic injection of $\frac{1}{4}$ of a grain of morphine and 1-150 of a grain of atropine. This is usually followed by a sleep of two or three hours, and when the patient awakens the pains begin, the cervix relaxes and labor proceeds. No ill effects seem to follow this plan of treatment.

Heat Flashes.—For the night attacks of heat and sweating observed so frequently at the menopause, Gottschalk advises the use of hot saline baths at a temperature of 42°C., lasting for about twenty minutes and to be taken every evening before bedtime.

To Preserve Suprarenal Extract.—C. W. Heitzman states that the fraction of a drop of formaldehyde to an ounce will preserve solutions of suprarenal extract, cocaine, and eucaine without rendering them irritating.

In Coryza, hay fever and allied conditions, James E. Talley considers cinchonine sulphate, in four to six grain doses three or four times daily, a most useful drug.

Surgical Suggestions.

Vesication by Chloral Hydrate.—Bonne states that rapid vesication may be produced by the use of chloral hydrate. A layer of the drug is spread over diachylon plaster, using about forty-five grains for a surface five or six inches square; it is then applied to the skin, over which vaselin or oil of sweet almonds has been previously applied; in about fifteen minutes the patient experiences a sensation of heat, which soon assumes a burning character; the plaster is then removed and the area covered with cotton; at the end of twenty or thirty minutes a blister is formed, and the patient falls asleep.

Injection Treatment of Piles.—(1) Inject only internal piles, (2) The solution of carbolic acid should not exceed 10 per cent; (3) Do not repeat the operation under a week; (4) Inject only one or two minims into each tumor; (5) Inject not more than two piles at any one time; (6) Promise relief only, and not a radical or a permanent cure. —*George W. Gay.*

Dressing for Wounds.—My experience has led me to rely fully upon balsam of Peru or iodoform as a dressing for wounds.—*Banker.*

To Boil Catheters.—M. W. Herman states that boiling silk catheters in saturated solution of ammonia sulphate prevents them from becoming cracked and rough. Boiling for from three to five minutes causes complete sterilization, and after removal they may be used immediately, because solutions of ammonium sulphate are non-irritating to mucous membranes..

The Umbilical Cord.—Budberg advises wrapping the umbilical cord in cotton soaked in alcohol. This acts as an efficient antiseptic and causes drying of the cord.

Eneuresis.—In the involuntary micturition in children Lydston recommends the urethral sound, deep injections of strychnine in the lumbar region, or urotropin—the first to relieve hyperæsthesia, the second to control the neurosis, and the last to correct the vesical catarrh.

A Hot Poultice should be hot, moist, light in color and weight, applied to relieve inflammation, draw pus to surface, etc. It should never be allowed to get cold on the patient; should be put between folds of gauze or muslin; lubricate skin; test heat against your cheek, remembering that the interior is warmer than the exterior. Cover with absorbent cotton and bandage loosely. Apply poultice gradually by allowing it to slip from the hand. Make poultice two inches larger all around the inflamed area. Discontinue use of the same as soon as tissues are softened and pus evacuated.—*Hanna Kindborn.*

Tincture of Soap has been recommended as the best medium for sterilizing edged eye instruments. It not only cleans off the blood or pus, but preserves the edge. The instruments should be wiped and placed in the tincture for fifteen minutes, then wiped again and placed in boric acid solution before the operation. After use they should be replaced in the tincture and wiped and put away.—*The Medical Times.*

In Cellulitis of the hand or foot an injection into the abscess cavity of 95 per cent. carbolic acid, followed by 95 per cent. alcohol, gives good results.—*Sargent.*

After Suturing a wound of the bladder, fill the viscus with sterilized saline solution, to observe whether there is any leakage.—*International Journal of Surgery.*

In Intracapsular Fracture of the Femur Thomson advises nailing the head to the shaft with a silver nail.

Surgeons have now quite generally abandoned the procedure of washing out the pleura after operations for empyema. Washing out does not seem to shorten the period of recovery, and it may, if repeated, cause a tendency to the establishment of a permanent fistula. It may also interfere with the formation of adhesions, thus preventing the union of opposite layers of the pleura.—*International Journal of Surgery.*

The Bacteriology of Epidemic Diarrhœa and Its Differential Diagnosis from Other Similar Diseases.—M. H. Gordon concludes that, from an examination of the literature of the subject, one fact comes out very clearly, and that is, that a more precise knowledge of the relative abundance and the attributes of bacteria occurring in the *normal* intestine would be of great value in enabling us to attach their due relative significance to many of the observations that have been made in cases of diarrhœa. Again, the relative abundance of the pathogenic organisms that have been found to occur in the dejecta in diarrhœa is a subject about which too little is known. Accurate information would also be welcome in regard to the exact relationship of various pathogenic members of the great coli-typhoid family. Hitherto, most attention has been paid to B. coli communis and B. typhosus, but enteritis, as a whole, seems to be associated with various other members of the family, and further knowledge of their relations and characters may result in more accurate perceptions, both of their effects, and of the ways to counteract them.—*The Practitioner.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 13, 1902:

	Cases.	Deaths.
Measles	47	4
Diphtheria and croup	189	33
Scarlet fever	97	6
Smallpox	6	3
Varicella	7	..
Tuberculosis	233	131
Typhoid fever	142	18
Cerebrospinal meningitis	..	1

A Good Physician.—He had completed his long course of study; had worked hard; and stood well in his class. But, as he listened to the inspiring words of the speaker who delivered the address to the graduating class, he was bathed in cold perspiration, on account of fears that his thread-bare trousers' seat might become apparent as he ascended to the stage to receive the parchment roll for which he had so earnestly labored.

A few hours later he emerged from the banquet hall, full of enthusiasm and poor claret. Then and there he registered a vow that the cold, proud, sickly world should find in him a foeman worthy of its steel. He located in a small town and waited for his longed-for practice. The cold world, however, seemed unaware of the existence of such a foeman as he; for no such knowledge was made apparent either in show of steel or coin; and the young doctor was almost in despair. But at last his first call came The old doctor across the street being out of town, a man taken suddenly ill, thinking a young fledgling better than nothing, sent for our young physician. He rapidly recovered; and, being in a grateful frame of mind, not only paid his bill, but spoke kindly to his friends of the doctor who, by his intelligent, and conscientious management of his case, had shown true merit. Then other patients came; and the start was really made. From this nucleus his practice gradually extended. The progress was slow at first, but some of his patients paid their bills. He roomed in his office. Oatmeal and soft boiled eggs are not expensive; and then, you know, it is possible to buy coffee cheap in price as well as taste. As winter approached he became the proud possessor of a new, warm overcoat. It was not fur or silk-lined, to be sure, but he found it very comfortable. One evening he had an office patient. The man greeted him as "Doc"; told him "he had come miles to see him, and was very sure he had at last found a doctor "who could hit his case." The doctor prescribed. The patient thought the fee ridiculously small, and insisted upon its being doubled. Unfortunately, he had "left his money in his room," but with a promise to call the following morning and pay his bill, he departed. The new overcoat eloped with him; and the doctor did not get his fee.

He attended a family of six children through an epidemic of scarlet fever, with its many complications. The parents of these children were profuse in their expressions of gratitude for the doctor's services. "Every cent of his bill would be paid." They would "do without clothing, if necessary, to do this." A few months later the doctor asked the father for a small payment on the bill. The man was "very sorry," but work was scarce, expenses high, and he was "awful hard up" just then. The following day, the doctor met the whole flock at the circus. The children's faces were embellished with liberal applications of gingerbread and painted candy, and the doctor never again asked this man for his fee.

He called one day upon a woman, to remind her that he might be able to use a little money. She was extremely sorry, also, that she could not help him, but "she had recently purchased a piano for Clementina, and was paying for it on the installment plan." She asked Clementina to "play something for the Doctor." As the fair maiden raced up and down the switch-board in search of the Lost Chord, he wondered why he was ever born At last the suffering seemed to have subsided, but when the proud mother suggested that Clementina "play it over again," the doctor was suddenly seized with a pain and made his escape. In his happy deliverance he found his only fee

After a time, his assets in cord wood, maple syrup, yellow dogs and, perhaps, a Thomas cat or two, seemed to warrant his taking unto himself a wife She proved a helpmeet, indeed. He always found his stockings darned His buttons always were intact; his office "spick-span" clean; and meals were always ready at the proper time. This happy pair, at the outset, resolved that their wedded life should be a grand success; one long, sweet love song. Misunderstandings and mistakes, of course, did happen, but, through the existence of an abiding love and mutual confidence, they were readily repaired. Their first fee was a boy. They named him John.

The essential requirements for a successful career in medicine are, a good groundwork of knowledge regarding theory; thorough training in methods of application; a fixed purpose; honesty, tact, and good common sense. Happy is the man who, in addition to these qualifications, has the gift of inspiring in his patients courage and hope; and leaving with them, in his round of calls, a ray of sunshine.

In this respect our young doctor was, indeed, fortunate. No matter how worn and tired he might be, he endeavored always to take with him, not only pills and prescription blanks, but a goodly fund of sunshine.

One dark, cold night he was called to a little child. His day's work had been hard. He needed rest. But when that night he changed tears and sobs to grateful smiles, and the little girl afterward, in frequent illnesses, always insisted upon having her "good doctor," he felt well repaid for his sacrifice. There came a time when his sunshine was dimmed by tears. The poor little tired sufferer was sinking into her last sleep. With a last conscious word, a last smile for her "dear good doctor," her little spirit took its flight; and now, perhaps, she fills some bright and radiant star with sunshine.

As years went by, our doctor grew in knowledge, skill, and better judgment. He dispensed, not only powders and cathartics, but kindly words of good advice, and many timely warnings. He often found in the loosening of his own purse-strings the surer way of relieving some poor, sorrowing soul of heart strain. He had no need to boast. He simply did his best, and others saw this. He did not pray; he did not preach; but dared to act, and dared to help; he dared to tell the truth; and yes, he swore when necessary, but when this doctor used an oath, he always swore sincerely.

He lived a long and useful life, full of good deeds and helpfulness to others. At length, his life's work being done, his burden dropped; and he sank into a calm, peaceful, dreamless sleep; to awaken—I know not when, I know not where. But, I believe, for every noble, honest man, for every truly, good physician, there, somewhere on the other side awaits no less a fee, than grateful, everlasting sunshine.—*Frank H. Bartlett, M.D., Olean, N. Y.*

The Organism of Variola and Vaccina.—Ishigami believes that, as the result of an investigation carried on at the Imperial Japanese Lymph Station of Osaka since 1893, he has discovered the causative agent of variola and its congener vaccina. A study of the bacteria present in variola lymph, crusts, glands, etc., of human and bovine origin, did not reveal any specific organism, but sections of vaccination sores, human and bovine lymph, and crusts all contained constantly large numbers of a distinct species of protozoa. This organism was also found to be present, during the eruptive stage, in the blood and organs of vaccinated animals. It consists of a round or oval greenish cell with a nucleus, and in the younger stages has the powers of amœboid motion. Its propagation is affected in two ways: The younger organism multiply by fission, but after having reached a certain degree of development, it forms cysts from the contents of which numerous sporozoites arise by fission. The sporozoon may be artificially cultivated on a medium consisting mainly of epithelial cells of unvaccinated animals. Calves inoculated with such a culture in two or three days develop vesicles accompanied by a rise in temperature, and in every particular corresponding to those produced after vaccination with ordinary bovine lymph. These vesicles contain the same organism, and calves inoculated in this way acquire complete immunity to subsequent vaccination with cow lymph. Both variola and vaccina are due to this same organism, since it is found in the crusts, lymph, and infected tissues of both, and when cultivated from either, produces similar manifestations. The form and properties of the organism greatly resemble those of the Microsporidium Bombycis, but the latter forms spores with polar bodies which have not yet been demonstrated with certainty on the sporozoon in question. —*Centralblatt für Bakteriologie.*

A Case of Quintuplets.—The *Sei-I-Kwai Medical Journal* a trilingual paper published in the land of the "rising sun," contains in a recent issue an account of the birth of quintuplets, which occurred in Japan in the practice of Drs. M. S. and M. U. Sato. The woman, who had previously borne eight children, had been apparently pregnant for eight months when labor ensued, but the abdominal enlargement was much greater than it had been at full term in previous pregnancies. The first fœtus—a boy—was born at 8 P.M.; after four minutes a second fœtus—a girl—was born; after another five minutes the third fœtus—a boy—was born, followed by a common placenta belonging to the first two children. After another five minutes a fourth fœtus—a girl—was delivered by the foot, and common placenta for the third and fourth children was expelled. The medical men, thinking that their task was over, examined the abdomen, but were surprised to find that there was still something in the abdomen, and, after some little difficulty, a fifth fœtus was delivered, followed by its placenta. The entire time occupied by the delivery of all the children was thirty-five minutes. They all died within two days.

Hospital for Consumption in Colorado.—A modern' splendidly-equipped hospital for tuberculous patients is to be given to the State of Colorado by Lawrence C. Phipps, in memory of his mother, Mrs. Agnes Phipps. The building of the institution will be begun in the early fall. The property consists of 160 acres, forty to be used for the present buildings and the remaining 120 will be held by Mr. Phipps at the disposal of the sanatorium whenever needed. The Denver staff will be Drs. Thomas J. Gallagher, George W. Holden, William H. Bergtold, and Carrol E Edson. The institution is to be called the Agnes Memorial Sanatorium, and will be arranged on modern sanitary ideas, with one large administration building and groups of cottages. One of its features will be an elaborately-equipped laboratory for the conducting of investigations and study of the disease. The institution will not be a purely charitable one, for patients will be expected to pay, when possible, and preference will be given to those from western Pennsylvania.

The House Fly as a Bearer of Disease.—Dr. J. Manning, in the *Journal of the American Medical Association*, May 17, shows that the fly is a direct factor in the transmission of the microorganisms of wound infection. Captive flies were allowed to crawl over dressings from infected wounds, over pus from a case of salpingitis and over bronchitis, sputum. They were then carefully transferred to culture tubes and allowed to come into contact with the various media. During the experimentation forty-four culture tubes were subjected to fly infection; of this number forty-one tubes showed the colonization at the end of forty-eight hours, three tubes remaining apparently sterile. Pure cultures of the following were obtained: Bacillus pyocyaneus, staphylococcus pyogenes aureus, bacillus prodigio—abdominalis, bacillus coli communis, bacillus prodigio—sus, sarcina aurantiaca, sarcina alba, molds, and fungi.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 13, 1902:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
California, San Francisco	Aug.	18–31	18	18
Colorado, Denver	Aug.	23–30	4	
Massachusetts, Boston	Aug.	30–Sept. 6	8	2
Cambridge	Aug.	30–Sept. 6	1	
Quincy	Aug.	30–Sept. 6	1	
Michigan, Ludington	Aug.	23–30	2	
Minnesota, Minneapolis	July	5–26	4	
Minneapolis,	Aug.	3–16	2	
Missouri, St. Louis	Sept.	1–8	1	
Montana, Butte	Aug.	31–Sept. 7	1	
Nebraska, Omaha	Aug.	31–Sept. 6	3	
New Hampshire, Manchester	Aug.	31–Sept. 6	2	
New Jersey, Camden	Aug.	30–Sept. 6	2	2
Hudson County, Jersey City included	Aug.	24–Sept. 7	3	
Newark	Aug.	30–Sept. 6	5	2
Plainfield	Aug.	30–Sept. 7	1	
New York, New York	Aug.	30–Sept. 6	12	
Ohio, Ashtabula	Aug.	30–Sept. 6	1	
Cincinnati	Aug.	29–Sept. 5	1	
Cleveland	Aug.	30–Sept. 6	84	13
Dayton	Aug.	30–Sept. 6	1	
Youngstown	Aug.	23–30	1	
Oregon, Portland	Aug.	1–31	4	
Pennsylvania, Butler	Aug.	14–21	1 case impt'd	
Johnstown	Aug.	30–Sept. 6	7	1
McKeesport	Aug.	31–Sept. 6	3	
Philadelphia	Aug.	30–Sept. 6	2	1
Pittsburg	Aug.	30–Sept. 6	19	
South Dakota, Sioux Falls,	Aug.	30–Sept. 6	1	
Tennessee, Memphis	Aug.	30–Sept. 6	1	
Utah, Ogden	Aug.	1–31	6	
Salt Lake City.	Aug.	23–Sept. 6	3	

SMALLPOX—FOREIGN.

Austria Prague	Aug.	9–23	1	
Brazil, Pernambuco	July	24–31		11
Belgium, Brussels.	Aug.	16–23	1	
Gibraltar.	Aug.	18–24	1	
Great Britain, Dublin	Aug.	23	1	
Liverpool	Aug.	9–23	17	3
London	Aug.	16–23	18	3
Greece, Athens	Aug.	16–23		1
India, Bombay	Aug.	4–12		6
Calcutta	Aug.	2–9		1
Italy, Naples	Aug.	9–23	7	1
Palermo	Aug.	16–23	3	2
Russia, Moscow.	Aug.	9–16	6	1
St. Petersburg	Aug.	9–16		2
Straits Settlements, Singapore	July	12–26		4
Venezuela, Valencia	Aug.	25	Present.	

YELLOW FEVER.

Colombia, Panama	Aug.	25–Sept. 1	5	
Costa Rica, Port Limon	Aug.	21–28	1	
Cuba, Havana.	Sept.	1	1 case from S.S. *Monterey*, from Vera Cruz.	
Mexico, Coatzacoalces	Aug.	23–30	4	
Progreso	Aug.	16–23	1	1
Vera Cruz	Aug	19–25	22	12
Venezuela, Valencia	Aug.	25	Present	

CHOLERA—INSULAR.

Philippine Islands, Manila	June	22–July 12	820	604
Provinces	June	22–July 12	5,343	4,126

CHOLERA—FOREIGN.

China, Amoy	Aug.	2–19	15 estimated	
Hongkong	Aug.	22–29	8	7
Egypt, Cairo	Aug.	9–16		1
India, Calcutta	Aug.	2–19		18
Karachi	Aug.	3–10	8	8
Japan, Tokyo	July	27–Aug. 2	2	
Okayama	July	29–Aug. 3	224	
Russia, Amur District	July	16–22	123	68
Charbin	June	14–20	12	44
Girin	July	14–20		175
Inkow	July	6–17	128	100
Mudken	July	12–15	87	73
Manchuria	To July 19		54	24
Vladivostock	Aug.	14	4	
Zizikar	July	11–13		57

PLAGUE—UNITED STATES.

California, San Francisco	Aug.	20–31	6	6

PLAGUE—FOREIGN.

Brazil, Pernambuco	July	9–23		4
Egypt, Cairo	Aug.	9–16	2	1
India, Bombay	Aug.	5–12		27
Calcutta	Aug.	7–14		15
Karachi	Aug.	3–10	3	3
Russia, Odessa	To Aug. 22		9	1

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RATIONAL OR DIETETIC TREATMENT OF "BRIGHT'S DISEASE" CONTRASTED WITH SURGICAL INTERVENTION.*

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WITHIN the past two years the proposition to cure chronic "Bright's disease," so called, by operative interference has been brought prominently before the profession. In view of this fact, it occurred to me that a discussion of the possibilities of operative interference and of scientifically-applied medical therapeutics in "Bright's disease" might be both interesting and profitable.

Scientific therapeutics calls for a method of treatment that has for its aim not alone the removal of symptoms, but the elimination of all the etiological factors entering into the production of the pathological lesions. It must also aim to remove the pathological lesions and bring about as nearly as possible a normal state in the organs implicated.

To comprehend fully the treatment of "Bright's disease," we must have a clear conception of the anatomy, and also the physiological functions of the renal glands. The same is true as regards the etiological factors that enter into the production of these lesions, their pathology, and symptomatology.

Without going too deeply into the histological structure of the kidneys, it can be stated briefly that these organs are composed of two distinct kinds of tissue; the epithelial elements, and the connective tissue substance group. The latter includes the basement substance upon which the epithelial cells rest, and the intervening or intertubular connective tissue, in which are found the blood vessels, nerves, and lymphatics. All of the several structures enumerated enter into the formation of that portion designated as intertubular.

It should be remembered that, to a considerable extent, this intertubular tissue is composed of two kinds of cells; namely, those which have an active function to perform and those which are of a lower order and simply act as connecting cells or fibers that bind the whole structure together.

The functions of the two portions may be briefly stated as follows: The vascular portion, and especially that which constitutes the glomeruli of Malpighi is for the discharge of the water and the inorganic salts held in solution, while the intertubular portion of the vascular areas brings the proteid elements and the oxygen contained in the blood into close relation with the attached surfaces of the epithelial cells lining the uriniferous tubules. As these two substances, the surplus and the utilized proteids, and the oxygen pass along in the blood current of these intertubular blood vessels, they are, as it were, constantly hard pressed against these epithelial cells, that constitute the tubular portion of the renal glands. In bringing about this action, it is highly probable that the kidney, taken as a whole, contracts and expands thus, as it were, pressing the contents of the blood vessels into the epithelial cells, and enabling them to effectually perform their function. A word of explanation relative to the two terms, utilized and non-utilized proteids, may not be without profit at this point. The utilized proteid is that which has passed through the various structures of the body, and, for a time at least, acted as an integral part of the various proteid tissues. The unutilized being that portion of the proteid absorbed from the alimentary tract in excess of the absolute demands and needs of the system, and which must be eliminated from the body, as the carrying capacity of the blood for proteids is a limited one. With this understanding of proteids, it is clear that when the oxygen and the proteids are drawn into the protoplasm of the cells in which oxidation occurs, the oxygen now being released from its previous combination with the hæmoglobin that brought it to the cell protoplasm, at once attacks both the utilized and the non-utilized proteid molecules. Under normal circumstances, and if the oxygen supply is sufficient in quantity, the proteid elements are broken up by a process of oxidation reduction with the production of the catabolic bodies common to the urine, such as urea, uric acid, creatine, water, and carbon dioxide. The first four joining with the water and the salts eliminated through the glomeruli of Malpighi to form the urine, the carbon dioxide, on account of its strong affinity for an alkaline medium, drops back into the blood stream, to be finally expelled from the system by the functional activity of the structures constituting the lungs. The water eliminated through the filtrative process carried on in the glomeruli of Malpighi represents that portion of the water which is taken into the system under its own form, while that which enters through the epithelial cells represents that which is formed as the result of the oxidation reduction of the proteid molecule in the renal epithelial cells. The former enters the lumen of the tubules at its very beginning, and by its constant descent acts upon the excretory cells as a suction force, the same as is known to be the case in the Sprengle's air pump, and thus helps to draw into the lumen of the uriniferous tubules the products of oxidation reduction, that are formed either in the epithelial cells of the kidneys, or at other points in the body. The absence of oxidation reduction products in the blood to any considerable extent, and their abundance in the urine, point strongly to their formation in the renal cells. The water formed by this oxidation reduction in the epithelial cells enters the lumen of the uriniferous tubule below the glomerulus of Malpighi or at its point of formation, and helps to hold the other oxidation products in solution in their passage from the protoplasmic structures. In this peculiar Sprengle-air-pump-like action, it is highly probable that the constant contraction and expansion of the renal glands plays a very essential part.

Another very important point to be considered in connection with the function of the kidney and the production of the pathological lesions in these organs is the battle which is constantly going on between the higher, or noble, cells and the lower, or ignoble, cells, which is most accurately described as follows by Metchnikoff, in his admirable article entitled "What Is Old Age?" (*St. Petersburg Novisti*).

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*Read before the Lehigh Valley Medical Association, at Easton, Pa., July 10, 1902.

According to Metchnikoff, "Every organ of our body is composed of two kinds of cells—common and, as it were, noble cells. The noble cells determine the peculiar functions of the organs. . . . The common or ignoble cells do not differ from one another; they are identical in all the organs, and their function is to connect and hold together the noble cells.

"Between these two kind of cells there goes on an incessant struggle. The noble cells are stronger, and for a long time they prevail, *i.e.* they successfully resist. But eventually the struggle exhausts them, and the preponderance passes to the common cells. This signalizes the beginning of old age. The noble cells are crowded more and more, the common ones growing in size at their expense and interfering with the functions of the organs. Hence the abnormal diseased appearance of the organs, and the increased difficulties in the way of living. Ultimately the performance of the functions becomes entirely impossible, and we have death."

Metchnikoff gives the term *macrophagi* to the connective-tissue cells, while he calls the noble cells —epithelia and leucocytes—*microphagi*.

This theory can be applied in a double sense in elucidating the production of our renal lesions. First, between the epithelial and the intertubular structures, as Weigert did in 1897, and which was accepted by Cohnheim and C. Wagner, which was to the effect that the connective-tissue proliferation is, in most cases, secondary to and excited by destruction (degeneration) of the renal epithelial elements; and, second, that the macrophagi or ignoble cells of the intertubular tissues are, by their very nature, constantly contending with the microphagi or noble cells of the same or connective tissue for the supremacy. Hence, in many instances where the noble cells are inherently weak, trivial causes will cause a rapid proliferation of the connective tissue between the epithelial structures.

So long as the work imposed upon the renal glands is not too great, and the nutritive supply is of the right kind and quality, the various structures of the kidney will maintain their normal integrity. The microphagi will hold the ascendancy over the macrophagi cells, and the organs will continue to fully perform their function. Under such conditions no pathological changes can be produced. On the other hand, increase the work of these glandular structures, or decrease their nutritive supply, and sooner or later the ignoble cells will gain the ascendancy over the noble, and then retrograde changes will follow, both in function and in structure. One or both of these conditions, operating either singly or in combination, is the cause, and the only cause, of all our renal affections, commonly classed under the generic term "Bright's disease."

When for any reason there is insufficient supply of oxygen, or the amount of the proteids to be oxidized in the epithelial cells is augmented beyond the oxygenating capacity of the system, there will of necessity be imperfect oxidation reduction, or, as occurs in some instances, a portion of the proteid molecules will be isomerically transformed in the protoplasm of the excretory cells of the renal tubules, and eliminated as such into the lumen of the uriniferous tubules. In the former instance and in the milder forms of incomplete oxidation of the proteid elements, there is simply a reduction in the output of the urea with a corresponding increase in the uric acid; in the more severe conditions there will be added to the above-enumerated change in ratio of urea to uric acid, various products indicative of a still more incomplete oxidation reduction of the proteid elements, such as oxalic acid, lactic acid, glucose, etc. In the latter example, or in that condition in which the proteid molecules are not reduced at all, the albuminous substance which has been drawn from the blood into the epithelial protoplasm is then, as before stated, transformed isomerically within the cell, and excreted therefrom directly into the lumen of the uriniferous tubules; not as serum albumin, as was formerly taught, but as one of the many isomeric forms of albumin found in the urine. Thus it becomes clear that by a close and careful study of the urine we are placed in absolute possession of the perfection or imperfection of the system, so far as its ability to transform the proteid molecule is concerned.

The anatomical changes resulting from increased work and defective nutrition are of two principal forms; the one implicating the epithelial structures and the other the so-called intertubular tissue. The lesion may be most marked in one or the other of these two portions, or it may be about equally intense in the two portions. If the anatomical change is confined chiefly to the epithelial structures, it is called a parenchymatous lesion; if it is chiefly in the intertubular portion, it is called an interstitial lesion, and where both are about equally involved it is designated a diffuse lesion. These three common forms may be further subdivided, both anatomically and clinically, thus increasing the number and variety of the lesions that can be recognized during life, and all are produced without any of the changes commonly classed as inflammatory.

This does not imply, however, that there is no such condition affecting the renal structures as an inflammatory process under the common term "Bright's disease," for there is occasionally produced such an intense determination of blood to the renal capillary system so toxic in its composition, that the vascular structures undergo all the changes common to a true inflammation. When this occurs the condition commonly classed as an acute exudative or diffuse nephritis is produced, and it is the only form of renal lesion to which the term *nephritis* should be applied. This form of lesion, however, is exceedingly rare as compared with all the other forms, which are in no sense inflammatory in their nature.

With this brief outline of the histology and functions of the renal glands before us, it is easy to analyze the etiological factors that tend to produce the lesions commonly classed as "Bright's disease." The conditions that will cause an increased amount of work to be thrown upon the epithelial cells of the kidney, and that will interfere with their normal nutrition, are, first, the taking into the system more proteid substances than the system needs. If more proteid material is absorbed than can be used, it must be eliminated, because, as we have already seen, the capacity of the blood to hold proteids in solution is a limited one. Hence, the overcharging of the blood with proteids indicates that the epithelial cells of the kidneys must take up these substances from the blood stream and eliminate them in some isomeric form, or else they must be oxidized into perfect or imperfect catabolic bodies, and in this form be eliminated from the system. If the oxygenating capacity be sufficiently great, oxidation reduction will occur, if not, isomeric transformation occurs, and some one or more of these isomeric forms of albumin appear in the urine. The latter example is well illustrated by the experiments in which an excessive amount of egg albumen is ingested, following which albumin quickly appears in the urine. Not because the egg albumen is absorbed and discharged as such in the urine, but because there is an active digestion with a rapid peptonization of the egg albumen, which, in turn, is followed by the absorption of more peptone than the system has use for Hence, the surcharging of the blood with albumins, and to a degree that exceeds the possibilities of the system to reduce the proteids by oxidation, an isomeric form of albumin appears in the urine as an excretory product of the renal cells—an excretory product, because the albumins are non-diffusible through the blood vessels. With this explanation, it can be asserted that the transitory presence of albumin in the urine may indicate simply and only that the human organism is being supplied with more albumin than it can utilize. Therefore, it can further be asserted that an excess of oxidation products in the urine, and even the presence of albumin in the urine, does not of necessity indicate that the patient has a renal lesion, but it does indicate that one will follow sooner or later if this abnormal condition is not corrected. Excess of oxidation products, either normal or abnormal, either alone or with the presence of albumin in the urine, should always be regarded as a danger signal and be removed, if possible, before it is too late.

The second cause of degenerative changes in the renal epithelial cells is found in the putrefactive fermentation so frequently met with in the alimentary canal. This condition results in the formation of toxic products, either formed in the alimentary canal or produced within the system. They may be in their formation either oxidation reduction products or isomeric forms of the proteid elements that are toxic in nature. The latter view is the one that appears to be the most thoroughly in harmony with the laws of chemistry, as these processes are at present enunciated. In either case they are toxic, and have a tendency to destroy the life activity of the protoplasmic structures that are called upon to oxidize or still further, isomerically, transform these proteid elements into the excretory products found in the urine. As in many instances, they are simply isomeric forms of the proteid molecule, it becomes a very difficult matter to chemically detect and isolate those which are toxic in their nature from those that are inert, yet in many instances this has been accomplished. In all instances the toxicity of these substances can be determined by physiological experimentation. With many of these compounds this has already been accomplished, but there are many more to be thus analyzed.

When this condition of putrefactive fermentation of the proteids is taking place in the alimentary canal, there is formed a substance that has received the name indican or indoxyl potassium sulphate. This substance, by virtue of its combination with the inorganic substance potash, obeys the law common to almost all inorganic substances, and is readily absorbed as such from the alimentary canal, and escapes under its own form from the system through the renal glands, and appears in the urine. When this occurs its presence is easily detected in the urine, and another danger signal is set in this excretory fluid by which the physician is warned of impending danger to the renal structures.

The third and most intense cause of degeneration of the renal cells is the presence of microorganisms acting either directly or indirectly. Directly when they are acting within the system, upon the proteid structures which go to make up the integral parts of the body; indirectly when they are acting upon the proteid elements contained in the food products while within the alimentary canal. In either instance they may produce toxic products as already described oxidation reduction products, or isomeric proteid elements. In the one instance they are produced within the system, in the other within the alimentary canal to be absorbed therefrom into the circulation. In either case the nutrition in general is impaired, and the kidneys are called upon to perform an excessive amount and abnormal kind of work, hence their degeneration. It is further highly probable, if not absolutely proved in all instances, that different kinds of bacteria produce different kinds of toxic substances, either of the oxidation reduction type or of the isomeric proteid form. From the almost uniform absence of oxidation reduction products in the blood and lymph, and their presence in all the excretions of the body, it seems highly probable that they are formed by a process of oxidation in the excretory cells of the glandular organs. From this fact it is highly probable that the toxic products within the system are more likely to be of the isomeric proteid form, hence the greater difficulty of detecting and isolating them. Some observers, as Adami of Montreal, go so far as to affirm that all the different forms of renal lesions are the result of the direct action of the bacteria and their products upon the renal structures, and that the bacterial action is entirely within the system[1]. In many instances this is unquestionably true. On the other hand, however, from all the evidence at our command, it is more probable that, in a vast majority of cases, the bacterial action, when it acts as an exciting factor in producing these renal lesions, is brought about in the alimentary canal, and not within the system. It is the bacteria acting upon the proteid elements of the foodstuffs in the alimentary canal that excites all the putrefactive changes already described, and thus indirectly, and not directly, the bacteria act as the etiological factors. Insisting, as Adami does, that the bacteria are in all cases the direct and only etiological factor in producing these renal lesions, seems like carrying the bacterial side a little too far; but when looked upon in the broader sense, and as capable of acting indirectly or secondarily, as already described, then the bacterial explanation will unquestionably account for a very large percentage, if not for all the renal lesions of the parenchymatous type.

Regarding the conditions that interfere with the normal nutrition, it is apparent to the simplest observer that the very conditions that tend to overwork the kidneys tend at the same time to interrupt or lower the nutritive activity of the renal glands, and these are the conditions that disturb nutrition. Viewed in this double light, the preventive and direct treatment of these renal lesions is more scientific and practical.

Next to be considered is the development of the interstitial forms, and here the etiological explanation is still more complicated. At the same time it is equally as clear if the physiological laws governing the animal economy are closely followed. The interstitial form is largely dependent upon the three conditions already outlined as causing the parenchymatous changes. In attempting to explain the development of new connective tissue at any point in the body, the vascular as well as the chemical law governing nutrition must always be kept in mind; namely, that all increase or decrease in nutritive activity is always and at all times dependent upon an augmentation or a diminution in the nutritive supply (namely, the blood) brought to the part by its vascular supply. This refers to the quantity as well as quality. This statement refers chiefly to the condition of the arterial capillaries. If this set of vessels is expanded and the current slow, there is augmented nutrition, provided the tissues are in a condition to appropriate to its own use the proteid elements of the blood. If for any reason the congestion is carried to too high a degree, a condition bordering on stasis is developed. Then nutrition is arrested. On the other hand, if the arterial capillaries are too highly contracted, and the blood flows too rapidly through the part, nutrition is decreased or arrested. Thus over-expansion and over-contraction may both arrest nutrition. The latter is more commonly the cause of arrested nutrition and more intense in its action.

In the parenchymatous groups of cases, where the cells enlarge rapidly and tend to compress the intertubular plexus of vessels in the kidneys, there is a decided decrease in the nutritive pabulum distributed, both to the interstitial as well as to the epithelial structures, the same as if the vessels *per se* had been unduly contracted. Therefore, as a natural sequence of this compression of the vascular supply, the intertubular connective tissue has a tendency to undergo atrophic changes, although to to the casual observer it often appears to be increased in quantity in consequence of an infiltration of the perivascular spaces with an undue amount of water. This œdematous condition of the intertubular connective tissue is produced, as dropsy is, in all parts of the body, by the walls of the blood vessels first losing their nutritive tone and then their function. When this occurs the capillary blood vessels discharge the watery constituents of the blood into the perivascular spaces more rapidly than the lymphatics can remove it therefrom. The inherent fibers, however, atrophy, and the perivascular spaces are filled with water, forming a solid œdema. When this condition is closely analyzed under the microscope, it is easily apparent to any microscopist that there is no actual increase in the tissues. On the other hand, if the retrograde changes in the epithelial cells are more gradual, accompanied by a desquamation of the cells, it may be associated with the opposite condition of the intertubular vascular supply, and in this manner a true development of connective tissue is produced. This decrease in pressure upon the plexus of blood vessels between the tubules causes an expansion of the capillaries, and is followed by an augmentation of the vascular supply, thus distributing more than the normal amount of nutritive pabulum to the intertubular connective tissue. The result of this rapid but progressive desquamation of the epithelial cells ultimately leaves the tubules, as it were, denuded of all of their epithelial cells and the vessels unsupported from this side. As a natural sequence, there results a greatly augmented flow of blood through the connective-tissue structures, and this, in turn, is followed by a decided increase in the connective tissue. Of course, there is only a limited number of tubules thus affected at a time, hence this type of lesion is apt to be progressive and to have frequent exacerbations and remissions.

There are other methods by which an augmentation in the vascular supply to the renal glands, and to the intertubular tissue in particular, can be brought about with the development of new connective-tissue between the tubules. It is quite within the range of possibility that the toxic products in their transit through the walls of the blood vessels on their way from the blood stream to the protoplasm of the excretory cells are brought into direct contact with the peripheral nerve endings that govern the contraction and expansion of these capillary vessels. When this occurs some of the toxic products paralyze the nerve endings distributed to these vessels, and the force of the blood stream from the arterial system causes an over-expansion of the arterial capillaries between the tubules, and a hypernutritive activity ensues with the production of new connective tissue. Similar changes can be brought about by what is known as the reflex action of the nervous system. The toxic products in passing through from the blood stream to the epithelial cells are as before brought into contact with the peripheral nerve-endings, but instead of acting as paralyzing agents to the nerve-endings they now act as irritants. This peripheral irritation is carried up to the cerebrospinal centers controlling the vascular system by the centripetal nerves, from which centers impulses are sent out to the vascular system through the centrifugal nerves, with the final result that the arterial system at large contracts, but with a corresponding low tension in the splenic arcade, thus causing a pronounced and continuous dilatation of the capillary blood vessels between the tubules. Thus a continuous augmentation of the renal circulation produces progressive formation of new connective-tissue. In still other instances the toxic products act directly upon the cerebrospinal centers that control the vascular system, and in this manner produce very nearly the same vascular changes in the renal circulation with augmented nutrition and the formation of new connective-tissue between the tubules. In still other instances the toxic products produce their peripheral and primary irritation at some remote part of the body, so far as the kidneys are concerned, as, for instance, along the line of the alimentary canal. From this point they act reflexly through the central nervous system, causing the same general high tension, with corresponding low tension in the splenic arcade, followed by augmentation in the vascular and nutritive activity in the kidneys, as already described. All of these methods are in full accord with the well-known physiological laws that govern nutrition. They simply augment the physiological into a pathological condition. It matters little which one of these explanations is accepted, they one and all tend to bring about the same condition, so far as the vascular supply and the production of new connective-tissue in the kidney are concerned. It is unquestionably true, however, that at different times in the same case and in different cases one and all of these laws come into play in the production of the varied types of renal lesions that are found at the necropsy. It clearly explains the parenchymatous, the interstitial, and the diffuse formations, depending upon which etiological factor predominates. All these explanations have been made possible not by clinical observation, but through years of careful research and observation carried on in our physiological and pathological laboratories. Without this kind of work medicine would be no further advanced to-day than it was a quarter or half a century ago. So, in the future all true advance in the science of medicine and its practical application for the benefit of suffering humanity must come from this same source, hence the great and increasing demand for larger laboratory facilities and workers in this line in all public institutions, until chemistry, physiology, pathology, and clinical therapeutics are brought into close and continuous touch. This fully accomplished, medicine will advance more rapidly than ever before in its history. When chemistry, physiology, and pathology are brought into full relation with the clinical side of medicine, it is perfectly marvelous what can be accomplished. The healthy and the diseased can be viewed like pictures—the oft obscure and difficult problem becomes clear and easy of elucidation.

With this full understanding of the production of the various forms of renal lesions, their treatment is best considered under two common headings; first, that of prevention, and, second, that which is applicable after positive development of the renal lesion.

Knowing that the parenchymatous lesions, or those involving the epithelial structures alone, are largely due to over-eating and drinking, but especially the former, great care should be exercised in the regulation of the diet. Knowing also that putrefactive changes in the proteids in their passage through the alimentary canal are frequently responsible for this class of renal lesions, this tendency to putrefactive fermentation should be carefully corrected. The damaging effects of the bacteria, either acting directly or indirectly, must not be neglected in the preventive treatment. In health, as well as in disease, the quantity as well as the quality of the food taken must always be kept well within the oxygenating capacity of the animal economy, if overwork and a faulty nutrition of the renal glands is to be avoided. If putrefactive fermentation of the proteid constituents of the foodstuffs in the alimentary canal is to be prevented, not only must the quantity of food taken be limited, but the quality also must be well guarded. All substances that have a tendency to undergo saccharine fermentation, or that produce undue irritation to the intestinal tract, must be rigidly excluded from the dietary. While simple fermentation of the saccharine elements alone in the alimentary canal produce very little harm, this fermentation in itself has a tendency to cause intestinal irritation, and is soon followed by a pronounced putrefactive fermentation of the proteid elements contained in the alimentary canal. This putrefactive fermentation is quickly evidenced in the urine by varying quantities of indican. On the other hand, the incomplete oxidation of the proteids is as quickly told by an excessive amount of uric acid in the urine. Therefore, uric acid in the urine in excess of the normal quantity is proof positive of either over-feeding and an imperfect oxidation of the proteid elements, or a defective oxidation from an incomplete oxygen supply to the system. Indican in the urine is proof positive of a putrefactive fermentation of the proteids in the intestinal canal, which is always associated with the formation of toxic products in the intestinal tract and the absorption therefrom into the system of varying kinds and amounts of toxic elements, or with these conditions the toxic elements may be produced within the system as the result of an abormal isomeric transformation of the proteid elements in their transit through the body. No matter how little the toxic product or where it is produced, its circulation through the system always disturbs nutrition and overtaxes the excretory functions of all the glandular organs of the body, and especially the renal glands. Too much stress cannot be laid upon the significance of these two substances in the urine, nor upon the importance of recognizing their presence in the urine early, and also the necessity of removing the conditions that make possible their presence in the urine, if prevention or cure of renal lesions is to be successfully accomplished. Both of these conditions are positive indicators of a deteriorated state of the animal economy, and one which tends to lower the general nutritive activity of the system and invite bacterial invasion, for without a suitable medium the germs cannot thrive in the economy, nor produce their damaging effects. Therefore, it becomes clear that, to prevent an invasion of the system by bacteria whose poison will eventually damage the renal structures, the two conditions just enumerated must be prevented. This accomplished, the possibility of developing renal lesions, involving chiefly the epithelial structures as the result of a bacterial invasion, is reduced to the minimum. With this understanding of the subject, it is difficult to see how operative interference can be of avail in preventing this class of lesions.

When it comes to the prevention of the multiplicity of conditions that influence the circulatory apparatus, and thus cause a modification in the nutritive activity in the intertubular structures of the renal glands, it is by no means as simple an undertaking as is the removal of the conditions that enter into the production of the parenchymatous forms of renal degeneration. Nevertheless, the removal of all the etiological factors that enter into the production of the parenchymatous or epithelial group of lesions will, in itself, produce the highest type of nutritive activity throughout the system, and thus materially aid in preventing disturbances in the circulatory mechanism, which will be liable to produce pathological changes in the intertubular portions of the kidneys. In this manner a more uniform nutritive condition of the whole system is maintained, and the normal integrity of the renal structures, as a whole, is sustained. This accomplished, the kidney tissue, both tubular and intertubular, and, in this instance, particularly the latter, is safeguarded against the development of new connective-tissue in the intertubular portions, and thus the interstitial forms of renal lesions are prevented. Therefore, that which at first seemed almost impossible to attain has been in a large measure secured.

What has been said in regard to the prevention of the epithelial and interstitial changes singly, applies with equal force to the prevention of the combination of the two when developed together, as occurs in that set of lesions known by the name of a diffuse lesion of the renal structures. The predominance of the one or the other type of lesion or the combination of the two in the same kidney is governed by the kind and amount of the toxic products that are brought to bear upon the renal cells or upon the nervous mechanism that controls the circulatory and nutritive functions of the renal glands. Therefore, it becomes clearly apparent that all forms of renal lesions are dependent primarily, and in a very large measure, upon what the individual eats and drinks. It is further equally as certain that all the toxic elements that act as the exciting factors in determining the different types of kidney disease commonly classed as "Bright's disease" are derived from the imperfect utilization of the proteid elements contained in the food products or in the structures of the body, more probably the former. It should always be remembered that the proteid elements come from the vegetable kingdom as well as from the animal, and, so far as is at present known, the one class of proteids is no more likely in itself than is the other to be isomerically, or by a process of oxidation reduction, converted into a toxic form. The vegetable class, however, is the more difficult of digestion, and is combined with other fermenting substances, which tend to excite intestinal irritation and putrefactive fermentation of the food products while passing through the alimentary canal, consequently in this secondary manner the vegetable class is more likely to cause trouble than the animal.

Aside from what we eat and drink, lack of exercise in the open air, sedentary habits, unhygienic surroundings, over-work, both mental and physical, and especially the former, must never be lost sight of as factors that enter into the possibilities of a perfect or imperfect digestion, circulation, and utilization of the food products taken into the system. Therefore, all these conditions must receive due consideration and be corrected, when necessary, if the best utilization of the food elements is to be secured, nutrition normally sustained, and the development of these renal lesions prevented.

Here, again, we fail to see how operative interference can be of much avail in preventing the development of these complex lesions.

When it comes to the treatment of the actually-existing renal lesions, as evidenced by the profound changes in the oxidation products found in the excreta, particularly in the urine, and which reach their height in the form of albumin, sugar, casts, etc., a still more arduous undertaking confronts the therapeutist. All that has been said in reference to the prevention of these lesions applies with even greater force to the more difficult task of removing the damage already done to the renal structures, and bringing them to such a nutritive condition that they can again perform their function normally. While it is well-known to all that when the renal gland has become decidedly pathological in its composition, and especially is this so in connection with the intertubular tissue or the interstitial forms, it is not possible to restore the organ to its former perfect histological condition, it can in many instances be restored to such an extent that it will, for many years, perform perfectly its full function. These cases viewed with the single eye of the histologist or pathologist, can never be cured. On the other hand, if to this observation there is added the eye of the well-trained physiologist and clinician in the analysis of these cases, and especially that of the well-trained laboratory worker, the cure of these lesions, physicologically speaking, is known to be both possible and highly probable. It is very essential, however, that the existing lesion be recognized, and the special type accurately diagnosticated early in its development, if even this physiological cure is to be effected. If it is not discovered until profound changes have been wrought in the epithelial structures or in the intertubular tissue, or in both, the possibility of recovery is reduced to the lowest ebb, but when the lesion is recognized early and suitable treatment is at once instituted, recovery is the rule. This assertion may at first be considered doubtful, but when these cases are carefully analyzed and treated in the light of the recent advances that have been made in physiology and therapeutics based thereon, it will be found true.

In the face of all this, and with this very complex chemico-pathological condition before us, we are confronted by the surgeons with the proposition that operative interference is the best method for treating chronic "Bright's disease." This assertion appears to have been brought out by the apparently good results, in some instances, that have followed splitting the renal capsule as advocated by Harrison,[2] and the still more radical operation of decapsulating the kidney as advanced by Edebohls,[3] the latter claiming that decapsulation brings about circulatory changes that are essential to a cure of "Bright's disease." Looking back upon the very complex nature of the etiology and pathology of "Bright's disease," it is a very difficult matter to comprehend how the operations advocated can remove a single one, to say nothing of the many intricate etiological factors entering into this complex problem. The same may be said regarding the pathological changes, which are equally as intricate as the etiology. The well-trained therapeutist is often able, as we have already seen, to remove many, if not all, of the etiological factors. Further than this, he can remove many, if not all, of the more prominent symptoms in "Bright's disease," and for a time, at least, cause the renal glands fully to perform their functions normally. It should always be remembered in this connection, however, that, owing to the inherent oscillatory nature of this class of diseases, such results are not infrequent. Therefore, such satisfactory results following any plan of treatment, should not lead at once to the conclusion that a universal cure has been discovered. Every one who thoroughly comprehends the very complex nature of the etiology and pathology of this class of lesions is fully aware that there are great fluctuations in the symptoms and in the course of the disease. There are often frequent exacerbations and remissions. During the the remission the case, from a physiological standpoint, can be spoken of as cured, at the same time there will always remain a certain amount of histological damage to the renal structures, as already described. So long as the etiological factors that originally excited the disturbance in the functions of the renal glands, and thus cause the familiar symptoms of "Bright's disease," can be held in abeyance the remission will continue. This may be for years, months, weeks, or only for a few days. In many instances, with scientifically directed therapeutics, based on advanced chemico-physiology and pathology, it has been my privilege to see it continue for years. In such instances a cure has practically been effected, yet a relapse may develop at any time, as illustrated in the following case: I saw the case some six years ago, in consultation. The patient, a man of fifty-five or fifty-six years of age, had been ill for more than three months. For several weeks before my first visit he had not been able to lie down, on account of a general œdema and distressing dyspnœa. These were the two most prominent symptoms. The urine contained albumin and casts, and a small amount of urea, and an excess of uric acid. After several months of careful dietetic and therapeutic treatment, all the glands, and especially the renal, performed their functions again, normally. A cure was practically effected. In June of 1901, or five years later, as the result of gross errors in diet,symptoms of active renal diseases were re-developed. For thirty-six hours the patient was comatose, the urine heavily loaded with albumin, casts, etc. Again, by a scientifically-arranged dietetic and therapeutic regimen, a disappearance of all the symptoms was brought about. And, again, he was, so to speak, cured, so much so, that in October of the same year he passed two of the large life insurance examining boards in this city, and was rated by them as an "A No. 1" risk. Ten days later, however, following a big dinner, another exacerbation occurred. Since then the urine has been normal, owing to a careful plan of dieting and suitable medication. This is only one of a large number of cases that might be recited. Had such a patient been operated on in any of the exacerbations, and survived the operation with a similar disappearance of the symptoms, the results might have been attributed to the operation.* This well-known fluctuating habit, in many forms of "Bright's disease," must always be borne in mind in analyzing results of treatment. Whatever line of treatment is adopted, it should be directed toward the removal of the

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*Since reading this paper a case previously operated upon has come under my observation. First the diagnosis was stone in the pelvis of the kidney with nephritis. Failing to find the stone, the patient was informed that he had unilateral "Bright's disease," and that the operation which he had undergone would cure him.

He came to my office some six months after the operation and said that all his symptoms had returned the same as before the operation, that he was both disappointed and discouraged.

Examination of the urine showed albumin and indican etiological factors as well as toward the removal of symptoms. Operative interference does not remove any of the etiological factors, unless it be the loss of contractility and expansibility of the renal gland taken as a whole, which we found, in studying the functions of the kidneys, was essential to a perfect performance of the functions of the renal glands. If operative interference can be shown to accomplish this, and thus uniformally improve the physiological activity of the renal circulation, then it removes one of the many etiological factors that enter into the production of this complex problem designated "Bright's disease."

A somewhat similar improvement in the renal circulation, with a diminution or disappearance of the albumin and casts from the urine, is effected, in some instances, by the use of nitroglycerin. This drug causes a general expansion of the arterial system, with a corresponding decrease in the renal engorgement, and thus brings about a freer and more physiological flow of blood through the pathological renal structures. When this occurs, it is often followed by an active decrease or complete disappearance of all the abnormal urinary symptoms. These results, tended at one time, to the belief that nitroglycerin would cure "Bright's disease," but, like many other plans of treatment advocated from time to time, it failed to come up to the full requirement of first removing all the etiological factors, consequently it, like many other single remedial agents, failed. In like manner, it seems highly improbable that incision into the capsule, or decapsulation of the renal organs, will fulfill all the requirements that are essential to hold in abeyance all the etiological factors that are increasing the work of the renal glands, and at the same time decreasing the nutrition of these organs, and that are thus keeping in motion the condition that we are accustomed to diagnosticate under the generic term "Bright's disease." Hence, operative interference, like any other single and limited method of treatment, is liable to be disappointing in most instances.

The successful treatment of this class of diseases calls for a much wider range of therapeutic skill than simple operative interference.

In treating the fully-acquired lesions, out-of-door exercise must be insisted upon with as much precision as the use of medicines. Exercise must not be taken to the extent of producing exhaustion, but in sufficient amounts to increase the oxygenating capacity of the system, so that it will be enabled more perfectly to oxidize the proteid constituents. The clothing must be such that it will prevent undue chilling of the surface of the body from the sudden changes in the atmospheric temperature. In fact, the best results are obtained where the surface of the body is kept in a gentle perspiration at all times. All insanitary surroundings must be removed. Overwork of the muscular and nervous system, and especially the latter, must be avoided. All mental worry, or anything that tends to disturb digestion, is contraindicated, and must be controlled in some manner. The chief and all-important treatment, however, consists in the perfect management of the diet in accord with our advanced knowledge as to its composition and utilization by the system. Here, as in all other diseased conditions, as well as in health the well-regulated mixed diet is the ideal one to institute.

The recital of a few general priniciples in relation to diet is essential to a full comprehension of this all-important subject. Four general laws underly the whole subject. First, for the best working of the physiological economy it is necessary to take a certain amount and quality of the so-called inorganic elements, all of which act simply by their mechanical presence while they are within the system. Second, it is necessary to take the requisite amount and quality of simple heat-producing substances, such as starch, sugar, and fat, compounds that are directly oxidized into carbon dioxide and water with the production of heat. Third, the introduction of the requisite amount and quality of the proteid elements or the true and only tissue-building substances; and, fourth, there must be supplied to the system the necessary amount of that complex substance in which the iron and phosphorous atom is combined with a proteid, known as nucleoalbumin, and out of which the hæmaglobin for the blood and the lecithin for the nerve tissue is formed by oxidation reduction.

The milk diet which has been so long extolled in the dietetic management of all renal affections, is largely deficient in this essential nucleoalbumin compound; hence, it cannot be considered an ideal diet in any class of lesions in which a progressive anæmia is one of the essential features, as is the case in connection with all renal lesions. In like manner, meats of all kinds, while they are, like milk, the best of all food substances for supplying an available form of proteid for tissue-building, are also deficient in this hæmoglobin-forming compound, nucleoalbumin; consequently, they are not ideal in their nature. It must always be remembered, however, in this connection that beef proteid is the most easily digested, absorbed, and assimilated of all the known proteids. This is true both of the animal as well as of the vegetable class. Eggs and milk stand next in the order enumerated, while the proteids derived from the vegetable classes are the most difficult of all to digest. All of the animal class, as well as those enumerated, are defective in the amount of the hæmoglobin-forming element, nucleoalbumin, but the amount contained in the animal kingdom, like the associated proteid, is much more available than the same substances which are often found more abundantly in the vegetable kingdom.

Turning now to the vegetable kingdom, it, like the animal class, is found to be abundantly supplied with proteid elements and to contain a superabundance of the hæmoglobin-forming element, nucleoalbumin, as compared with the animal class. While both the proteid and nucleoalbumin is less available than that found in the opposite kingdom, it can be made to readily supply the deficiency of the animal class. At the same time it must always be remembered that, when resorting to the vegetable kingdom to supply this much-needed nucleoalbumin, foods are being introduced into the alimentary canal that contain an excess of the starchy and saccharine compounds, and that these hydrocarbon compounds, by virtue of the ease with which they are digested and absorbed, are very apt to overtax an already defective oxygenating capacity of the system, and thus add, as it were, fuel to the fire by still further retarding the oxidation of the proteid elements, which even normally are more difficult of reduction. Further than this, many, if not all, substances derived from the vegetable kingdom are irritating to the alimentary canal, and easily undergo saccharine fermentation, while, as we have already

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in considerable quantities. There was a slight decrease in the elimination of urea and a large excess of uric acid. Microscopically, the urine showed uric acid in abundance, large numbers of red blood cells, hyaline and granular casts. Evidently an acute exacerbation in the course of a chronic "Bright's disease." Under appropriate dietetic and medicinal treatment the symptoms are rapidly disappearing, and again an apparent cure is being effected, as illustrated by the cases recorded in the body of the paper. This case demonstrates conclusively that operation does not permanently cure "Bright's disease" found, their contained proteids are very difficult of digestion compared with those derived from the animal kingdom. In fact, the proteids of vegetables often pass through the alimentary canal untransformed into a peptone, which is the only isomeric form of the proteid molecule, at present known to be taken up from the chyme by the epithelial cells lining the intestinal tract, to be discharged therefrom, in various other forms, into the bloodvessels, thus forming the various albuminous constitutents that are found in the blood and tissues of the body.

This being true in health, it is so, to a much higher degree, in diseased conditions. Therefore, we have it conclusively established that neither the animal nor the vegetable class of foodstuffs alone is wholly available in the dietetic management throughout the whole course of this or any other class of diseased processes.

This being an established fact, the best results are attained in the management of this class of cases, as in all other forms of disease, by the use of a well-regulated mixed diet as soon as it can be digested and assimilated.

A good example and illustration of this principle occurred in a case that I saw in consultation last winter. It was that of a young woman pregnant for the first time. She was in the ninth month of her pregnancy, but just how far along could not be determined. The week before Christmas the urine was examined and found to be practically normal. During the holiday festivities she indulged in many errors in diet. On the sixth or seventh day after New Year's day, the attending physician discovered albumin and casts in the urine, and recognized at once the critical nature of the situation. He had the patient go to bed, and placed her on a milk diet. When I saw the patient, which was on the tenth of the month, the urine was heavily loaded with albumin, the elimination of urea was reduced to about one-half the normal quantity. The urine also contained hyaline and granular casts, indican, and uric acid in large amounts. The patient was decidedly toxic (uræmic) and on the border-line of eclampsia. At my suggestion, the bowels were acted upon freely by compound cathartic pills, the patient was placed on a well-regulated mixed diet, and allowed to get up and take regular exercise. During the following forty-eight hours the excretion of urea progressively increased until it rose above the maximum. At the same time the indican and uric acid decreased. The albumin and casts, however, remained practically unchanged in the urine. All the toxic symptoms disappeared, and three days later the patient appeared to be in a fairly normal condition, aside from the albumin and casts. The symptoms having assumed a less serious aspect, no effort was made to terminate the labor. Four days after the patient had been placed on the mixed diet, with attention to the digestive and hepatic functions, Nature terminated the pregnancy in natural labor, the child being born without an untoward symptom. There were no after-symptoms, and on the day after delivery the mixed diet was resumed. The elimination of urea was kept well up to the normal standard, the indican, uric acid, albumin, and casts gradually disappeared from the urine, and the patient made a perfect recovery. The baby was strong and healthy.

This is only one out of many cases that could be cited showing the good effects of a well-regulated mixed diet, assisted by scientifically-applied therapeutics.

A well-regulated mixed diet is one that is composed of both the vegetable and animal class, but one in which the latter largely predominates. Where Nature unaided cannot digest such a diet, she often can be assisted by the judicious administration of medicinal agents. When, for any reason, the system has degenerated to the point that it cannot be made to utilize a well-regulated mixed diet, the prognosis is bad, and death will ensue sooner or later, all of which is fully demonstrated by clinical experience.

Many observers lay great stress upon the exclusion of the red meats and advocate the use of the white meats only. Where this is the case it is quite apparent that the fullest knowledge in relation to the composition of the foodstuffs and the physiology of digestion and the utilization of the different elements contained in the two kingdoms is not brought to bear as it should be upon this all-important question. Of the two, the red meats are to be preferred.

Careful experimentation upon the human subject has demonstrated conclusively that the proteid of beefsteak or red meat is the most easily digested, assimilated, and oxidized of all the proteids, the loss being only 2 per cent. Eggs rank next, and milk comes third on the list, and so on down through the list of food products until oatmeal is reached, which is the most indigestible of all known substances, for with oatmeal there is a loss of 80 per cent. as compared with the amount ingested. It should further be remembered that no matter what the original form of proteid is, it must in every instance be reduced from the multiple to the single molecular state, and from this condition be transformed into that isomeric form known as a peptone before it can be taken up by the epithelial cells. Therefore, when the chemistry of digestion and absorption is under consideration the investigator has to calculate only with that state of the proteid molecule known as a peptone, because all proteids must be reduced to a peptone before they can be absorbed. So far as is known to the chemist, it is neither red nor white, but in all instances of the same isomeric form of construction, having lost its former identity in the digestive process. Consequently, the real question at issue is what form of proteid can be most easily transformed into a peptone with the least expenditure of digestive energy. This has been settled in the order above named by the experiments of König,[4] Rubner[5], Hofmann,[6] Strümpell,[7] Prausnitz,[8] Meyer,[9] Monk,[10] Atwater,[11] Chitenden Cummins,[12] and others. In the vegetable class, wheat ranks first, but is still considerably behind the animal class.

With the foregoing facts before us, what reasonable excuse can be offered for using food products that have in their construction a tendency to irritate and overtax an already enfeebled digestive and assimilative state of the system. Why not use instead those that are the most easily peptonized and absorbed. It appears to the author of this paper that the disregard of these fundamental principles resulting from a false interpretation of facts by many teachers, is the one great reason why so many failures have been recorded in the management of these renal lesions. On the other hand, it explains fully why such phenomenal results are obtained by those who adhere more closely to the known laws of chemistry and physiology and govern the work of the animal economy with such absolute accuracy.

Medication, so-called, as formerly used, and as it is still employed in many instances at the present time, simply adds fuel to the fire and absolutely prevents Nature from accomplishing what she might otherwise do, and thus prevents recovery. On the other hand, when these exact chemical laws are fully compehended and so-called medication applied in full accord with these phenomena and principles, Nature is greatly aided in her efforts,not only to prevent the development, but in bringing about a physiological cure of these diseases. The treatment should be directed not so much to the kidneys as toward removing the etiological factors that enter into the production of these lesions. When this plan is followed, even after the full development of the disease, it will in many instances assist Nature to remove the causative factors and, as far as is possible, repair fully the local damage, so that the result is almost miraculous in its completeness. When this plan of scientific dietetics and therapeutics is more universally applied in the treatment of this class of lesions there will, in my opinion, be few cases calling for operative interference.

The conclusions to be drawn from this study are:

1. To analyze thoroughly the results of treatment in "Bright's Disease" one must have a clear conception of the histology and physiological functions of the kidneys.
2. Its complex pathology must be clearly understood.
3. All the etiological factors must given full consideration.
4. The etiological factors are numerous and very complicated in their action.
5. Only *one*, if any, of these can be reached by surgical interference.
6. Most of the etiological factors can be modified or removed by well-directed rational dietetics and therapeutics.
7. Histologically speaking, "Bright's disease" can never be cured.
8. Physiologically speaking, the etiological factors can be modified, and often removed, the symptoms held in abeyance, while the renal glands perform their functions normally.
9. "Bright's disease" is by nature an oscillatory malady, accompanied by frequent remissions and exacerbations.
10. *Remissions must not be mistaken for cures.*
11. Rational dietetics and therapeutics offer the largest possibility for a complete physiological cure.
12. A well-regulated mixed diet, especially if composed largely of the animal class, when it can be tolerated, yields the best results.
13. All therapeutics to be rational must be directed not at the pathological lesion *per se*, but toward establishing a more perfect digestion and metabolism and a decrease in the work imposed upon the renal glands.

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"THE STRATHMORE," BROADWAY AND FIFTY-SECOND STREET

TUBERCULOSIS OF THE URINARY TRACT.*

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THE physician, whose duty it is to examine a patient for disease of the urinary tract, finds himself in a somewhat peculiar position which differs from that in which one is usually placed in examination for other troubles. Abundant and different as are our diagnostic aids, perfect as are our newer instruments, one must first answer the question whether he may make use of these technical helps. Even though one proceed immediately to the use of the laryngoscopic mirror in laryngeal troubles; although he subject a diseased eye at first sight to a thorough and extensive examination by the various illuminating apparatuses, yet the disease of the urinary tract always imposes a certain hindrance in the use of diagnostic aids which is not to be underestimated.

The sound, catheter, and cystoscope may, in many cases, quickly and surely satisfy the diagnostic need, yet one must at first, and occasionally through the entire course of the disease, abstain from their use. The application of these methods constitutes an operative procedure from which a patient may suffer considerable damage, even though the greatest care and most rigid asepsis has been observed in their application.

If what has been said applies to disease of the urinary tract in general, it is more especially applicable to the *tuberculous* diseases of the same.

As the brief time allowed to me in this symposium permits only a hurried survey of the advanced data in the knowledge of these diseases, I will confine my remarks to the discussion of tuberculosis in two organs—the bladder and the kidney.

With regard to the *etiology* of these diseases, we must acknowledge that the theories of the various authors concerning the development and spread of the tuberculosis of the genitourinary tract differ. Some assume that the affection desends from the kidney to the genital organs, others while admitting the possibility of this origin, hold that the process ascends from the genital organs to the urinary tract. Of course, the essential etiological factor in tuberculosis of the bladder, as in tuberculosis of other organs, is the tubercle bacillus.

The route through which the bacillus reaches the bladder might be manifold. The larger percentage of cases are undoubtedly induced by the urine carrying the bacillus from the kidney or ureter and the bladder becoming involved by mural implantation. Probably next in order of frequency is the extension from the ureter directly to the ureteral orifices and the bladder. Less commonly infection might occur from tuberculosis of the prostate. The involvement of the bladder by extension from the seminal vesicle is possible, but undoubtedly rare, and probably least common of all is infection of the bladder from the blood stream.

As no age is exempt from the disease, we should not place any diagnostic importance upon the age of the individual in any given case. More important are family susceptibility or antecedent affections of the urinary tract, especially gonorrhœa.

In a paper read before the "Verein für innere Medizin of Berlin," Casper[1] mentioned the fact that of his thirty-five cases of tuberculosis of the bladder, twelve had had gonorrhœa, and he recommends a particularly thorough treatment of these cases, as a previous gonorrhœal cystitis not infrequently prepares the soil for tubercular infection.

As to symptomatology and diagnosis of tuberculosis of the bladder. I would state that while tuberculosis in most organs is accompanied by a more or less conclusive clinical picture, this applies least of all to the tuberculosis of the urinary organs. There are several very significant symptoms indicative of tubercular affection of the bladder, but not always such as that they could not be mistaken for some other disease of the bladder, and, furthermore, we often encounter cases of tuberculosis of the bladder without those characteristic symptoms being present. On this account it is extremely essential that in considering the diagnosis of such cases one idea should always be borne in mind. There is not one method or one significant clinical feature by means of which a man can with ease and positiveness make a diagnosis for or against tuberculosis in all these cases. It is only by bringing into play all the factors that the laboratory and clinical observation can control that a man can say in very many disputed cases of the urinary tract that a disease is or is not of a tubercular nature.

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Frequent desire to urinate, with painful micturition, and the pathological condition of the urine, are the chief symptoms met with in such cases. The first thing to attract the patient's attention is his frequent desire to urinate. Urination becomes more frequent as the disease advances, and is soon associated with pain, which is usually experienced about the middle of the penis. This symptom is very significant of tubercle, and differs from that which pertains in calculus, where the pain is felt at the meatus; and whereas in tubercular disease of the bladder the pain is present before, during and after urination, it is not so much aggravated after emptying the bladder as is the case in stone.

In the later stages of the disease the violent contractions to which the walls of the bladder are subjected during the course of the disease, and the products of the chronic inflammatory process lead, as a rule, to great thickening and progressive contraction of the lumen of the organ, so that the capacity of the bladder in extreme cases hardly exceeds a tablespoonful. This condition is always associated with an urgent and frequent desire for micturition.

The urine exhibits the same appearance and contains the same morphological constituents as in cases of chronic catarrh of the bladder, and presents, in addition, two very characteristic features—hæmaturia and tubercle bacilli.

Hæmaturia is frequently a prodromal symptom in vesical tuberculosis, occurring only at intervals and merely in quantities sufficient to impart a reddish tinge to the urine. Profuse hemorrhage following micturition usually implies ulceration of the bladder.

The demonstration of the presence of tubercle bacilli in the urine, however, is the most reliable diagnostic resource in such cases. As this factor is of the utmost practical importance, I think a more detailed consideration of this point justifiable, partly because the staining and detection of tubercle bacilli in the urine sediment is somewhat difficult, partly on account of the necessity of their differentiation from other bacilli, which may at times resemble them.

In the first place, it is a well-established fact that tuberculosis of the urinary apparatus may be widespread without the investigator having been able to demonstrate the presence of bacilli in the urine, and while every general practitioner is able to demonstrate with comparative ease the presence of tubercle bacilli in tuberculous sputum, it becomes a more complicated affair to detect them in the urine.

The secret of finding tubercle bacilli in the urine lies in rapid sedimentation by the centrifuge and immediate staining. Urine which has stood sufficiently long to sediment in the ordinary conical glass commonly fails to show the organisms. However, even with the utmost care and consideration of this point, we are often unable to detect tubercle bacilli in the urine. Is this due, perhaps, to the morphologic changes the organism undergoes in the acid urine, so that we no longer recognize it? While partly due to the condition named above, the failure to find the organisms is to a greater extent due to the small number of bacilli present in the urine.

If the bacilli cannot be found, the injection of a few drops of the urine sediment into the eyes, a joint or the peritonal cavity of a rabbit will often succeed in reproducing the disease.

Regarding the differentiation of the tubercle bacilli from other bacilli, it may be stated that the only organisms which may be mistaken for tubercle bacilli are smegma bacilli. That the error is a common one can be concluded from the many cases reported in the medical literature where smegma bacilli had been mistaken for tubercle bacilli. As the smegma bacilli are very commonly present about the genitals, it has been suggested, in order to escape this error, to draw the urine by the catheter. Sondern,[2] however, who has made an exhaustive study of these conditions, has found smegma bacilli in urine drawn by catheter, and even in separately collected urine, and he has, therefore, abandoned the conclusion advocated by others, that urine obtained by catheter from the bladder contains no smegma bacilli, so that these specimens should have the same care in differential staining as those voluntarily voided.

There are, however, several points, the consideration of which will almost in every case enable us to differentiate tubercle bacilli from smegma bacilli, and these are the staining, grouping and cultivation of the bacilli found in the sediment.

As to the differential staining, we see the smegma bacilli completely decolorized by acid-alcohol, while at the same time no action on the color of tubercle bacilli. Regarding the grouping, I would say that smegma bacilli may occur in clumps or single; when in clumps the arrangement is usually an irregular one, but never in the characteristic groups of tubercle bacilli. On the other hand, tubercle bacilli found in the urinary sediments occur single at times, but in the large majority of cases in smaller or larger groups. The grouping is generally characteristic—the bacilli lie side by side, parallel, and end to end in a more or less regular arrangement.

If there should be any doubt left, it is advisable to resort to cultivation, the smegma bacilli growing much faster than tubercle bacilli.

The cystoscopic examination in cases of tuberculosis of the bladder does not offer a very characteristic picture in general, and is, as a rule, contraindicated on account of the great irritability and hyperæsthesia of the bladder, and its inability to expand. In some cases, however, it will aid in determining the starting point and extent of the disease present.

The two places in which tuberculosis of the bladder is most likely to commence are the ureteral orifices and the trigone of the bladder. The former starting point of the disease is the rule when the disease is secondary to renal tuberculosis. The trigone is usually the starting point in primary tuberculosis of the bladder, or by extension of the disease from the genital organs. In some cases, where no bacilli can be found, we may thus be enabled to clear up the diagnosis by detecting typical gray nodules, or the so-called lenticular ulcers, or to suspect the involvement of the kidneys.

The treatment of tuberculous disease of the bladder can be divided in general treatment, direct medication, and surgical procedures.

With regard to general treatment, it may be sufficient to state that dietetic, climatic, and proper hygienic surroundings play as important a part in these cases as they do when any other organ of the body is invaded by tuberculous disease

The internal use of drugs known to be antituberculous, as well as urinary antiseptics, should be commenced early and continued for a long time, especially guaiacol, beginning with three-drop doses three times daily, up to twenty drops, or the same number of grains of its carbonate, when the dose should be gradually diminished. Some authors have seen good results from the internal use of ichthyol in ten to sixty-drop doses three times a day.

Of the urinary antiseptics which are especially indicated when pus is found in the urine, I should like to mention salol, resorcin, boric acid, and methylene blue.

The local treatment of vesical tuberculosis has not proved very beneficial, unless done with the utmost care in selecting the proper cases and in using instruments that have been rendered absolutely sterile I cannot lay too much stress on the fact that a tubercular bladder is very sensitive to any instrumentation, and the handling of such cases has often recalled to my mind the experience we have in the treatment of tuberculous joints and bones, where the surgeon, by non-surgical interference, oftentimes obtains the best results. One idea should always be borne in mind—never to distend the bladder through irrigation, as over-distention invariably tends to aggravate the local condition. In consideration of this point Guyon[3] only uses instillations, preferably with corrosive sublimate, and other authors have accepted and respectively modified this treatment of vesical tuberculosis.

At first the instillations are made weak, about 1:1,000 to 5,000, twice a week, the strength of the solution and its quantity gradually increased to 50 c.c.m. If the treatment is not well borne, or is not followed very soon by improvement—lessening of pain in micturition—it is best to desist from further local medication. Nitrate of silver, so useful in the treatment of chronic vesical catarrh, has proven of no value in the treatment of tubercular cystitis. I consider this point of so much importance that whenever a case of so-called chronic vesical catarrh does not respond to a few nitrate of silver applications I am inclined to diagnose the case either as pyelitis or as tubercular disease of the bladder, unless the chronic catarrh is dependent upon the presence of some other cause, such as tumor, stone of the bladder, or hypertrophy of the prostate gland.

In some cases it becomes necessary to resort to surgical procedures in order to relieve pain, tenesmus, and the frequent desire for urination. For this purpose permanent drainage becomes necessary, either through perineal or suprapubic cystotomy. The perineal drainage seldom yields the expected relief. It requires long rest in bed. The urine cannot be prevented from escaping alongside of the drain keeping the bedding and clothing of the patient constantly wet. Therefore the suprapubic cystotomy is to be preferred, as it offers superior advantages to the operator, enabling him to deal more efficiently with the tubercular lesion. If on opening the bladder an ulcer is discovered, it can be destroyed by means of the sharp spoon, followed by the local application of iodoform to the abraded surface.

In tuberculosis of the kidney we discriminate several different forms.

From a clinical and pathological basis some authors, like Kœnig[4] of Berlin, make a division into the aucute and miliary and the chronic or caseous variety, while Senn[5] discriminates three different forms, viz., miliary tuberculosis of the kidney, caseous nephritis, and tuberculous pyelonephritis.

The first variety is nearly always bilateral, the kidney is not sufficiently enlarged by the inflammatory process to be distinctly felt by bimanual palpation and the patient succumbs in a short time to the effects of a diffuse and miliary tuberculosis.

In caseous nephritis the infection occurs in the substance of the kidney. These cases are of importance to the surgeon, because they frequently effect only one kidney and are, therefore, amenable to successful treatment.

In tuberculous pyelonephritis the disease involves the surface of the pelvis of the kidney, is frequently unilateral, and the infection is caused either by an ascending tubercular infection from the lower part of the urinary tract or by the precipitation of tubercle bacilli eliminated by the kidney upon the surface of the pelvis.

Regarding symptomatology and diagnosis, it may be stated that the most important and reliable information is furnished by a careful examination of the urine. If we find tubercular bacilli in the urine originating from the kidneys and characteristic products of kidney lesion, we are justified in making a diagnosis of renal tuberculosis. If the bacteriological examination of the urine proves negative, it does not necessarily show that the patient is not suffering from tuberculosis of the urogenital organs, and if the clinical symptoms point in this direction, inoculation experiments with the urine will frequently yield final results as to differential diagnosis between tuberculosis and other inflammatory affections of the genitourinary system.

All other clinical symptoms as pain, hæmaturia, enlargement of the kidney are very valuable in suggesting and aiding diagnosis, but are by no means pathognomonic, as renal calculus, renal tumor, stone and tumor of the bladder may present similar symptoms.

Another very valuable method in early diagnosis of renal tuberculosis is cystoscopy, to be made only when a diagnosis cannot be made by any other diagnostic means. As stated above, tuberculous affections of the urinary tract form generally contraindications for instrumentations of any kind and are, therefore, to be resorted to only in extreme cases where a final diagnosis is to be made in the interest of the patient. This visual inspection of the bladder will sometimes reveal inflammatory changes around the orifice of the ureters; it will in other cases, if there are no lesions of the bladder found, enable us to recognize the source of hæmaturia present.

Finally, by catheterizing the ureters, submitting the separated urines to microscopical examination, including staining for bacilli and if negative, by injecting a portion of each sediment into a separate guinea pig it will be possible in most cases to arrive at an early diagnosis.

The following case, which came under my observation in 1896, and which was pubished by Casper of Berlin, in whose clinic I examined the patient, may illustrate the importance and necessity of making a cystoscopic examination in some of these cases.

The patient was a woman forty-two years old, without hereditary predisposition, who for six months had complained of symptoms of vesical catarrh, to which were added pains in the right loin with a sense of abdominal tension. Varied local treatment proved unsuccessful. The urine was slightly turbid and of acid reaction, with a specific gravity of 1,018. It contained numerous pus-corpuscles, but neither blood-corpuscles nor tube casts. A small quantity of albumin also was present. In the centrifugated sediment tubercle bacilli were found. Upon cystoscopic examination the interior of the bladder appeared normal, except with a villous appearance around the orifice of the right ureter. The left ureter was readily catheterized and the urine obtained proved to be normal. The urine coming from the other suspicious looking side resembled that found in the bladder, being turbid, purulent and contained tubercle bacilli. A diagnosis was, therefore, made of tuberculosis of the right kidney with circumscribed involvement of the bladder. Accordingly, nephrectomy was performed and the patient recovered fully. The removed right kidney presented tubercles upon its surface and the caseous nodules in its parenchyma.

Thus catherization of the ureter revealed unsuspected disease of the kidney by virtue of the suspicious appearance around the ureteral orifice.

In cases where a pyelonephritis is found in an individual giving some other suggestions of urinary tuberculosis without our being able to confirm the diagnosis by the above-mentioned diagnostic means, a great deal of value is to be placed upon the injection of tuberculin for diagnostic purposes, as advocated by A. V. Koranyi.[7] This author described two such cases, in which, on account of general and local reaction following tuberculin injection—temperature of 104° and tenderness and pain in the respective kidney and ureter side—he felt justified in making a diagnosis of tuberculous disease of the kidney, and in both cases the clinical diagnosis was verified by the pathological reports.

From the foregoing remarks it is apparent that there are manifold symptoms and diagnostic means indicative of renal tuberculosis, but a probable or positive diagnosis can be made only by a careful study of the clinical history and by recourse to all diagnostic means, including a careful bacteriological examination of the urine. The earlier we recognize the condition present, the more successful will be the treatment, which is chiefly a surgical one and consists in removing the diseased organ. But before performing nephrectomy the surgeon ought to assure himself by means of the ureter cystoscope of the presence and condition of the second kidney, as "it is just as important to seek for and study the contraindications as it is to study the indication for an operation" (Senn).

By catheterizing the ureters we are able to examine the urine of each side chemically, microscopically, and bacteriologically.

Another very important factor is the condition of the functional action of the kidney, a point which is of the utmost importance in the early diagnosis of kidney disease.

In looking over the literature of death following nephrectomies, we are forced to the conclusion that in many cases sudden death from uræmia shortly after nephrectomies, which were undertaken with all confidence of ultimate success, was due to the failure of determining before the operation the condition of the functional action of the second kidney.

Several years ago a surgeon could be excused in omitting the consideration of this point, as we did not then possess clinical means by which this action could be determined. In the last three or four years a decided progress has been made regarding this point, and as we at first studied the functional action of the heart and stomach, so to-day we are studying the functional action of the kidney, our aim being to determine the insufficiency of the kidney without any other manifestations of disease being present.

It has often been said, and Koenig[8] has lately emphasized it, that there are cases in which it is not possible to diagnosticate with absolute certainty the healthy condition of the kidney. I believe that we can never be *absolutely* certain. Our present methods of diagnosis lead, at most, to the positive recognition of disease of the other kidney.

In cases of negative result we may only go so far as to say that every reason for the assumption of bilateral kidney trouble is wanting. Still the possibility can never be entirely excluded. Notwithstanding the gloomy uncertainty in which we must remain, the case appears entirely different when we are not certain of the condition of the other kidney than when we are certain that both kidneys are diseased.

To discuss in detail how this knowledge is to be obtained would lead too far, exceeding the scope of this paper. Suffice it to say that the cystoscope is a great aid in diagnosis of these cases, and while I fully agree with Henry Morris when he remarks "The cystoscope and the ureteral catheter should be employed with reserve and with great caution in tuberculous disease," I believe that we cannot dispense with this diagnostic means altogether in some of these cases. However, we should always remember that the employment of this method involves a certain danger of infecting a healthy ureter by inserting a catheter into it through an oftentimes infected bladder. On the other hand, the practical experience of Casper (Berlin), Albarran (Paris), Kümmel (Hamburg), and others, who have catheterized ureters hundreds of times, has never shown any permanent untoward results due to ureter-catheterization, provided it was done with proper care and caution.

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Pathogenesis and Surgical Treatment of Exophthalmic Goitre.—A. E. Halstead says that, because of the exceedingly good results obtained by the operative treatment of this disease, he holds that it is indicated in all cases where a fair trial of the medical treatment has been made, provided the patient has not become so reduced as to preclude the possibility of withstanding the shock of operation. The operative measures resorted to have been ligation of the thyroid arteries, exothyropexy, enucleation and partial resection. The last is the method to be preferred. The rapidity with which evidence of improvement follows operation varies. There is first an improvement in the general condition, then a change for the better in the nervous phenomena. Tachycardia requires months before actual relief is experienced, and the exophthalmus is frequently last to disappear.—*Medicine.*

IS IT WISE FOR THE REGULAR PRACTISING PHYSICIAN TO SPEND TIME TO INVESTIGATE PSYCHIC THERAPEUTICS?

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It is undoubtedly the duty of the physician to be acquainted with all real therapeutic measures. It is admitted that the mind does exercise a decided influence upon the various organs of the body and upon their functions. Certain emotions, for instance, cause the capillaries to dilate, as in blushing; and other emotions, like fear, cause them to contract, and leave the face pallid. Anger may cause the milk of the mother to sicken the nursing child; sudden terror may cause involuntary discharges from bowels or bladder—or it may even cause premature discharge of the fœtus from the pregnant woman. Emotions cause marked physical effects even in animals. The writer recently saw a four-months' colt fœtus, which had been discharged an hour after the pregnant mare had been subject to sudden shock and terror. Such facts, of course, are known to all physicians. The mind undoubtedly does effect physical and physiological changes. What, then, is the limit of its power? Under what circumstances is it effective? Is such power available for therapeutic purposes? Is it worth the time of the scientific physician to investigate these subjects, or must he content himself with his *materia medica?* Undoubtedly physicians now know something of hypnotism, and something of suggestion either with or without hypnotism—but how many really make use of it in any systematic way—or have any decided thought about it or believe in it as a practical therapeutic agent?

It is unnecessary to rehearse the facts regarding hypnotism and suggestion. It took one hundred years—from Mesmer to Charcot—to establish a general belief in the genuineness of the hypnotic phenomena—it may take half a century more to establish its true value as a therapeutic agent; but it will be established. What hypnotism does is to place the patient in a more subjective condition and so make suggestion more effective. It does that in a great majority of cases where it is properly used, and when so used it is helpful to the patient even without suggestion. These are facts which it is not necessary now to spend time in demonstrating; but in using hypnotism for therapeutic purposes unusual phenomena occasionally appear—phenomena which relate to important questions in psychology—such as transferred sensation, from the hypnotizer to the person hypnotized, thought transference and supranormal perception. Is it profitable or wise for the scientific physician to spend time investigating these obscure psychological matters when there is so much still to learn about things that he can cut off and chew and get undoubted effects from? That depends upon the man—some men are so constituted that it is impossible for them to believe anything that contravenes or contradicts things that they have been accustomed to believe or those established by present-day science. There were a great many scientific men in Galileo's time who did not believe that the earth moved—because their science did not so teach. The scientists of London did not believe that Franklin had drawn electricity from a thunder cloud and put it in a bottle—their science had not so taught—and they roared with laughter that such a thing should be seriously broached in meeting; but it is now a part of science—and several other things regarding electricity which were not science then.

The following incident occurred to the writer a few months ago:

A patient in the trance condition while describing scenes which came before her, suddenly stopped and, with evident surprise, said: "I see the body of a young man—he has just died." She looked intently for a moment and then exclaimed, with horror: "Percy X!"—giving the full name—"Percy dead!" Being aroused from her trance, I asked her in a casual way: "Do you know any one by the name of Percy X?" "Yes," said she, "he is my husband's nephew—he is a young physician—I attended his graduation a year ago."

"Have you heard from him of late?" I inquired. "No, not for nine months." "Is his health good?" "Yes—but why do you ask?" "Because you said in your sleep that Percy X was dead." "Percy X dead!" she exclaimed, with an incredulous smile. "If I said that, I must have been making up a story. I am certain that if Percy X were dead I should have known it at once." She went home, told her husband what had occurred, and they agreed that there could be no truth in the statement. But when the husband went to his place of business the following morning he found a letter awaiting him, stating that Percy X died—giving the date—in G— Hospital, and would be buried—giving time and place.

A few days later I wrote to the house physician at G—— Hospital asking for particulars. A courteous reply was received, stating that Dr. X died at the hospital, on the date before mentioned, of tuberculous laryngitis. He had just come from the South and was in the hospital only seven hours before his death.

This patient has given other striking instances of supranormal perception—one no longer ago than May 8 in connection with the eruption at Martinique—no news of which had then reached here. Two other patients have given equally convincing proof of supranormal perception.

These cases have led the writer to believe in the truth of well-authenticated cases that are reported by others—even to telling the time indicated by a hunting-case watch, held in a lady's closed hand—and to conclude that science has not yet got to the bottom of the subject of perception; and it will not get to the bottom of it until it learns how to treat evidence—learns that excessive doubt is just as surely a sign of weakness or ignorance as is excessive credulity, and is really just as great a bar to progress in science. Hypnotism is one of the means through which light has come regarding many subjects of interest in psychology—notably the fact and functions of the sub-conscious mind; and physicians making use of this agent as a legitimate part of their work, as a means of cure, are much more likely to meet with cases of interest in this direction than others who do not use it. There is, therefore, a double motive for using hypnotism as occasion warrants—(1) because it adds a potent agent to the physician's armamentarium, and (2) because in its use he may, at any time, meet with cases of interest bearing upon moot questions in psychology.

At all events, hypnotism and psychic therapeutics have come to stay. Quacks, metaphysical healers, and Christian Scientists make bungling use of the principles involved and yet make cures; not by any means such as they report—a very large proportion must be discounted, but they make cures; and for physicians to stick their heads in the sand and say they don't see them, does not alter the facts. It is for them to open their eyes and see the facts as they are, and show that by these principles, applied with the knowledge and skill which the physician possesses, along with the other means at his command, manifold better results are attained, without the mental stultification which their philosophy entails.

The studies thus brought into the physician's life are full of interest—are refining and elevating—so that it is not only his duty to his patients but a privilege for himself to become intelligent regarding what is being done by the best methods in psychic therapeutics.

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CLINICAL STUDY OF A NEW SILVER SALT IN THE TREATMENT OF GONORRHŒA.

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As a result of extensive experience in the treatment of gonorrhœa, genitourinary surgeons have been led to the conclusion that the ideal remedy for local use in this disease should be one whose destructive action upon the gonococcus would not be limited to mucous membrane of the urethra alone, but should possess at the same time penetrating power sufficient to attack the microorganism in the submucous tissue; moreover, these results should be attained without irritating or provoking additional inflammation in the urethra.

Following the discovery of the gonococcus by Neisser, it will be recalled how the profession promptly, turned to bichloride of mercury as offering the most rapid and efficient remedy for the cure of gonorrhœa. The subsequent results following this method of treatment are now a matter of history. Solutions strong enough to kill the microorganism proved highly irritating to the mucous membrane of the urethra, increasing epithelial exfoliation, and thereby favoring still further development of the gonococcus. On the other hand, solutions that were mild and unirritating were found to have little or no effect in destroying gonococci. The same results, but to a much less extent, attend the use of nitrate of silver. To obviate these objectionable features, there has been suggested, in recent years, a large number of nitrate of silver compounds, many of which the writer has certainly found unirritating, but at the same time entirely innocuous, as far as their action in destroying gonococci was concerned.

For the past six months I have been conducting careful clinical investigations regarding the action of a new silver compound in the local treatment of gonorrhœa. This new silver salt is silver vitellin, and was discovered by Dr. A. C. Barnes of Philadelphia, and described by him in the MEDICAL RECORD, May 24, 1902. It is produced from a proteid derived by chemical manipulation of wheat and subsequently combined with silver. The high percentage of silver compound, its extreme solubility, and its intense penetrating action on the tissues constitute its chief scientific points of interest. Silver vitellin contains 30 per cent. of silver, which is more than three times the amount in protargol, the most popular of all the newer silver salts. The solubility of silver vitellin is quite remarkable, one ounce of it being completely soluble in a dessert spoonful of water; consequently, the salt may be employed in solution in any desired strength.

Solutions of silver vitellin do not coagulate albumin or precipitate chlorides; it therefore cannot be chemically changed by contact with mucous membranes or their secretions. My colleague, Dr. Edward Martin, studied the action of silver vitellin solution on catgut, with a view of determining the penetrating power of the compound. It was found that, by immersing a thick strand of catgut in a solution of the salt for a few hours, the gut became impregnated through and through with the silver. This experiment indicates that silver vitellin should exert the effects of silver beneath the urethral mucous membrane where gonococci lodge and are not reached by ordinary agents. It was by reason of its large percentage of silver, and its intense penetrating action, that silver vitellin was expected to prove of great value in the treatment of gonorrhœa.

My clinical investigations as to the value of this compound as a local treatment in acute gonorrhœa, were made in the Genitourinary Dispensary of the University of Pennsylvania, careful records being made in each case with reference to the following points:

(1) Effect of the remedy upon the discharge from the urethra.

(2) Time at which the gonococci disappeared after treatment was first employed.

3. Whether the injection caused any pain in the urethra, or gave rise to any signs of urethral irritation.

4. Number of cases presenting any complications.

5. Length of time required to cure.

In conducting these investigations no other drug but silver vitellin was employed; it was prescribed in the following manner: During the first week, injections of a 2 per cent. solution, with the ordinary two-drachm hand syringe, were used four times daily, the solution being held in the urethra for five minutes. In the second and third week 5 per cent. solutions were used in the same manner; in the fourth, fifth and sixth weeks as high as 10 per cent. solutions were used without causing any pain or irritation. When the urethritis became total, the hand injections were temporarily discontinued, and daily total irrigations with the salt were employed, beginning with 1 to 2,000, increasing in many cases to 1 to 500 solution. Deep instillations of 1, 2, and 5 per cent. solutions were made in quite a number of cases without causing any inflammatory reaction. The remedy was employed in 100 cases, in fifty of which the records in the dispensary case book are incomplete, owing to the failure of the patients to return at regular intervals and report as to their condition. This is a well-known difficulty attending all dispensary practice; at the same time it is fair to presume that a large majority of these cases failing to return must have been distinctly benefited, if not entirely cured, by the prescribed treatment.

We have, up to the present time (July), a complete record of the action of the silver salt in forty-eight cases. The clinical investigations in these cases were conducted in a most rigid manner, the patients reporting to the dispensary every other day, when careful notes were made as to the amount of discharge and the condition of the urine; at the same time a microscopical examination of the discharge was made. Of these forty-eight cases, there were cured forty-five; unimproved three. The direct effect upon the amount of discharge was as follows: Prompt cessation in thirty-one cases; more gradual reduction in fourteen cases, and very little effect in three cases.

Gonococci disappeared in two days in four cases; in four days in eight cases; in six days in eight cases; in eight days in five cases; in ten days in ten cases; in fourteen days in eight cases; persisted over three weeks in five cases.

In this connection it is well to note that in four cases, where there occurred a recurrence of discharge due to indulgence in alcohol, microscopical examination failed to show any gonococci. This seems to be a most interesting point and one worthy of further investigation; it goes a great way toward demonstrating the penetrating power of the drug and its action in destroying gonococci in the submucous tissue.

Complications occurred in five cases, namely, acute prostatitis in one (1) and epididymitis in four. It is only fair to state that two of the cases affected with epididymitis presented signs of an old chronic seminal vesiculitis, resulting from previous attacks of gonorrhoea.

Concerning the duration of the disease, it was found that in nine cases there was an apparent cure in two weeks. Of the remaining, seventeen cases were cured in three weeks; twelve cases were cured in four weeks; seven cases were cured in six weeks; three cases were cured in eight weeks.

The results obtained in our cases at the University Hospital have convinced me that we have in silver vitellin the best silver compound ever offered to the profession for the treatment of gonorrhoea, for the following reasons:

1 That it is absolutely free from any irritating properties, solutions as high as 5 per cent. causing no discomfort.

2. That the gonococci on and beneath the urethral mucous membrane are rapidly destroyed.

3. The amount of urethral discharge is in a majority of cases at once lessened in a marked degree.

4 The actual duration of the disease is shorter than is obtained by the use of any other silver salt. In our cases thirty-eight were cured in from two to four weeks.

My thanks are due to my assistant, Dr. Otto H. Foerster, for his careful and accurate work with the microscope done in connection with this clinical investigation.

1344 Spruce Street.

PULSE AND RESPIRATION AT AN ELEVATION OF 10,200 FEET, AS ASCERTAINED BY THE EXAMINATION OF ONE HUNDRED SUBJECTS.*

By MAURICE KAHN, M.D
LEADVILLE, COLO.

In submitting the following tables for your consideration, I confess frankly that the slight acceleration of the pulse is less than I expected. Notwithstanding that the increased frequency of the pulse and respiration is inconsiderable, the tables are not less interesting nor less valuable.

I am keenly cognizant of the fact that the number of subjects examined is insufficient to permit of the deduction that the results obtained are the norm for an altitude of 10,200 feet, yet I think they should not be treated indifferently, for they are not unimportant or worthless if interpreted correctly. And they do indicate one thing, at least, viz., that the almost universal fear of heart failure at high altitudes must be groundless. I refer, of course, to normal hearts.

For illustration we often hear of the dangers of high altitudes in cases wherein the system has some unusual strain placed upon it. The more frequent examples being pulmonary tuberculosis, pneumonia, and all major surgical operations. I think this opinion prevails not only in the minds of laymen but also in the minds of many of the profession.

How often do we hear it said that it is unsafe or hazardous to perform cœliotomy at so high an altitude (partly by reason of the resulting shock to the system and partly on account of the depression of the heart consequent upon the administration of the anæsthetic)? And how often do we hear it said that a crippled lung will not withstand the increased labor that such a high altitude *per se* imposes?

In a former article† I had occasion to make a plea for the trial of very high altitudes in incipient phthisis. Further experience with these cases has convinced me that I am now justified in advocating the practice which three years ago I suggested as a tentative procedure.

The purpose of this paper, however, is not to promulgate the merits of high altitudes, but merely to call your attention to the results of the examination of the pulse and respiration of one hundred normal persons (determined normal by strict physical examination and scrupulous questioning) at 10,200 feet.

A careful perusal of the accompanying tables will show that the rates vary but slightly from the norm at altitudes much lower—even two miles lower—than the one at which these records were taken. In every instance the record was taken in the sitting position, at least two hours after the ingestion of any food or stimulant, and the subject was in as near perfect mental rest as could be obtained—fear, apprehension, and mental excitement having been eliminated.

Furthermore, the subject had been resting, physically, for some minutes, so that no effect from running or walking could be operative.

One hundred cases examined—eighty-three men; seventeen women.

Average age for the one hundred, 31.82 years.

Average pulse for the one hundred, 76.50 a minute.

Average respiration for the one hundred, 20.48 a minute.

Average age for eighty-three men, 32.97 years.

Average pulse for eighty-three men, 76.36 a minute.

Average respiration for eighty-three men, 20.28 a minute.

Average age for seventeen women, 26.29 years.

Average pulse for seventeen women, 77.17 a minute.

Average respiration for seventeen women, 21.41 a minute.

The youngest woman was eighteen years of age.

The eldest woman was forty-five years of age.

The youngest man was nineteen years of age.

The eldest man was sixty-four years of age.

The lowest pulse was 60, in a man twenty-nine years of age.

The lowest respiration was 15, in a man twenty-five years of age.

The highest pulse was 92, in a man twenty-one years and in a man forty-five years of age.

The highest respiration was 26, in a man sixty-four years of age.

The lowest combination, proportionately, of pulse and respiration was 72 - 15, in a man twenty-five years of age.

The highest combination, proportionately, of pulse and respiration was 92 - 23, in a man twenty-one years of age.

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*Read before the Colorado State Medical Society at its thirty-second annual convention at Pueblo.

† "The Progress of a Case of Phthisis at a Very High Altitude."—*Philadelphia Medical Journal*, December 23, 1899.

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THE PATHOLOGY AND THE CURABILITY OF PULMONARY PHTHISIS.

So commonly is destructive disease of the lungs of tuberculous origin that the terms phthisis, consumption, and tuberculosis have, in the minds of not a few, become synonymous, and are not rarely used interchangeably. It is, however, important from both the prognostic and the therapeutic standpoint to recognize the distinction. Lung-destruction may result from a variety of causes, of which tuberculosis constitutes but one, albeit the preponderating one. Other less common causes are suppuration, syphilis, actinomycosis, and bronchiectasis. The outcome and treatment must necessarily vary in accordance with the etiological factors in the individual case.

An interesting presentation of this subject has recently been made by Prof. D. von Hansemann (*Berliner klinische Wochenschrift*, August 11, 1902), who points out that, although the curability of pulmonary consumption has long been maintained, there have at all times not been wanting voices in contradiction. Recent anatomical investigation, however, has demonstrated such curability beyond peradventure of doubt. At the present time there is a wide diversity of opinion as to the proportion of cases in which cure takes place, as the results of post-mortem examination will vary in accordance with the source of the material that comes under observation. Thus, if the patients have been largely old people, the proportion of cures will obviously be the greater.

That pulmonary phthisis is by no means always tuberculous is pretty generally recognized. Destruction of lung tissue may be due, for instance, to bronchiectasis resulting from congenital weakness of the walls of the bronchial tubes. At the same time the pulmonary structure itself may be imperfectly developed. The bronchial tubes undergo dilatation, and the lung tissue disappears. The weakness of the bronchial tubes may also develop later in life, in consequence of chronic bronchitis, or the dilatation may be due to retraction secondary to inflammation of the pulmonary structure.

So-called fibroid phthisis may be of varied origin, but it is principally a result of processes attended with chronic lymphangitis. It includes pneumonoconiosis, carnification of the lung after imperfectly-resolved pneumonia, fibrous lymphangitis associated with chronic bronchial catarrh, and idiopathic reticular and trabecular lymphangitis. Ulcerative phthisis may be independent of tuberculous processes, although it may be secondary to fibrinous pneumonia, dissecting pneumonia, and influenzal pneumonia. Syphilitic phthisis, as well as actinomycotic phthisis, should always be taken into consideration.

Tuberculous phthisis is characterized not so much by the presence of tubercles as by the presence and activity of tubercle bacilli. These may give rise, further, to hyperplasia and inflammatory infiltration, with cicatrization and ulcerative destruction, and be complicated by mixed infection. They may find lodgment in the bronchial tubes, in the alveoli, in the neighborhood of vessels, or in the lymphatic apparatus of the lungs. Accordingly, various morbid processes will result, differing in clinical manifestations, in course, in prognosis, and in the anatomical findings, and also requiring different treatment. In the opinion of Hansemann, true tuberculosis of the lungs begins almost invariably at the apices. When this is not the case, the explanation will be found to reside in some special condition, such as secondary infection of a primary bronchiectasis, pneumonoconiosis, fibrous lymphangitis, gummatous foci, etc. The phthisis complicating diabetes also is frequently not localized at the apex, as well as that following influenza, fibrinous pneumonia, and traumatism.

The phthisical process may begin on the mucous membrane of a bronchial tube, and it may throughout give rise especially to caseous, bronchitic, or peribronchitic foci. It may be acute, occupying weeks or months—the lung on section presenting an appearance of miliary or somewhat larger nodules, the largest being situated at the apices and in the upper lobes, and which in reality are divided bronchial tubes inflamed and filled with cheesy matter. The larger are surrounded by tubercles with giant cells. The intervening lung tissue may be free from inflammatory changes. Signs of cicatrization are not found, and cure does not take place. When, however, the process pursues a chronic course, slate-colored cicatrices form. The apparent nodules are not so widely disseminated, but are collected in groups about a central nodule, in which cicatrization takes place. In this way cure may result.

Cheesy hepatization may be lobular or lobar. It may result from antecedent pneumonia and may increase by extension of the pneumonic process. The cellular contents of the alveoli undergo caseous degeneration and the walls of the alveoli become necrotic. Small foci may become surrounded and penetrated by cicatricial tissue, while large foci must become encapsulated by connective tissue, in order that cure may be brought about.

The development of a cavity is not due to any single process. It may result from the disintegration of a focus of cheesy hepatization, or from tuberculous ulceration of a large bronchial tube. Frequently mixed infection exists, causing rapid disintegration, and resulting in florid phthisis, without any tendency to cure. Cavities may, however, be obliterated by contraction of the cicatricial tissue by which they are surrounded, or by conversion into a fibrous structure of the granulation tissue by which they are lined and extension of epithelium from a communicating bronchial tube.

Miliary tuberculosis should be separated from pulmonary phthisis. It may develop from a circumscribed phthisical process in the lung, but it never gives rise to such a process. It is part of a generalized tuberculosis, and cure is out of the question.

It will thus be seen that some tuberculous processes may undergo cure through the formation of cicatricial tissue, and this occurs in three forms: (1) cicatrices presenting no trace of the tuberculous process; (2) dense, slate-colored cicatrices containing calcareous cheesy foci; (3) cicatrices containing cavities the size of a pea and larger. The first represent a definite cure, but it has long been known that active and virulent tubercle bacilli may persist for an almost indefinite time in encapsulated calcareous and caseous foci. Even under the latter condition, however, it is scarcely possible for infection to take place. The same statement is applicable to cavities surrounded by dense fibrous tissue

The differentiation of syphilitic cicatrices in the lungs from the cicatrices due to tuberculosis is based upon the situation of the former elsewhere than at the apices and upon their radiate arrangement from various centers, whence they extend to the pleura, causing lobulation of the lung through retraction. Gummata undergo absorption and never leave permanent caseous or calcareous foci. Syphilis of the lung sometimes transforms the entire organ into dense slate-colored cicatricial tissue, radiating from a central focus at the hilus of the lung to the periphery. The presence of syphilitic cicatrices in other organs constitutes valuable collateral evidence. Pneumonia does not, as a rule, leave cicatrices in the lung, but if frequently repeated there may form ill-defined irregular reticulated lines and processes of connective tissue surrounding lung tissue containing air or atelectatic parenchyma. They may be black or unpigmented, and they are rarely situated at the apices. Under all circumstances importance must be attached to the previous history when this can be obtained.

THE LATENCY OF ABSCESS OF THE BRAIN.

The symptoms of abscess of the brain are essentially those of a neoplasm, or a foreign body, associated at times with those of suppuration. Often, also, a source of infection can be readily discovered, but this is not always so; and at times the phenomena peculiar to abscesses in general are wanting. The recognition, and especially the localization, of a brain tumor may be exceedingly difficult, and if a primary focus of suppuration be not evident, a diagnosis of cerebral abscess may be impossible. Just such a contingency occasionally arises in consequence of the latency that sometimes characterizes the symptoms of this latter condition. Cases are on record in which an abscess of the brain has been present and has remained unrecognized for many years.

A case belonging in this category, and which besides aroused suspicion of atropine intoxication has recently been related by Dr. E. Aufrecht (*Deutsches Archiv fur klinische Medicin*, Vol. 72, Nos. 5 and 6). A man forty-nine years old was rendered unconscious by having a number of sacks of sugar fall on him. He subsequently complained of severe pain in the right side of the chest and had transitory hemoptysis. When examined four and again five months later no physical abnormality was discovered, although the pain persisted. The latter was still present after the lapse of five years, and with it had become associated frequently-recurring attacks of oppression of the chest, a sense of constriction and shortness of breath. As there was no objective evidence of disease, 1-60 grain of atropine at night was prescribed. On the following day the patient began to feel badly, and on the next succeeding day he was unable to sit up. He complained of headache and confusion, and was scarcely able to speak. Slight twitching was, from time to time, noticeable in the right arm, and the pupils were dilated. As the new symptoms had appeared after ingestion of the first dose of atropine, and there was some doubt as to the amount of the drug the patient had taken, atropine intoxication was for the moment suspected, but this suspicion was soon dispelled by the further development of the case. A day later the patient complained of headache for the first time, and also of vertigo, with difficulty in finding words for speech. The pupils were no longer dilated, and they reacted well. On the next day the patient was seized with violent convulsions, involving the left side of the face and the left arm, without loss of consciousness. There was some difficulty in swallowing liquids, but no vomiting. The pulse-frequency was neither increased nor diminished, and the temperature was not elevated. Vision was unimpaired. Speech became gradually more difficult, but the patient indicated by gesture that he was left-handed. He became restless and threw himself about in bed. He complained of oppression of the chest, great difficulty in breathing and pain, followed later by numbness and weakness in the left arm. Pain appeared also at the left shoulder and the knees. The left arm eventually became paralyzed and the left leg paretic. Finally the right side of the face was the seat of spasm for an hour. The paralysis of the left side of the body became complete. Gradually consciousness was lost. The motility of the body became progressively less, and ingestion of food grew increasingly difficult until death took place on the twenty-fourth day of the disease.

On post-mortem examination the left lung and the upper lobe of the right lung were found to be adherent to the chest-wall, and the lungs themselves were œdematous. The convolutions of the right cerebral hemisphere were flattened, and exhibited a rectangular bluish-black area three-fourths by one-half inch in size, occupying the breadth of the anterior central convolution at the highest point of its convexity. This corresponded to an almost globular abscess about two inches in diameter, extending to the right lateral ventricle, and whose walls, one-third inch thick, were lined with false membrane well provided with newly-formed blood vessels. The lateral and the third ventricles contained greenish-yellow pus, and their ependyma was turbid. It is believed from the density and the vascularity of the false membrane in the present case that the inception of the abscess dated back to the traumatism five years previously, and that the onset of the symptoms, coincidently with the administration of the first dose of atropine, was merely accidental.

SUICIDE IN THE UNITED STATES DURING 1901.

THE *Spectator* of August 14 has a paper contributed by Mr. Frederick L. Hoffman on the suicide record of 1901. Statistics clearly show that there is a gradually increasing tendency to self-destruction in the cities of the United States. The rate per 100,000 of population has changed from 15.8 in 1900 to 16.6 during 1901. The annual compilation of statistics of 135 cities with more than 30,000 inhabitants by the United States Commissioner of Labor gives a suicide rate of 16.3 per 100,000 for the year 1900. while for the country at large a somewhat lower rate prevailed. Mr. Hoffman gives a table in which the returns for fifty cities have been brought together, the table showing, first, the average actual and relative mortality from suicide in each of the cities during the decade 1891—1900; and second, the actual and relative mortality from suicide during 1901.

This table points out that the average mortality from suicide during 1891—1900 was equivalent to a rate of 15.7 per 100,000 of population. During the year 1901 the rate was 16.6, an increase of 0.9 per 100,000 of population. The city in which suicide has been of most frequent occurrence during the ten-year period is St. Louis, Mo., while the rate was lowest in Fall River, Mass. In the former city the rate was 25.7 per 100,000, against only 2.9 in the latter. During the year 1901 the suicidal frequency was not exactly the same as established by the ten-year average, but, generally speaking, the cities subject to an excessive mortality from suicide maintained their respective ratios during successive years. Of the fifty cities thirty-one show an increase in the rate, while nineteen show a decrease, when the year 1901 is compared with the average for the preceding decade. The city having the highest ratio during 1901 was Hoboken, N. J., while the city having the lowest ratio was Fall River, Mass. The ten cities with the largest suicidal frequency are St. Louis, Mo.; Chicago, Ill.; Hoboken, N. J.; Oakland, Cal.; New York City—Manhattan and the Bronx; Milwaukee, Wis.; Cincinnati, O.; Newark, N. J.; New Orleans, La., and Brooklyn, N. Y. The aggregate returns of the fifty cities compared to individual years since 1890 show that the increase in the suicide rate has been gradual and persistent. The rate for 1890 was 12.0 per 100,000 of population, increasing to 16.6 by 1901. The rates, however, were highest during the two years 1897-8. If the rate prevailing during the first six years be compared with the last, it is seen that the average mortality from suicide was 14.4 per 100,000 during 1890—95, against 16.5 during 1896—1901.

Mr. Hoffman is particularly interested in the suicide question as it relates to the insurance companies, and gives the mortality from suicide experienced by the New York Mutual Life from 1843—1885 and from 1886—1898.

During the first period, ending with 1885, of the deaths from all causes suicides formed 1.9 per cent., the percentage having increased during the second period to 2.4 per cent. In the aggregate there have been 991 suicides among males during the period under observation, and the relative increase in the proportionate mortality has been 26 per cent. If separate age groups be considered, it appears that at ages under forty-five the proportion of suicides to the total mortality increased from 2.1 per cent. to 3.9 per cent. At ages forty-five to sixty the increase was from 2.4 per cent. to 3.2 per cent, while at sixty and over there was a decrease in the proportionate mortality from 1.0 per cent. to 0.7 per cent. Among females the proportion of suicides was 0.2 per cent. of the deaths at all ages during the first period under observation. The proportionate mortality from this cause increased to 0.9 per cent during the period ending with 1898.

The subject of suicide, viewed from various standpoints, has been fully discussed, at different times, in the MEDICAL RECORD. The figures provided by Mr. Hoffman are of the greatest interest and importance, and plainly demonstrate the unpalatable fact that the suicidal tendency is surely on the increase in the United States. A comparative table of suicide statistics of Europe and America would be of much value.

Undoubtedly the wear and tear of modern life has much to do with the increase of suicide. This is clearly brought out by the fact that suicides are far more frequent in cities than in the country. Again, it cannot be doubted that alcohol plays a conspicuous part in the impulse toward suicide, while at the same time there is among certain races an undeniable and peculiar suicidal idiosyncrasy. Upon the whole, however, it may be confidently asserted that modern civilization, with its nerve-racking stress and strain, is chiefly responsible for the increase in the tendency to self-destruction.

HETEROGENESIS.

In these days of wonderful and revolutionizing theories, as regards the doctrines of evolution, Dr. Charlton Bastian has recently advanced one more remarkable than any yet brought forward.

Dr. Bastian, who will perhaps be remembered as a man who declared that he had discovered spontaneous generation to be no myth but a sober fact—a statement shown to be false by Professor Tyndall—now comes forward with the assertion that one species can be suddenly transformed into another; that the eggs laid by one creature may bring forth the young of another.

The Royal Society of Great Britain is so sceptical of Dr. Bastian's claims that it has refused him a hearing, an attitude somewhat adversely criticized by the London *Hospital*, which holds that the recent publication of Dr. Bastian's views and the refusal of the Royal Society to give them a hearing may serve to raise very interesting and important questions concerning the extent to which it may be incumbent upon philosophers to take note of opinions or assertions, in relation to the subject matters of their studies, which appear to be subversive of doctrines almost universely held to be true.

Dr. Bastian, in illustration, of heterogenesis, declared that he had witnessed the transformation in the course of three or four days of the entire contents of the egg of hydatina serita into a large ciliated infusorium belonging to the genus otostoma. To admit the possibility of such a happening would be to shatter the framework of modern biology, but the *Hospital* is of the opinion that the wiser policy on the part of the Royal Society would have been to discuss the question, and point out the sources of error by which, in their judgment, the recorded experiments must have been invalidated, rather than to treat the matter with contemptuous incredulity.

It should be borne in mind that almost all epoch-making discoveries have been at first pooh-poohed, and that the men who have advanced new and startling theories—many of which afterward were shown to be true—have been laughed at for their pains. At any rate, a discussion of Dr. Bastian's theories by the leading scientists of Great Britain—even if it had proved his conclusions fallacious—might have been the means of bringing out new facts, and of throwing more light upon the problem of the production of life.

Marriage Among Eminent Men.

Professor Edward L. Thorndike, in the *Popular Science Monthly* for August has a well-considered study of this matter. Says the Professor:

"The failure of the human race to reproduce at the top has been the cause of frequent complaints by students of society. The necessity of improving the human species by perpetuating desirable strains and restricting the increase of defectives, delinquents and dependents has impressed every thoughtful observer of human affairs and led him to wonder to what extent various classes of men share in producing the next generation. The reply has commonly been the cheerless dogma that the top strata of society are constantly dying out, that gifted men and women marry much less and later and have fewer children than the thoughtless multitude.

"I have tested two of these claims in the case of eminent men of our own country. The results have more than a curious interest. The well-known 'Who's who in America' contains the names of about ten thousand men. Some of these are grotesquely out of place, and many eminent men are missing from the list. But if we select one thousand or more, we have a body of men surely of the top hundredth if not of the top five hundredth of men of their age. Their attitude toward marriage will give an idea of the attitude of men who have shown superiority over at least 99 per cent. of their fellow men. The facts cannot be stated with absolute precision, since a large percentage of them do not make any report at all concerning their conjugal condition. In an investigation of a number of these cases it was found that three-fourths were married. . . . " "There is thus little or no avoidance of marriage peculiar to gifted men. The contrary belief seems one of the numerous scientific superstitions. If we examine age at marriage, we may justify the claim that gifted men marry not only almost as commonly, but also as early as the rank and file of those who have reached the age of forty-four and married before forty-five, 22.2 per cent. married before the age of twenty-five, 43.3 per cent. between twenty-five and thirty, 18.7 per cent. between thirty and thirty-five, and 15.8 per cent. between thirty-five and forty-five. The corresponding figures for the general male population of the United States are 22.7, 41.0, 23.1 and 13.1." Obviously, therefore, the gifted men marry at almost the same ages as the multitude.

The Charity Organization Society and Consumption.

The Charity Organization Society, which of late years has done much for the amelioration of the poorer classes and attained conspicuous success by means of its Tenement House Committee, has now taken up the tuberculosis question, and has appointed a committee on the prevention of tuberculosis consisting of twelve representative physicians and fifteen others who are concerned with the disease, viewed from a social standpoint.

The committee intend to first make a thorough investigation of some of the social aspects of tuberculosis. Tuberculosis for long has been closely studied, bacteriologically and clinically, and much has been learned of the physical aspects of the disease. But the social aspects of the malady have been comparatively neglected—for instance, the subject of environment, or the relation between living apartments and the victims of the disease, has been by no means exhaustively investigated.

A systematic effort will also be made to ascertain how far infection can be prevented by instruction in the nature of the disease and in the character of the precautions which should be taken to prevent its spread.

In addition to a study of the social aspects of tuberculosis, the committee has stated that its objects are as follows: 1. The promulgation of the doctrine that tuberculosis is a communicable, preventable and curable disease. 2. The dissemination of knowledge concerning the means and methods to be adopted for the prevention of tuberculosis. 3. The advancement of movements to provide special hospital, sanatorium, and dispensary facilities for consumptive adults and scrofulous and tuberculous children among the poor. 4. The initiation and encouragement of measures which tend to prevent the development of scrofulous and other forms of tuberculous diseases.

The Presenility of Americans.

Dr. A. McLane Hamilton published, a short time ago, an essay entitled "The Neurotic Indications of Presenility," which the *British Medical Journal* of August 6 makes the text for a leading article. The editorial in question commences by saying that a large proportion of the able-bodied citizens of the United States, if we may judge from the amount and variety of tonics and restoratives which seem to find a ready market among them, are "born tired."

Dr. Hamilton asserts that Americans of the present day exhibit a decided tendency to grow old before their time, a fact which he attributes to their "over-use of the nervous system." Further than this, Dr. Hamilton declares that Americans do not last so long as Europeans, and that this premature decay is largely due to the struggle for the rapid accumulation of wealth or for the gratification of ambition, for both of which cravings the New York alienist opines that the over-stimulating quality of the American newspaper is chiefly responsible. It is undoubtedly true that the storm and stress of life beats more strongly in cities of this continent than in Europe, but that the American generally becomes worn out sooner than the inhabitants of the other side—although often asserted—has never been satisfactorily proved.

It should be remembered that a larger proportion of Americans live in the country and in small towns than do the English, and this should equalize the conditions of life in these countries. For although the life in the cities of the United States may be more strenuous and nerve-wearing than in those of Great Britain, yet, on the other hand, a much larger proportion of the British people are inhabitants of cities. The general health of the American people is, probably, as good, if not better, than that of Europeans. It cannot, however, be denied that all the nations in the van of civilizations are becoming more and more neurotic, and that the trend of modern methods of business and pleasure is to augment these evils.

The writer in the *British Medical Journal* admits and deplores the fact that John Bull is also becoming neurotic, and advises the Britishers to take to heart and to benefit by Dr. Hamilton's remarks anent his own countrymen.

THE EVOLUTION OF A MEDICAL PUBLISHING HOUSE.

A notable example of the continuance of an important establishment through several generations is afforded in a sketch of the foundation and growth of the publishing house of Wm. Wood & Company, which we find in *The Publishers' Weekly* of August 30, 1902. This house, which is there said to be the oldest publishing house in New York, with the single exception of the Methodist Book Concern, had, like most other things of substantial worth, a very modest beginning.

In 1804 Samuel Wood, born in Oyster Bay, L. I., in 1760, who had been a school teacher in Long Island, opened a bookstore in Pearl street in this city. Two years later, in 1806, he published his first book, "The Young Child's A B C," a little affair of sixteen pages, about three inches square. In 1815 Samuel Wood took into partnership two of his sons, Samuel S. and John, and soon began the publication of a periodical called *The Friend of Peace*. In 1817 another son, William Wood, was taken into the firm, John Wood retiring. About this time the first medical books were published by the house, the junior partner being especially interested in this department. The founder of the house died in 1844, and his son, Samuel S. Wood, died in 1861. The other son, William, continued the business alone for two years, and then associated with himself his son, William H. S. Wood, the senior member of the present firm, the name, Wm. Wood & Company, dating from this year.

From about 1861 the publication of general books began to be discontinued, and, with few exceptions, none but medical books have been published by the house for a quarter of a century. In 1866 the publication of the MEDICAL RECORD was begun, and this was followed by the *American Journal of Obstetrics and Diseases of Women and Children* in 1868. The history of the house since this date has been one of quiet but steady progress. It is of interest to note, however, that the first medical book to be sold by subscription was the American edition of Ziemssen's "Cyclopædia of the Practice of Medicine," the publication of which was begun by this firm in 1874.

INCREASE OF JEWS IN NEW YORK CITY.

The Jews are a race that increase and multiply. They are both prolific and tenacious of life, the latter being greatly due to their temperate habits, and to their observance of the sanitary ordinances of their religion. The Jews in the United States have increased in number from 130,000 in 1891 to 1,058,000 in 1901—a truly remarkable showing. Of course the immigration of Jews of late years has been very heavy, especially from Austrian and Russian Poland. In fact, something like seven times as many Jews entered this country during the past ten years as during all previous years, and at the present time America contains twice as many Jews as does Germany.

The majority of these immigrant Jews have gone no farther than New York City, the consequence being that the Jewish population of the metropolis is greater than that of any city in the world. An article in a recent issue of the *Jewish World* places the number of Jews in New York at 600,000, and although these figures are probably exaggerated, still there are in the neighborhood of 500,000 members of the Hebrew race in Greater New York; and as all but a relatively few are in the Borough of Manhattan, that portion of the city has one person in nearly every four a Jew.

News of the Week.

Typhoid Fever is still prevalent in Philadelphia, 120 cases having been reported for the week ending September 13, the same number as that of the previous week. In Chicago there are signs that the disease may be declining. During the week ending September 13 there were forty-three deaths, twelve less than during the previous week, and in the Cook County Hospital there were only 240 cases under treatment at the close of the week, as compared with 373 three weeks previously. Another fact that is construed by the Board of Health as an indication that the height of the epidemic has been reached is the increasing duration of the disease in the fatal cases. The average duration of the sickness in the fatal cases in August was seventeen days. During the first thirteen days of September it was twenty-two days, and during the last week it was more than twenty-seven days. As the average period of the incubation of the disease after infection with the poison is two weeks, these latter figures show that the infection occurred at least forty-one days previous, or in the latter part of July, when the water supply was badly polluted. Unless the water supply should again become seriously polluted, there is reason to believe that the backbone of the typhoid epidemic is broken. It is reported that typhoid fever prevails in the garrison on Fisher's Island, off New London, dating from the time of reinforcement of the garrison for the war manœuvres. It is officially reported that there have been sixty-eight cases among the soldiers on Fisher's Island, twenty-five of them in one company. It is also said that there were thirty typhoid cases in the post hospital on September 19. Only one death had occurred to that date, the attacks being unusually light. In New York City there is the usual autumn prevalence of the disease, the total number of cases reported up to September 6 being 1,737, 407 more than at the corresponding date last year, but the mortality has been less—393 deaths, as compared with 401 in 1901. Since September 6 there has been a decrease in the number of cases reported.

Coney Island Hospital Closed.—The Reception Hospital at Coney Island, which was open in the summer, has been closed, and will not reopen until May. Hereafter all accident cases at the island will be looked after at the Kings County Hospital in Flatbush.

The St. Louis Antitoxin-Tetanus Epidemic Recalled.—A woman in St. Louis has brought suit in the Circuit Court against the city and the Board of Health for $16,000 damages. She alleges that two of her children died last October of tetanus, resulting from the use of impure antitoxin furnished by the city.

Gift to a Philadelphia Hospital.—It is announced that Mr. Meyer Guggenheim of New York has added $20,000 to his gift of $60,000 for the erection of a hospital for private patients on the grounds of the Jewish Hospital at Logan, a suburb of this city. The structure will have four stories.

Quarantine Against Cleveland.—The Board of Health of Sharon, Pa., has declared a quarantine against Cleveland, Ohio, on account of the prevalence of smallpox in the latter place. Cleveland rejoices in the possession of a health commissioner who does not approve of vaccination as a preventive of smallpox. He has recently issued an order that in all families where smallpox is discovered and where there is a dog or a cat the animal must be killed. He contends that cats and dogs are the worst distributers of the smallpox germs that can be found. The hair of either animal may be filled with the germs, he says, and then a child may play with the pet. The result is another new case of smallpox. If the dog is permitted to run at large, the danger is more than doubled. The health officer's attitude toward vaccination had endeared him to all the antis, and he was hailed by them as the one just man in the wicked assembly of doctors, but this new move will destroy his popularity with them. If forced to choose between two evils, the anti would always rather have a child inoculated with the loathsome vaccine disease than have a dog or a cat hurt.

International Conference on the Prevention of Tuberculosis.—This conference will be held in Berlin October 22-26, 1902, and Dr. Freudenthal writes that a cordial invitation to attend the meetings is extended to all Americans interested in the subject.

French Urological Congress.—The French Urological Association will hold its sixth annual meeting in Paris on October 23, 24 and 25, under the presidency of Professor Guyon. The chief question proposed for discussion is the Indications and Results of Nephrectomy. The discussion will be opened by two papers read by MM. Forgue and Michon. The secretary of the Congress is Dr. E. Desnos, 21 Rue de Rome, Paris.

Cholera is still prevailing to an alarming extent in Egypt. On September 18 there were 858 new cases of the disease reported and 784 deaths. Fifteen of these deaths occured in Cairo and 24 in Alexandria. The total number of cases reported throughout Egypt from the beginning of the epidemic to September 21 was 31,765, and of deaths, 26,554.

Dr. William H. Bates, an ophthalmologist of this city disappeared from his home about two weeks ago, and no trace of him has since been discovered.

Garnault's Skin Lesion Tuberculous.—Dr. Barai of the Pasteur Institute has recently reported that guinea pigs inoculated with skin from the arm of Dr. Garnault, who inoculated himself with bacilli from a consumptive cow, have developed tuberculosis.

Site for the New Jersey Tuberculosis Hospital.—Five hundred acres of land have been purchased at Glen Gardner, in Hunterdon County, for a site for the proposed New Jersey State Hospital for Consumptives. The ground is about half a mile from the New Jersey Central Railroad station at Glen Gardner, and is easily accessible from all parts of the State. The commission charged with the selection of a site and erection of the hospital is composed of Dr. Charles J. Kipp of Newark, Dr. Austin J. Scott, President of Rutgers College, New Brunswick; Col. E. A. Stevens of Hoboken, Dr. O. O. H. Sproul of Flemington, Dr. Elmer Barwis of Trenton, Dr. James S. Green of Elizabeth, Frank L. Shepard, Superintendent of the Pennsylvania Railroad, and Dr. Walter Jones of Camden. The work of the commission must be approved by Governor Murphy before work on the building can be begun.

An Operation Begun in One Hospital and Ended in Another.—The papers report the case of a man who was taken to the Polyclinic Hospital suffering from intestinal obstruction, for which an operation became necessary. This was begun at one o'clock in the morning, and after the abdomen had been opened an accident happened to the sterilizer, rendering it impossible to continue. The abdomen was therefore closed temporarily, and the patient was transferred to Bellevue Hospital, where the operation was completed. The man did well at first, but sank suddenly and died a few hours later.

University of Pennsylvania.—Dr. John Marshall, professor of chemistry and toxicology and dean of the Medical Department, will decline re-election to the office of dean, a position he has held for eight years, in order to devote himself more closely to his teaching work.

Philadelphia County Medical Society.—At a stated meeting held September 10, Dr. M. H. Fussell read a paper entitled "The Value of Diphtheria Antitoxin," and Dr. L. Napoleon Boston a communication entitled "Leucocytosis in Lead Workers."

Tri-Medical Society of Alabama, Georgia, and Tennessee.—The fourteenth annual meeting of this society will be held, as previously announced, in Birmingham, Ala., on Tuesday, Wednesday, and Thursday, October 7, 8, and 9, 1902, under the presidency of Dr. J. C. Le Grand of Birmingham. An attempt has been made to have the discussion of sociological questions an important feature of this meeting, and with this in view the members have been urged to present papers on these subjects, especially on the public relation of tuberculosis, its prevention, and its cure, the physical and mental development of boys and girls, evils of our methods of education, and its effects on physical and mental development, the feeble-minded and care of same, crime and its causes, the criminal and his development, the negro and his various relations to the white race—physically, morally, and intellectually, etc.

Official Journals of State Societies.—A noticeable tendency in medical journalism at the present day is that toward the establishment of official organs of the various State societies. Several of the larger States already have such periodicals, the latest being the *Journal of the Michigan State Medical Society*, the first number of which is dated September, 1902. Articles published in a monthly journal are certainly more apt to be read than those appearing in a bound volume of transactions, but unless the journal can secure a wider circulation outside of the society's own members, this advantage will be more apparent than real.

The San Francisco Board of Health.—A breezy report, and one outside of the usual order, is that of the Board of Health to the Mayor of San Francisco. It will be remembered that this mayor, whose name is Schmitz, summarily discharged the Health Board last March, the reason being that that body had had the courage to tell the truth regarding the existence of plague in the city. Fortunately, the courts intervened and checked Mr. Schmitz, the old Board was continued, and this report is devoted in great part to its review of the Mayor's conduct. At the time this report was made there had been fifty-seven cases of undoubted plague in San Francisco; from that date, June 30, to August 23, there were eleven additional cases, making the total sixty-eight.

The President of Cuba Thanks Major Gorgas.—On Saturday last Major Gorgas, chief of the Sanitary Department in Havana during the American occupation, who sails to-day for New York, was entertained at a farewell dinner by President Palma. The President took the occasion to express to his guest the gratitude of Havana and all Cuba for the efficient services rendered the city and island by the sanitary department, and especially for putting an end to the age-long endemic of yellow fever.

Oregon State Medical Society.—At the annual meeting of this society, held at Portland, September 10 and 11, the following officers were elected: *President*, Dr. Henry Waldo Coe, Portland; *Vice-Presidents*, Drs. F. W. Van Dyke, Grant's Pass, J. A. Geisendorffer, The Dalles, and J. P. Tamiesie, Hillsboro; *Secretary*, Dr. A. D. Mackenzie, Portland; *Treasurer*, Dr. Mae H. Cardwell, Portland.

A New Hospital for Portchester.—Many of the women of Portchester are interested in a project to erect a new hospital building there, in place of the old building which has harbored the patients since the Portchester Hospital was established a few years ago. The stone for the foundation has already been given, and a subscription list has been started with several substantial donations.

St. Mary's Hospital in Queen's Borough.—The medical staff of the new hospital in Jamaica, Queens Borough, to be known as St. Mary's, has been organized as follows: *President*, Dr. Philip M. Wood; *Vice-President*, Dr. George K. Meynen; *Secretary*, Dr. A. J. Blanchard; *Surgical Division*, Drs. Philip M. Wood, G. K. Meynen, A. J. Blanchard, and T. J. Flyn; *Medical Division*, Drs. H. M. Augur, Samuel D. Nutt, W. T. Scovil, and E. T. Jones; *Dental*, Dr. P. L. Hull; *Sanitary Department*, Dr. Samuel Hendrickson, Health Commissioner of Queens Borough.

The Climatic Cure of Consumption was the subject of the presidential address before the Medical Society of the Missouri Valley in its annual meeting at Sioux City, Iowa, on September 18. In it Dr. R. C. Moore of Omaha exposed some of the fallacies in the arguments for climate as a factor in the cure of tuberculosis, and contended that the open-air treatment of the disease could be carried out in Massachusetts practically as satisfactorily as in New Mexico. He advocated the establishment of local sanataria in every State of the Union.

Board of Health Licenses for Ambulance Surgeons.—The Assistant Sanitary Superintendent of the Board of Health in Brooklyn, Dr. Raymond, has notified the hospital authorities in that Borough that no one will be allowed to serve as ambulance surgeon until he has complied with the requirements of the Health Board. These requirements are that the surgeon shall be regularly qualified by the State Examining Board to practise medicine and surgery, and shall have had an experience of six months in private or hospital practice. The new regulation is to go into effect on the first of next month.

Obituary Notes.—Dr. THOMAS H. PHILLIPS of Canton, O., died suddenly at the desk in his office on Saturday evening, August 30. He was born at Cannonsburg, Pa., on March 25, 1839, and was graduated from the Jefferson Medical College, Philadelphia, in 1864. Before his graduation he served as an assistant surgeon in the Union Army during the Civil War. Dr. Phillips was the oldest practitioner in Canton; he was the family physician of the late President McKinley and had called professionally on Mrs. McKinley the day of his death. He was widely known as a consultant, and was a member of the Canton Medical Club, the Stark County Academy of Medicine, the Northeastern Ohio Medical Association, and the American Medical Association.

Dr. HARRY A. BELL, aged about thirty years, died in Tucson, Ariz., September 17. He was a graduate of Washington and Jefferson College and of the Medical Department of the University of Pennsylvania in 1897, and was a member of the Butler County (Pa.) Medical Society, the Pennsylvania State Medical Society, and the American Medical Association.

Dr. WALTER CURRY of this city died of acute pleurisy, at Brandford, Conn., on September 20. Dr. Curry was born in Lincoln, Ga., in 1835. He was educated at the University of Georgia, and was graduated, in 1855, from the Medical Department of the University of Pennsylvania. He served with distinction as a surgeon in the Confederate Army during the Civil War, and soon after its close came to New York to reside. Dr. Curry was a brother of Dr. J. L. M. Curry, who was sent by President Roosevelt as special envoy to Spain to represent this country at the coming of age of King Alfonso. He was the attending physician of the late William Marsh Rice for six months previous to the latter's death, and was to have been a witness in the new trial of Patrick, Mr. Rice's lawyer, in case he succeeded in getting one.

Dr. EDMUND HOWELL COOK of Flushing, L. I., died recently at the age of thirty-nine years. He was a son of Dr. Henry Cook of Sag Harbor, where he was born, and was a graduate of the Bellevue Hospital Medical College in the class of 1893.

Dr. CHARLES HENRY JOHNSON of Brooklyn died on September 18, at the age of forty-eight years. He was a graduate of the New York University Medical College in the close of 1880, and of the University of Dublin in 1881. He was attending physician to St. Mary's Hospital, and was a member of the Kings County Medical Society, the Brooklyn Pathological Society, the Brooklyn Medical Society, and the Associated Physicians of Long Island.

Dr. DANIEL L. WASSER died on September 19 in the West Penn Hospital, Pittsburg, from carbolic-acid poisoning, the drug having been given to him in an enema by mistake for olive oil. He was suffering from typhoid fever at the time.

Dr. FREDERICK G. IBACH of Mauch Chunk, Pa., died on September 11, at the age of forty-four years. He was a graduate of the Jefferson Medical College, Philadelphia, in the class of 1879.

Dr. CHARLES MERRITT, eighty-nine years old, died on September 21 at the home of his son, Dr. Charles G. Merritt of Mount Vernon. Dr. Merritt was a physician of Bridgeport, Conn., and had practised in that city for many years. He had been living at Mount Vernon only a short time.

The Care of the Perineum During Labor.—Effa V. Davis, during ten years of active obstetrical work, has used the following precautions to prevent rupture. All primiparæ and most multiparæ are placed in the left lateral position as soon as the presenting part has reached the pelvic floor, or begins to strain on the perineum. Chloroform is administered at the same time. Direct pressure is applied to the head when it appears at the vulva, but a slight advance is permitted at each contraction. Pressure applied to the jaw and lower part of the child's face by the fingers of the right hand carries the whole head snugly under the pubic arch and keeps the degree of extension or flexion just as desired to direct the occiput safely through the outlet, and allow the nape of the neck to lie under the pubis before the sinciput passes the perineum, which insures engagement of the outlet; not the occipito-frontal, which is much larger and apt to present when the above manipulations are not applied correctly. The author used to do episiotomy occasionally, but by practising the above measure this has been rendered unnecessary in the last 514 cases.—*Medicine*.

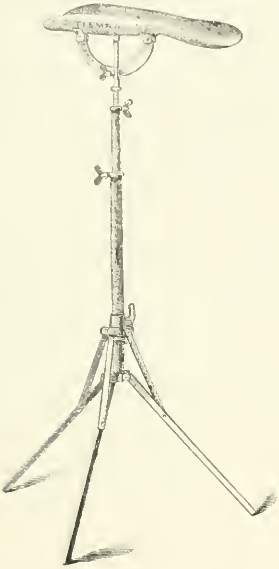
New Instruments.

A NEW ARM SUPPORT.

By F. S. KENNEDY, M.D.,
BROOKLYN, N. Y.

In a paper read before the Medical Society of the County of Kings, April, 1902, on "The Sphygmograph: Its Practical Value," particular attention was called to the necessity of having the forearm properly supported and steadied at the time of making a radial sphygmogram, in order to eliminate as much of the involuntary wrist movement and muscle tremor as possible.

At that time I was using an improvised arm-rest for this purpose which had a rotary motion and could be raised and lowered to suit each patient. Since then, at my request, Messrs. Geo. Tiemann & Co. have made for me an arm-support which not only rotates freely and can be raised and lowered but, by means of a hinged device with set-screw at the top of the supporting rod, it can be tilted from the horizontal so as to give a much greater degree of comfort to the patient.



A further advantage possessed by this support over the one first used by me is in the manner of fastening the sphygmograph to the wrist. When no support whatever is used, or when the forearm is made to rest on a book or table, and even with my first device, the band of the recording instrument is made to pass directly around the wrist, producing a degree of constriction which varies with each case, but always interfering more or less with the circulation. With this new support, however, both the hand and forearm are steadied, while the band of the sphygmograph, passing below the metal support at its narrowest part, does not constrict the wrist to any appreciable extent, and interference with the circulation is thereby avoided.

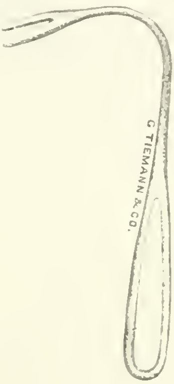
Aside from its use in conjunction with the sphygmograph, I have found this arm-support to be of great value, as part of my general office equipment, in cases of fracture, sprain, etc., when it is desirable that the arm and hand should be maintained in a steady and restful position during treatment, and while dressings are being prepared and applied.

The support includes a nickel-plated extension tripod, which can be so compactly folded that with the arm-rest it will make a package not more than sixteen or seventeen inches in length, and weighing less than thirty ounces.

A NEW TONGUE DEPRESSOR

By J. W. EDDY, M.D.,
OSWEGO, N. Y.

For a number of years I have been troubled in the removal of fish bones and other foreign bodies from the throat by patients gagging, and sometimes vomiting, which greatly interfered with the extraction. After experimenting with many different kinds of tongue depressors, I found that I obtained the best results with a uterine dilator with the blades spread. This holds the tongue down, and causes practically no gagging or vomiting. Hence my excuse in bringing before the medical profession a two-pronged tongue depressor, as shown in the accompanying illustration. It was made in a very satisfactory manner for me by Messrs. George Tiemann & Co. of New York City. This tongue-depressor is intended to be used only in operations for the extraction of foreign bodies.



Influence of the Light-Bath on the Circulatory Apparatus.—Ferdinando Battistini uses the light-bath according to Kellog's method, with forty lamps rendered incandescent, by a current of 100 to 110 volts. He begins with a temperature of 30°C., progressively increasing up to 50°, and rarely to 60° C. The duration of the bath is from fifteen to twenty minutes. In all cases copious sweating occurs promptly. The pulse and the respiration are increased in frequency. The effect on the blood-pressure varies. In persons whose circulation was normal, or in whom arteriosclerosis was in the initial stage, the pressure was very slightly increased, or else not affected. In a second group of patients, apparently normal or else suffering from grave arteriosclerosis, the pressure was as high as 35-60-70 mm of mercury. Arrhythmia was noticed in some cases. The cardiac area was, as a rule, not affected. The sphygmographic curve was usually fuller during the light-bath and occasionally there were signs of dicrotism. The author concludes that this method of treatment should be used very cautiously on patients with a weak heart, or on those suffering from arteriosclerosis.—*Rivista Critica di Clinica Medica.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

A MUNIFICENT ENDOWMENT—CONGRESSES—WORKMEN CLAIM TO ELECT THEIR DOCTOR—MR. CHAMBERLAIN ON THE AMBULANCE CORPS—DR. T. W. LAW—SIR V. HORSLEY'S SEAT ON G. M. C. STAFF COLLEGE—BOOKS—THE LATE MR. COLEMAN.

LONDON, September 5, 1902.

THE King seems to have a fair chance of seeing his wish about our London hospitals accomplished. On Wednesday it was announced in the newspapers that the Prince of Wales, as President of the Executive Committee of King Edward's Hospital Fund for London, had received from Lord Mount Stephen and Lord Strathcona an endowment for the fund producing £16,000 a year and likely to increase in value.

When as Prince of Wales in 1897, the King established this fund, he hoped to free our hospitals from the heavy debts which burden them, and it was thought that £100,000 a year would be required to accomplish this. The Prince hopes to see this end attained in this year, the first of his Royal Highness's Presidency.

For my part I hope that the prospect before them will not tempt managers into fresh extravagances. It would be well if it were understood that hospitals incurring fresh debt would have to justify their action fully to the committee or be struck off the list of beneficiaries. Secretaries and architects seem always ready to rush into debt, and some, it is well known, believe that a heavy debt constitutes the most effectual appeal to the public. This notion should be sternly repressed. There are other directions, too, in which managers are apt to be reckless, and their ambitions will have to be curbed.

This is the season of congresses and conferences. You may feel some interest in that of the journalists. Their institute has discussed the position of proprietors, managers, editors, art-critics, etc. A voice was also raised in favor of making it international, but the objections were obvious, and reference to continental abuse raised the cry of "no politics." I think the journalists would be better advised if they set their faces against the shameful advertisements which circulate in their papers. The *Daily Telegraph* does not blush to accept a whole page advertisement of a so-called institute for the cure of deafness which has been over and over again exposed as a gross swindle. Other dailies, too, insert advertisements which are a disgrace to them.

The Trades' Union Congress has also been inflicting its proceedings upon us, and a number of people have been startled by the demands of some of the speakers. Workingmen, they think, should rule the country through the trades' unions. Non-unionists must join them or be crushed out; picketing must be legalized for this purpose, and, of course, intimidation To free education must be added free technical schools, to teach their trades, and then free meals. Rehousing on the largest scale is demanded at minimum rents, and pensions for those who reach the age of sixty. To do all this the trades' unionists propose to form themselves into a great political party, stronger than either of the existing parties, to reconstitute the House of Commons, and for funds to tax land to its full value, and, to municipalize or nationalize many other forms of property—a program of confiscation and revolution.

Though not mentioned at the Congress, we all know that the workman has long ago secured free medical treatment, and considers that he has a right to a share in the management of hospitals founded and supported by others.

A number of our surgical brethren have accepted invitations to be present at the Belgian Surgical Congress. Appendicitis is again a leading subject for discussion. Lord Lister was invited, but is unable to go.

The name Ballachulish may have caught your eye in some cable about the King's cruise. The place is noted for its slate quarries, in connection with which a remarkable dispute has arisen. The company owning the quarries recently dismissed the medical officer at a month's notice and forbade him to practise in the district in accordance with a clause in the agreement. The quarrymen, as soon as they heard of it, called a meeting and passed a resolution asking the directors to reconsider their action. This they declined to do, and at another meeting the quarrymen resolved to make every effort to retain the services of their medical officer (Dr. Grant), and appointed nine of their number to act as a medical committee to secure this end The directors, still persisting in their decision, this medical committee resolved to assume the right of appointing their own officer, and gave notice that they would not allow deductions from their wages on behalf of any doctor they had not themselves appointed. Notice was served on Dr. Grant that the court was to be asked to interdict him from practising in Ballachulish, and an indignation meeting of the men followed, so numerously attended that it had to be adjourned from the Town Hall to the open air. This meeting resolved to use every legitimate means to retain the services of Dr. Grant and to employ every legal means of preventing deductions being made from their wages for the payment of any other doctor.

Some people think there ought to be arbitration instead of litigation. I think it would be more reasonable for the directors to retire from their ridiculous position, and, as the doctor is paid by the men, let them choose him. Surely Scotchman know their proverb that "He who pays the piper calls the tune."

Sir Wm. Church, P.R.C.P., presided at the meeting of subscribers to the fund raised by sympathizers with Dr. T. W. Law. You will remember that he was prosecuted by a nurse, to whom he had been most kind, in attending her gratuitously, the charge being that through his treatment she became addicted to morphine. The jury stopped the case before hearing all the defence, and the judge declared the action ought not to have been brought. But the grateful nurse had no funds to pay the costs, which ran up to about £700. Sir W. Church handed Dr. Law a cheque for £500. He had previously received £110 from the fund. Dr. Law expressed his thanks to the profession for its generous assistance.

Some good speeches were made and resolutions passed. The case illustrates, as I said at a previous stage, the value of a medical defence fund. Probably, had Dr. Law belonged to one of the protection associations, he would not have been subjected to the ordeal he has gone through.

Sir Victor Horsley's term on the General Medical Council is expiring. He is a candidate for re-election, and his services ought to give him an unopposed return. There is some talk of opposition, but I hope it will end in talk. As nomination papers may be sent in to-day, I cannot say positively whether this will prove to be the case.

Forty members of the Birmingham corps of the St. John Ambulance Brigade, who served with the R. A. M. C. in South Africa, received war medals on Saturday at the hands of Mrs. Chamberlain, and were addressed by the Colonial Secretary himself. He expressed his appreciation of their services in handsome terms, and said that combating the terrible diseases, which were more fatal in war than sword or bullet, was quite as honorable as fighting with other weapons. In glorifying such voluntary work, however, he said the country would not submit to the expenditure necessary to be always ready for any emergency—a statement which his enemies are making the most of and which has filled his supporters with apprehension and even consternation.

The new Army Medical Staff College has begun its first session in the laboratories of the two colleges, which the War Office has hired for the purpose. Lieutenant-Colonel H. E R. James of the Aldershot Training School R. A. M. C., has been appointed commandant and director of studies.

A book entitled "Rich and Poor in the New Testament," by Dr. O. Gone, was published on Wednesday. The author calls it a study of primitive Christian doctrine, which he endeavors to apply to our present social state.

A volume of surgical contributions by the late Sir Wm. Stokes is announced for next month. Sir William had begun their revision when he offered his services for South Africa. The work will be edited by Mr. Taylor of the Meath Hospital, and Professor Ogston will contribute a sketch of the author's life.

A rather cheap edition (3s. 6d.) of Treves's "Tale of a Field Hospital" has already appeared.

The first volume of "Reports from the Cancer Research Laboratories; the Middlesex Hospital," has appeared. It is edited by Mr. Foulerton.

Mr. Alfred Coleman, F.R.C.S., L.D.S., etc., died on the 26th ult. He was an original member of the Odontological Society, of which he was President in 1877. He had taught at the Dental Hospital and examined at the College of Surgeons, and long held a leading position in dental science and practice, to which he was most devoted. You will remember his "Manual of Dental Surgery and Pathology" and some of his contributions to the journals. His health failing, he went to New Zealand, where he stayed from 1884 to 1890. On his return he occupied himself with his old hospitals' management—St. Bartholomew's, of which he was for many years dental surgeon.

NASOPHARYNGEAL CATARRH.

To the Editor of the Medical Record:

Sir: I have been interested in an article, published in your issue of August 9, by Dr. Freudenthal, on the subject of chronic nasopharyngeal catarrh. The author ascribes this disease to the dry atmosphere in which the American passes the principal part of his life. He says that the rooms of American houses are nothing else but cave-dwellings, tighty closed from all sides during the greater part of the year. I do not deny the unhealthy consequences of living in such houses, but I cannot agree with my colleague in considering such a practice as the principal cause of the high percentage of pharyngeal catarrh amongst people living in America.

How can Dr. Freudenthal explain the fact that foreigners, coming to America, living as they do at home, with plenty of fresh air and very little fire, and some of them also living an outdoor life, are affected, after a certain time, with the same trouble. For over a year I have paid particular attention to this fact here in Washington, where the foreign colony is numerous, and represented by all nationalities, and I have arrived at a very different conclusion.

Americans appear to be unable to dispense with drinking ice-water; foreigners also acquire, almost unwillingly, the habit—and why? Because the hotels, restaurants, boarding-houses, business places, from the Stock Exchange to the smallest retail shop, supply the customer with a pleasant drink of ice-water at any hour of day or night. Of course, I am willing to admit that if our dwellings, in all season, were not so stuffy, because of excessive heat, the ice-water would not have such an attraction. Our nasal and pharyngeal mucous membranes, as my colleague says, are, in consequence of the overheated atmosphere, kept dry and hot, and, I may add, for that reason, in continuous need of refreshing drinks. That is true, but what we must take into consideration is the effect of the abuse of ice-water on our system. In the beginning ice-water stimulates the action, *e. g.* the secretion of the gastric glandular apparatus. This stimulation, after a certain period, has, on the stomach, the same effect that all stimulants have on it. The excess of alcohol, the excess of spicy foods, or the action of the extreme temperatures, either too hot or too cold, of the food injested, produce a chronic catarrhal condition of the stomach.

The pharynx is nothing else but an intrinsic part of the gastric apparatus; and we know that any process of an inflammatory character has a tendency to extend itself *ad infinitum* over surfaces not separated by well-defined lines of demarcation, viz., lines representing the starting points of radical histological differentiation. So to a catarrh of the stomach always follows a catarrh of the pharynx. It is an axiom that clinical daily observations demonstrate and pathology confirms. Once this catarrhal condition is started in the pharynx, we have there a ground of culture for the numerous colonies of microorganisms living in the mouth. These flourishing colonies will gradually invade the retropharynx, and from there all the surrounding regions, giving rise to all the catarrhal conditions and complications that constitute the greater part of otorhinological pathology. In other words, the nasopharyngeal catarrh forms part of the multiform pathology of dyspepsia. If Dr. Freudenthal would make statistics of all the cases of nasopharyngeal catarrh under his observation, I do not doubt he would, in every case, find marked signs of dyspepsia.

I had many occasions, during last winter, to observe and treat such cases. The recent ones, in which distrophias had not yet begun, I always successfully treated in the following way: (1) Regimen proper to a dyspeptic person; (2) Complete abstinence from ice-water, in all forms: (3) Frequent gargles of the following solution:

Sodii boratis Sodii bromidi	āā 6 gram.
Acidi carbolici	1 gram.
Glycerini	50 grams.
Aquæ rosæ	450 grams.

The patient always improves rapidly. I should advise the practitioner to undertake the above treatment in cases of this character.

Enrico Castelli, M.D.

1518 K Street, Washington, D. C.

The Harlem Medical Association.—At a meeting held on June 4, officers for the enusing year were elected as follows: *President*, Dr. E. L. Cocks; *Vice-President*, Dr. W. H. Luckett; *Secretary*, Dr. Percy Fridenberg; *Treasurer*, Dr. J. L. Feinberg; *Trustees*, Drs. J. E. Lumbard, M. R. Richard, and Henry Hemian.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Sept. 18, 1902.

Notes on a Case of Acute Hemorrhagic Polymyositis.—William Sydney Thayer says that it is only within the last fifteen years that our attention has been called to the various forms of acute polymyositis apart from that occurring with trichinosis. The essential features of the case he reports appear to have been recurrent attacks of acute swelling, with but little tenderness, in various muscle groups. The more severe attacks have been associated with evidences of deep hemorrhage (widespread discoloration of the skin) and areas of marked hard subcutaneous œdema. During one of the attacks there was a deep, almost erysipelatoid, reddening of the skin in the œdematous area. Subsequently there were undoubted evidences of atrophy in some of the affected muscles. Certain points of especial interest in the course of the case were: (1) The mildness of the subjective symptoms of pain; (2) The mildness of the febrile manifestations; (3) Widespread cutaneous discoloration, indicative of deep hemorrhage, almost without purpuric manifestations; (4) Crepitus in the deltoid muscle.

The Effects of Exercise on the Heart and Circulation.—R. C. Larrabee summarizes his paper as follows: Violent exertion normally causes changes in the blood pressure, temporary enlargement of the heart's area from dilatation or relaxation of the myocardium, and sometimes a fugitive murmur. The cause of the latter is not obvious. The chief result of training is hypertrophy. As abnormal results of exercise we have acute dilatation, rare in healthy young men, especially if well trained; and as a result of habitual overexercise, "irritable heart," and the other conditions with dilatation, hypertrophy, or myocarditis, and generally due in part to other predisposing causes. In the treatment, rest is of the first importance, its duration and degree depending on the severity of the case. The diet should be abundant and nourishing. Digitalis and other cardiac stimulants are of the greatest value, but they should be given, especially at first, with great care, their action being closely watched. In the prophylaxis, careful training is important. Excesses in the use of tobacco and alcohol should be especially avoided by those whose occupations require unusual muscular exertion.

Journal of the American Medical Association, Sept. 20, 1902.

Analysis of Thirty-seven Cases of Uveitis.—This analysis is made by Hiram Woods, who summarizes his views as follows: (1) Menstruation in its establishment or later, if abnormal, intestinal disorders, acute infections, and nasopharyngeal disease should be reckoned among possible causes of plastic choroiditis. Whether or not these conditions are themselves direct causes or lower resisting powers, and so enable other causes to act, is uncertain. Nor can it be definitely said that some of these coincident conditions may not themselves be manifestations of recognized causes of uveitis; rheumatism, anæmia, and the like. (2) These cases of obscure etiology show greater tendency to relapse than forms whose cause is better known. They almost invariably show descemetitis. (3) The fundal changes of so-called "choroidal hyperæmia," especially if accompanied by defective accommodation and vitreous opacities, demand guarded prognosis and repeated examination for dim field areas.

Concerning the Symptomatology and Etiology of Certain Types of Uveitis.—G. E. de Schweinitz describes cases illustrative of the following types of the disease: (1) Recurring and malignant uveitis terminating in secondary glaucoma and cataract; (2) Acute uveitis, beginning as a scleroticochoroiditis, terminating in myopia and posterior polar lenticular opacity; (3) Mild, chronic, senile uveitis, associated with antecedent or subsequent hemorrhages in the vitreous, and (4) Relapsing, plastic uveitis, beginning insidiously in gouty and rheumatic subjects. In general terms, the causes of the disease may be diathetic, toxic, or infectious. Thus, we have causes depending on rheumatism, gout, and diabetes; on specific infections, such as influenza, syphilis, gonorrhœa, tuberculosis, and specific fevers; blood states, as anæmia; on urinary anomalies, as lithæmia, and on local diseases, *e. g.* of the pelvis and rhinopharynx. In what manner these various ailments and conditions cause iridocyclitis, or, to use the more comprehensive term, uveitis, has not been carefully determined. But it does not seem to be unreasonable to assume that it represents an effort on the part of the uveal tract to expel from its tissues some toxin, bacterial or otherwise, precisely as we know that certain forms of dermatitis originate in an effort of the skin to eliminate a poisonous agent. Under each of the four headings mentioned above are grouped the characteristic symptoms and conditions found in the corresponding type of case.

Medical News, September 20, 1902.

Report of a Case of Non-Traumatic Acute Suppurative Osteomyelitis with Catarrhal Coxitis; with Remarks.—Henry J. Raymond, in discussing this subject, enumerates the following symptoms: A sudden invasion—a child takes to bed from the first day—fever and chilly sensations and a complete abolition of functions of the affected limb, with terrific spontaneous pains in the hip or knee. Pressure over the trochanter, or striking the soles of the feet, and any attempt at passive movement of the limbs, increase the pains. (In tuberculous coxitis the onset is not sudden.) Swelling about the hips, the gluteal, and anterior femoral regions, of a boggy œdematous character, sets in. There may be multiple joint affections, as in rheumatism. In some one joint the inflammation becomes localized, while the other affected joints clear up. The catarrhal cases may clear up in from four to six months, or possibly a year; the suppurative cases may continue for three or four years should the patient not succumb to pyæmia, septicæmia, or some intercurrent affection or amyloid degeneration of organs. Spontaneous luxation of the joint may ensue, with ankylosis and distortions; namely, flexion, adduction, abduction, rotation, or combinations of these.

The Influence of the Röntgen Ray upon the Different Varieties of Sarcoma.—William B. Coley concludes that although the present series of cases is too small, and the time of observation too short, to justify one in drawing any dogmatic conclusions as to the permanent therapeutic value of the Röntgen ray in sarcoma, we are still warranted in stating: (1) That the results in the cases thus far treated prove that the Rontgen ray has a remarkable inhibitory action upon the growth of all forms of malignant disease, and that this is especially true of sarcoma; (2) That this action in many cases of even far-advanced and inoperable malignant disease may result in the total disappearance of the tumors, often without any breaking down of the tissues, the new growth being apparently absorbed; (3) Whether the patients have been cured, or the disease has been merely arrested, to reappear at some future date, is a question that time alone can decide; (4) Recent observations and experiments upon the various forms of carcinoma and sarcoma prove that an agent supposed to be of value only in a very limited class of superficial epitheliomas promises to be of as great or even greater value in practically every variety of cancer; (5) While at present there is little evidence to show that deep-seated tumors in the abdomen and pelvis can be cured or benefited by the Röntgen ray, there is still some reason to hope that, with improved apparatus, or with greater knowledge and skill in using the apparatus than we now have, even these cases may be benefited; (6) The Rontgen ray has a very marked influence upon the pain of nearly all types of malignant tumors, causing entire relief in the majority of cases.

New York Medical Journal, September 20, 1902.

The Radical Treatment of Cancer of the Penis.—E. W. Lee thus describes his favorite operation: The patient is placed in the lithotomy position, the pendent portion of the penis is wrapped in wet carbolized gauze and covered with rubber tissue. The organ is transfixed as near the base as possible with two short needles; under these should be placed a rubber band, and the pendent portion of the organ is amputated by a transverse incision. The skin of the scrotum is then incised along the whole length of the raphe; with the finger, and the handle of a scalpel, the scrotum is separated into halves quite down to the corpus spongiosum; a full-sized metal catheter is now passed into the urethra, as far as the triangular ligament. In passing the catheter it will be necessary to partly remove the rubber band, which has been placed at the root of the penis. A knife is now inserted transversely between the corpora cavernosa and the corpus spongiosum; the catheter having been withdrawn, the urethra is cut across, and the deep end of the urethra is then detached from the penis quite back to the triangular ligament. An incision is then made around the root of the penis continuous with that in the median line; the suspensory ligament is divided and the penis is separated, except at the attachment of the crura. The knife is now laid aside, and with a stout periosteal elevator each crus is detached from the pubic arch. This step of the operation involves some length of time, on account of the very firm union of the parts to be severed. Four arteries require ligature—the two arteries of the corpora cavernosa and the two dorsal arteries. The corpus spongiosum is slit up for about half an inch, and the edges of the divided urethra are stitched to the back part of the incision in the perinæum. The scrotal incision is then closed with sutures, and a drainage tube is inserted so far back in the deep part of the wound that it can be brought out in front and behind. No catheter is retained in the uretha.

The Plague; Its "Diffusive Tendency"; Haffkine's Antiplague Virus vs. Yersin's Serum.—J. D. Burch gives a brief summary of the history of the epidemics of the plague, and illustrates his paper with excellent views of Haffkine's laboratories in India. His article is, in a sense, a polemic one, his opinion inclining toward the superiority of Haffkine's remedy over that of Yersin. He bases this opinion on the various reports put forth regarding the relative value of the two, reports based upon actual clinical experiments. The current opinion has been that the Haffkine material should be used as a preventive on persons before their exposure, while the Yersin treatment may be used either before or after exposure, or while a person is suffering from the disease. The Yersin remedy has been exploited by Calmette, who reported, in 1900, that a person in the period of incubation for a slight attack of the plague would find the disease considerably aggravated if he submitted during this period to preventive inoculation of Haffkine vaccine. The reply to this statement is, according to Burch, to be found in the report of Major Bannerman of the English army, who says that as Haffkine, on the contrary, has all along maintained that inoculation with his vaccine is harmless in the incubation period of plague, and that this method of protection should be pushed with the utmost vigor amongst those immediately in contact with plague cases, it becomes necessary to examine this matter afresh, in the light of the extensive experience gained in India and elsewhere in the use of the plague prophylactic. Calmette's ideas have been derived from laboratory experiments, for he has had no opportunity of studying the effect of plague vaccination during an epidemic of human beings. In India, on the contrary, hundreds of thousands of persons have been inoculated with Haffkine's plague vaccine, and evidence has been now accumulated with sufficient accuracy to enable one to refute entirely the above suppositions of Calmette.

American Medicine, September 20, 1902.

The Excision of Cancer of the Rectum.—Lewis H. Adler, Jr., believes that cancer of the rectum, at the stage usually discovered by the surgeon, is less amenable to the knife than cancer occurring in other parts of the body; that operation is followed by cure in a very small proportion of cases; that the dangers following excision are great, and the results as to comfort anything but satisfactory; and yet, that in properly-selected cases—those seen early—much good can be accomplished by the operation. The writer wishes to open up the subject for discussion, so that the most recent individual experience and opinion regarding the merits and demerits of excision, as well as its limitations and indications, may be learned.

The Differential Leucocyte Count in the New-born.—Louis M. Warfield concludes that: (1) The leucocytes at the day of birth are more numerous than at any other time of normal life. (2) Nucleated red blood corpuscles rapidly disappear from the circulating blood of the healthy infant within the first three days of life. (3) The percentage of eosinophiles varies widely in the blood of babies of the same age. (4) Myelocytes and mast cells are only occasionally found, and are in very small numbers. (5) The percentage of large mononuclear and transitional cells is large compared to that found in the blood of adults. (6) The polymorphonuclear cells at birth are not only relatively but absolutely increased. They begin to decrease in numbers soon after birth, and by the eleventh day of a healthy infant's life they are fewer in number than the lymphocytes, while the number of the latter variety of cell has actually increased; and the differential count of the leucocytes on the eleventh day is practically identical with the count given in the text-books as normal for the infant's blood.

The Rational Basis for the Dietetic Treatment of Tuberculosis.—William Henry Porter gives the following as the natural deductions to be drawn from his study of the dietetics of tuberculosis: (1) A predisposition to tuberculosis is inherited. (2) Tuberculosis *per se* is never inherited, but is always acquired after birth. (3) The disease can be fed into or fed out of the human species. (4) The chief problem in the dietetic treatment of tuberculosis is first to overcome the general malnutrition, and next to establish a higher grade of local nutrition at the infected focuses. (5) The composition, digestibility, and percentage absorption of the various foodstuffs and the oxygenating capacity of the system is accurately known. (6) By this knowledge the quantity of food taken can be accurately adjusted, so that the full heat production and constructive utilization of the proteids is secured. (7) The oxygenating and carbon dioxid excreting powers of the system must not be exceeded if the best results are to be secured. (8) By following these accurate laws systematically, a perfect diet can be arranged, and the abnormal and pathologic conditions can be changed to the normal, physiologically speaking. (9) The most difficult problem to contend with in the dietetic management of tuberculosis, is the loss of appetite and the inability on the part of the system to digest and utilize perfectly a sufficient quantity of proteid material to maintain life, and, at the same time, repair the damage already wrought. (10) When this is accomplished a large percentage of tuberculous patients are rapidly and permanently cured, more so than by medicinal treatment or simple climatic changes. (11) A universal adherence to these laws through a century might result in a complete eradication of tuberculosis from the human species.

Two Aneurysms in a Single Heart.—L. M. Loeb describes this case. The patient was a negro porter, twenty-six years of age. He had been entirely well till within three weeks before his arrival at the hospital. He had at that time "taken cold" and his condition became progressively worse. He coughed, but expectorated no blood. There was marked dyspnœa, relieved by sitting up, but not by lying down, and increased by exertion. He had "palpitation of the heart" for about three weeks, and a sharp pain ran from the cardiac region to the left shoulder. The apex beat of the heart was seen and felt in the seventh interspace in the left midaxillary line. It was equally distinct over an area of about one inch in diameter. The seventh and eighth ribs were further apart at this place than elsewhere. Dulness began in the second interspace to the left of the sternum, and passed downward and outward to the eighth rib in the midaxillary line. It extended just beyond the right border of the sternum. This area of dulness shifted $\frac{3}{4}$ of an inch to the right or left as the patient turned on the corresponding side. Over the apex the tones were muffled, in spite of the forcible pulsation. In the second left interspace the second sound was accentuated. In the second right interspace was a loud, blowing, diastolic murmur, not transmitted far in any direction. The temperature remained subnormal. The dyspnœa increased, and the expectoration became quite bloody. Autopsy revealed a dilatation aneurysm of the left auricle at the apex, and a dissecting aneurysm of the aorta leading into the wall of the left ventricle. There was fibrous obliterative pericarditis. The heart with the pericardium and the beginning of the great vessels weighed nearly 1,000 grams. The diagnosis of the condition was hardly possible, although the aneurysm at the apex was once suggested on account of the marked bulging in the seventh interspace. The history was suspicious of syphilis. The writer believes the following may have been the sequence of anatomic changes in the present case: (1) The adhesive pericarditis produced the enormous hypertrophy of the heart. This gave rise to a blood-pressure which the sclerotic aorta could not withstand, and the aneurysm at the base resulted. The possibility of the perforation of a so-called atheromatous ulcer should be considered. This aneurysm pressed upon the left coronary artery, and in this way interfered with the chief source of blood-supply for the apex, and the tugging of the diaphragm, and greatly increased blood pressure in addition, were sufficient to cause the second aneurysm

Philadelphia Medical Journal, September 20, 1902.

Medical Representation in Hospital Management.—Augustus A. Eshner states that there are several ways in which satisfactory representation can be given the medical staff on the board of management of a hospital: 1. By electing one or more members of the staff to membership on the board. 2. By periodic conferences between the staff and the board. 3. By conferences between a committee of the staff and the board or a committee of the board. There is a common theory that the physician is unsuited by inclination, temperament and ability for business activity, so that he is sometimes excluded from taking part in those business affairs for which he should be, and generally is, most eminently fitted and qualified. Certain lay boards of hospital management have allowed the opinion to become common that hospital management is a purely business matter, and that the medical officers should be considered as mere subordinates, to receive and fulfill the orders of their superiors, the lay managers. The physician is, however, on account of his training, his attainments, his position and his relations with others, especially fitted for this work of which some have judged him incapable. Neither the hospital staff nor the medical staff should be subordinate, but they should work together, and each should supplement and complement the work of the other, so that the efforts of each will be strengthened in their mutual coöperation. There are questions arising many times in a hospital in which the advice of the physician is absolutely necessary. The successful management of a hospital, therefore, will be attained by a division of labor, such as assigns purely business responsibility to the lay managers, and all purely professional work to the medical staff. There should be entire harmony between the two divisions.

Syphilitic Necrosis of the Nasal Cavity, Accompanied with Total Blindness.—Charles A. Todd describes this case of syphilitic disease of the nasal cavity as one of interest outside of rhinology on account of its ophthalmic complication. The patient was a man aged forty-seven. There was almost complete destruction of the nasal septum and at the same time complete blindness. The cavity of the nose was syringed with an alkaline solution and from time to time pieces of dead bone were removed. The use of the antiseptic washes was followed by the application of vaseline on a swab. The fetor rapidly disappeared. At later visits, it was found that nearly all the septum was gone. The vault of the pharynx was intact, and the anterior part of the body of the sphenoid was unhurt. The eye affection then could not be referred to extension of the necrosis. The sight began to grow dim three weeks previous to the patient's first visit There was a jerking headache in the right temple He was put on potassium iodide and the protiodide of mercury. The sight of the eyes is improving. The mucous membrane of the nose is well healed. The alkaline antiseptic wash and vaseline are continued. At the onset of the treatment there was some atrophy of the discs but no other intraocular lesion There was marked diminution of the field of vision and power of central vision. There was at no time any involvement of other cranial nerves beyond what the headache in the right temporal region might indicate.

The Lancet, September 13, 1902

A Method of Treating Traumatic Tetanus. The plan suggested by S. Zlotowski consists in keeping the patient in a room at a temperature of about 104° to 111° F., and giving him, every three hours, a hot bath of thirty minutes' duration. Morphine injections are made along the vertebral column for the relief of pain. Several illustrative cases are recorded.

Two Cases of Foreign Bodies Swallowed and Their Treatment.—H. W. Boreham records the cases, one being that of a woman who had swallowed a tooth plate, and the other that of a man who had swallowed a pin. He gave one dose of ammonium bromide (20 grs.), and then placed the patients on a diet of bran and coarse porridge, with small pieces of thread in large quantities. In both instances the bodies were safely voided in two days. He advises a restricted use of fluids during the treatment, and the confining of the bowels somewhat by the use of opium.

The Choice of an Anæsthetic for Short Operations upon the Throat and Nose.—The paper of J. H. Chaldecott is a vigorous protest against the use of chloroform for the purpose suggested in his title He shows that since 1897 at least *thirty* deaths from chloroform have been recorded in adenoid operations alone. He prefers gas alone, or gas and ether, and emphasizes the following points: (1) Chloroform has been the means of destroying more than fifty lives during adenoid operations, and cannot, therefore, be regarded as other than a dangerous anæsthetic in this class of cases; (2) At least five of these deaths have occurred in the practice of anæsthetists of the highest possible skill and experience; and (3) Thousands of these operations are performed every year under gas, or gas and ether, without a single death and with hardly an anxious moment.

A Case of Hæmophilia in a Woman with Symptoms of Defective Circulation in the Legs and Threatened Gangrene of the Toes; Death with Cerebral Symptoms. J. A. Arkwright reports the case, his patient being a tall, large-boned, and well-developed woman, who, at the time of her death, was thirty years old. The symptoms of her final illness came on without apparent cause, and are thus commented on by the author: The tendency to bleeding was shared by a brother, and though not extreme, and not traced to a former generation, it resembled hæmophilia The coldness and deficient blood supply to the lower limbs had some resemblance to Raynaud's disease, but the symptoms were too persistent and progressive and did not intermit with sufficient completeness to agree with the classical description of that disease. Moreover, the symmetry was very imperfect Exacerbations were generally excited by the use or dependent position of the legs, and were not truly paroxysmal The mottling of the skin affected the lower limbs high up, and even the buttocks, and consequently the circulation must have been defective in these parts This suggests some obstruction to the main arteries of the limbs, but the arteries supplying the feet were also not all felt beating in the usual situations. An arteritis, or constriction of the smaller arteries possibly due to nervous influence, seems to be the most likely explanation of the symptoms, but this leaves the ultimate cause and the connection with the tendency to hemorrhages unaccounted for. Perhaps the neuralgic pains in the limbs were due to deficient blood supply or deep hemorrhages. The final cerebral symptoms preceding death are best explained by meningeal hemorrhage, determined by the increased blood pressure preceding the menstrual period, but intracranial hemorrhage does not appear to be a recognized cause of death in hæmophilia.

The Ultimate Results in a Series of Seventy-six Cases of Fractures of the Tibia and Fibula.—R. W. Murray deplores the lack of progress made in the treatment of simple fractures, and notes that the usual treatment in England, at least for fractures of the tibia and fibula, that of placing the limb in a back-splint with a vertical footpiece and side-splints, is not the most advisable plan to follow. He prefers a footpiece inclined outward to an angle of seventy degrees, and with the same inclination forward. A splint so shaped permits of the foot and leg being fixed in the natural position of rest. The patient is more comfortable in a splint of this description, and as no endeavor is made to force the foot into an unnatural vertical position, there is much less tendency to the formation of a sore over the heel. Moreover, the tendo-achillis not being in a state of passive tension (as is the case when the vertical footpiece is used), the tendency to overriding of the fragments is lessened. The legpiece of this splint should be of such a length as to permit of the knee being bent, and, after the applications of side splints, to allow the leg and splint to be swung from a cradle. When the fractured bone has firmly united, say at the end of four weeks, movements of the ankle and knee-joints should be encouraged, and massage practised if available. The mistake usually made is keeping the injured limb in a state of immobility for too long a time. If the fracture has been an oblique one, it should be remembered that the newly-formed callus will have to bear the strain of the body weight, and consequently will be apt to "give" if the patient rests the full weight of his body on the injured limb before the end of the third month. The *x*-ray shows that with any form of splint it is often difficult to secure exact apposition of the broken bones, and he does not hesitate to operate in cases of simple fracture if necessary to secure accurate apposition. He notes that in compound fracture the results are often better than in simple fracture, owing, doubtless, to the fact that the wound relieves the soft parts of extravasated blood and inflammatory products.

The British Medical Journal, September 13, 1902.

Cannabis Indica in Chorea and Pertussis.—E. T. Burton describes several cases in which he has used cannabis indica with great success. In an aggravated case of chorea in a girl of eleven years, after other drugs had been tried without success, he administered seven and one-half minims of the tincture of the fluid extract. The effect was magical. In a few weeks the child became strong and well. In two cases of pertussis, one that of a boy of twenty-two months, and the other a girl of five years, the results were just as encouraging. Although the boy had suffered from an almost incessant cough with vomitting, the cough had almost ceased on the third day, and had disappeared by the end of the week. In all three cases there was noted direct relief to spasm, absence of any head symptoms, and non-interference with appetite or digestion. Only a little chloroform was added to the tincture to conceal the slightly unpleasant taste. The mixture was well taken in each case.

Note on a Case of Mammary Abscess Following Typhoid Fever.—Alfred MacConkey reports this case. The patient had an attack of typhoid fever in August of 1901. At the beginning of the following February she developed in the right breast a small painful swelling, which increased in size and finally burst Some of the discharge was examined. It was a thin, blood-stained, seropurubent fluid full of bacilli. In a dilution one in thirty it gave complete agglutinative reaction with the laboratory typhoid culture. Gelatine plates yielded a pure culture of a bacillus which gave all the cultural reactions of the bacillus typhosus. A guinea-pig, inoculated with a 48-hour broth culture of this organism, died in twenty-four hours. The bacillus was recovered from the spleen, and acted toward enteric blood just in the same way as the laboratory stock culture Later, the blood of the patient in a dilution one in thirty had only a partial effect upon the bacillus isolated from the discharge. The discharge itself, on the other hand, in similar dilution, gave a complete serum reaction with both the bacillus isolated from the abscess, and the stock bacillus typhosus. No information could be obtained as to the previous agglutinative power of the blood

Germ Infection in Tuberculosis. George Ogilvie calls special attention to the experiments which have been performed by Dr. F. Friedman. He put doe rabbits with bucks immediately, or, at the latest, a few hours after delivery. This he believes is the only period at which, in rodents, and in rabbits particularly, copulation leads with certainty to conception and gravidity. Directly after coition one or two drops of a thin emulsion of tubercle bacilli in a sterile and slightly alkaline solution of hydrochlorate of soda were injected into the vagina. On examining, about an hour later, the mucous gathering at the exterior mouth of the womb, large quantities of spermatozoa were found and only isolated tubercle bacilli. The female rabbits were killed within a week after the performance of the experiment. In all the embryos tubercle bacilli were found. Their number varied considerably with different mothers, and also with different embryos of the same mother. It is remarkable that the number of places in which the tubercle bacilli were found vary in different individuals belonging to the same pregnancy from two in one to twenty-six in another. Not a single tubercle bacillus was found by microscopical examination of the mucous membrane of the uterus or the vagina. In the open lumen of the uterus twice only an isolated bacillus was detected in close neighborhood of the embryo. Of course, no pathological changes of the maternal organs due to the tubercle bacillus could be expected in so short a period, but there was every reason to expect numerous tubercle bacilli in the open lumen of the uterus, or, at least, adjacent to the mucous membranes of uterus and vagina. This is not the case, however, and it seems that all bacilli which do not make their way into the ova are eliminated from the genital tract. The mode by which the bacilli reach the female cell has not yet been discovered. How the bacilli develop in the embryo, at what time the first anatomical and histological signs of tuberculosis become apparent, and whether the mother remains healthy or becomes infected, remain yet to be demonstrated. It will also have to be shown in embryos at the earliest stages before the formation of a placenta that males rendered tuberculous by injection produce infected offspring, while the mother remains immune. The experiments which have been made in this field seem to prove that tubercle bacilli introduced into the vagina, together with the semen, may pass into the embryo without the intermediary of a mother. It is a question altogether different how frequently, if at all, this takes place in human tuberculosis. On this point nothing is known.

Deutsche medicinische Wochenschrift, August 28, 1902.

Number of Leucocytes in the Blood During Pregnancy, Labor, and the Puerperium.—W. Zangemeister and M. Wagner attach an addenda to their recent article in the shape of a reference to Hofbauer's observations, the results of which were published in 1897. The latter author found an increase in the number of leucocytes at the beginning of lactation. Zangemeister and Wagner are unable to confirm this,and only find an increase during the puerperium when infection or septic absorption has taken place.

Typhoid Fever without Intestinal Lesions.—Arthur Blumenthal reports a case which was clinically typhoid and which gave a positive widal in a 1-150 dilution. At the time of the attack the patient was in the fifth month of pregnancy. On the tenth day death took place under the clinical picture of a typhoid pneumonia. Upon autopsy tde intestinal tract was found to be absolutely free of typhoid lesions. By artificial cultivation from the spleen, however, typical typhoid bacilli were obtained. The case is of interest in that it is one of a very few in which intestinal typhoid lesions were wanting, and yet the diagnosis substantiated by the cultivation of typhoid bacilli postmortem. from the body.

A New Instrument for the Treatment of Œdema of the Lower Extremities.—H. Citron has modified the instrument which Miura has devised for use in the abstraction of serum from the lower extremities in cases of excessive œdema of the same. The modification essentially consists in the addition of an aspirator of peculiar design to the mechanism of Miura. In this way it was possible to devise an instrument which would extract a much larger amount of serum than that of the latter author, and consequently give much greater satisfaction. In the use of the instrument a small incision is made in the skin over which the "cupping glass" contrivance is applied. The aspirator is then set in operation and the serum withdrawn from the desired location. From 250 to 1,500 c.c. may be thus withdrawn at one sitting and much relief obtained thereby.

Etiology of Eclampsia.—W. Weichardt has inaugurated a series of experiments with the idea of throwing some light upon the etiology of eclampsia. Recently much attention has been given by various observers to the toxins of the placenta and their importance in the causation of eclampsia. It has been thought by many that these toxins when set free in the general circulation would produce the symptom-complex and pathological alterations of this disease unless their power was counteracted by a sufficient amount of specific antitoxin present in the system. In order to more definitely decide this question the author has brought the principles of cytolysis into play in the following manner: Rabbits were inoculated with portions of human placenta, and in this manner there was obtained a serum which was cytolytic for human placenta cells—that is to say, when added to such cells it would break them down and set free the toxin, if any was contained therein. Certain amounts of this serum were then added to human placenta and cytolysis produced. The placenta thus cytolyzed was then inoculated into a series of rabbits and the results noted. Of nine rabbits thus inoculated three died under the symptoms-complex and pathological alterations of eclampsia. Six of the animals were in no way affected by the inoculations. It should not be regarded, however, that the negative results outweigh in importance the positive results, for it is perfectly conceivable that these animals may have possessed a sufficient amount of antitoxin to neutralize the toxin set free by the cytolysis. Although these experiments are not as yet completed, it seems certain that they will strengthen the view which holds that eclampsia is produced by the action of toxins of placenta origin. If this is the case it should be possible, by suitable animal inoculation, to obtain an anti-serum which would be of great utility in the treatment of this disease.

Berliner klinische Wochenschrift, September 1, 1902.

Congestion of the Facial Veins in Progressive Paralysis.—E. v. Niessl emphasizes the importance of congestion of the facial veins, as a diagnositic sign is progressive paralysis. The regions usually affected are the temples and the eyelids. Generally there is more or less œdema of the latter and a peculiar cyanotic appearance of the entire face. These appearances differ from those met with in most other diseases of the nervous system in that they are permanent, and that periods of arterial hyperæmia are never present. The pathological changes have been studied by many observers; they consist essentially of hyaline formation in and hardenting of the vessel-wall. The ganglion cell subsequently becomes affected and dies from malnutrition.

Quantitative Relations of Amboceptor, Complement, and Anti-Complement.—J. Morgenroth and H. Sachs have taken up this question, and by several series of experiments have evolved many interesting facts. For the production of hæmolysis it may be said that, as a general rule, the greater the quantity of amboceptor, the less is the quantity of complement required. This, of course, only holds true within certain limits. It is further interesting to note that this quantitative relation varies with bloods and sera of different origin and with bloods and sera of the same origin at different times. Thus, if we take amboceptors from sheep's blood and complements from guinea-pigs' serum, we find that the relative proportion of complement necessary may be $\frac{1}{32}$, $\frac{1}{4}$, $\frac{1}{10}$ and $\frac{1}{20}$ in four different series of experiments. The reasons for these variations is not clear, but it apparently may be due to any one of the three following causes: (1) The variety and number of receptors present in the red blood-cells; (2) The degree of avidity which exists between the complements and amboceptors; (3) The multiplicity of the amboceptors present. When we come to consider the quantity of anti-complement necessary to prevent hæmolysis we find that this varies with the amount of amboceptor present, the larger the amount of amboceptor the larger the amount of anti-complement required. The end relations, however, vary with the origin of the amboceptors, compliments, and anti-complements. All of these facts show how far from solution and how intricate are the problems of hæmolysis, bacteriolysis, and cytolysis, and how multiple are the factors involved.

Münchener medicinische Wochenschrift, September 2, 1902.

Bone Metasases in Thyroid Tumors.—Richard Wagner reports a case which shows the proclivity of thyroid tumors to bone metastasis. The patient was a female, forty-eight years of age, and had possessed an enlarged thyroid for many years. During childhood there had taken place, from time to time, numerous so-called scrofulous swellings of the superficial cervical glands. About six weeks previous to examination there was a sudden attack of pain in the left hip. This pain so increased in severity that the left leg became useless. Upon examination it was found to be strongly adducted and rotated inward. The glands of the left inguinal region are infiltrated, but painless. The cachectic appearances rapidly increased, and death took place in about two months, under the picture of a profound general intoxication. Upon autopsy it was found that a tumor was present in the neck of the left femur. Microscopical examination showed this to be a spindle-celled sarcoma, which contained many giant cells. The examination of the thyroid showed a similar condition.

Gelatin Treatment of Melæna Neonatorum.—E. Fuhrmann has treated three cases of this disease by the means of subcutaneous injections of gelatin. One case died and two recovered. All three cases were without doubt melæna vera. The case that died was, at the outset, of moderate severity. The gelatin was promptly used, but had apparently no effect upon the hemorrhages. Of the two cases which recovered one was of moderate severity. The other was mild and would have undoubtedly spontaneously recovered without the use of the gelatin. In estimating the value of gelatin in the treatment of this disease it must be remembered that many cases recover spontaneously under any or even no treatment; nevertheless, the value of this treatment is not to be underestimated. Many reports have been made within the past few months concerning its great utility, and the second case here reported without doubt proves its efficacy. In using gelatin in the treatment of hemorrhage the 2 per cent. solution should always be made by the means of physiological salt solution, as local complications are seldom observed when such is used.

Hæmolytic Action of Normal Human Serum.—Martin Hahn and R. Trommsdorff have shown, by a series of experiments, that the complements of normal human serum possess a certain avidity for the amboceptors (immune bodies) of certain heterogenous sera. This question is of importance in serotherapy, since the presence of an excess of heterogenous amboceptors might nullify very largely the action of a specific anti-serum, because the complements present in the blood of the individual might become united to such heterogenous amboceptors, and the specific amboceptors of the anti-serum thus remain without action. Normal human serum is hæmolytic for rabbit or guinea-pig blood. If now to such rabbit or guinea-pig blood first normal sheep serum and then normal human serum is added, the hæmolysis is either entirely prevented or greatly delayed. In the same manner, if we take a specific human serum which is active against horse blood, we find that when normal sheep serum is added to the latter blood, the power of the specific human serum over the same is nullified or greatly weakened. This holds true so long as the quantities of the blood and sera used are maintained at certain definite relations. If the amount of specific human serum used falls below a certain limit, the addition of a moderate amount of normal sheep serum accelerates the hæmolysis. By another series of experiments, the authors show that the hæmolytic power of a given specific human serum against swine blood is greatly lessened or entirely nullified by the addition to such blood of normal human serum of heterogenous origin, while the hæmolytic power is increased by the addition of the normal serum of the same man.

French and Italian Journals.

Subcutaneous Injections of the Yolk of Egg.—G. d'Errico, from his experiments, concludes that the injection of large doses of yolk of egg produces grave renal lesions. Small doses are well tolerated, producing merely slight and temporary alterations, and prolonging the period of resistance to inanition and increasing weight, the resistance to inanition is not to be attributed to real alimentation, but to a retardation of organic waste.—*Giornale Internazionale delle Scienze Mediche*, August 31, 1902.

The Formation of Toxins in Cultures of the Tetanus Bacillus.—A. Bonome describes, at length, his methods of research. He concludes that in the filtrate of anærobic cultures of tetanus prepared in media to which active colitoxin (not heated) has been added, in the proportion of one-fifth to one-fourth of the volume of the medium, the amount of tetanotoxin found is much less than in anærobic cultures of the tetanus bacillus without the coli filtrate. In order to produce the symptoms of slight tetanus in guinea-pigs and rats, about two hundred times as much was required as of the ordinary cultures of tetanus.—*La Riforma Medica*, August 30, 1902.

Double Craniectomy for Brain Lesions.—Annibale Ghedini reports the case of a youth of fifteen years who fell on a three-pronged steel pitchfork and received a perforating wound of the cranium from one side to the other. There was fracture of both parietal bones, laceration of both cerebral hemispheres, depression of a fragment of the left parietal bone, left hemiplegia, right crural monoplegia, epileptiform convulsive movements, and clonic contractions of the right arm, followed by monospasm and then by paralysis. A double craniectomy was performed and the loose fragments of bone removed. The patient bore the operation well, and a few hours later recovered complete consciousness without delirium. By evening the left hemiplegia had almost entirely disappeared and the right arm could move a little. A complete cure followed in two or three months by the aid of massage and electricity.—*La Riforma Medica*, August 29, 1902.

Alimentary Regime of the Arthritic.—Pascault believes that the chief cause of arthritic manifestations is overfeeding. This puts the individual into the position of being obliged to burn up more fuel than he is able to do. The body uses as combustibles the hydrocarbons (starch and sugar) and the fats. But it is active only in the presence of the mineral salts (the phosphates, the chlorides, magnesia, potassium, iron, etc.). The value of food depends upon its nitrogenous principles, on the hydrocarbons, fats, or salts which each kind contains. The heat-giving principles and the minerals are almost exclusively concerned with foods found in the vegetarian régime. The nitrogenous principles are in quantity always more than sufficient, even in a strictly vegetarian diet. Among the heat producers are sugar, fruits, true foods of force, immediately utilizable, and not sufficiently employed; starch, bread, and the fats. The mineral salts ought to vary with the temperament of the individual. On account of their presence in green vegetables and in fruits, these foods are absolutely medicinal for the arthritic. Alcohol is not a food. It is an excitant and a poison to the arthritic, and with the vegetable diet one loses the necessity of alcohol. The food ought to be thoroughly masticated. Methodical mastication and the vegetable diet form the true remedy for the condition of overfeeding and dyspepsia of the arthritic.—*Gazette des Hôpitaux Civils et Militaires*, September 6, 1902.

General Remarks on Operations (Gynecological and General Surgical) at the Maison de Santé des Dames Blanches, 1900-1901.—Henry Barnsby gives a résumé of his operations during the two years (1900–1901). He performed 125 gynecological operations: forty-two by the abdominal method, and eighty-three by the vaginal route, with a total of four post-operative deaths. The first patient who died was operated on for a large papillary cyst of the left ovary, with adhesions. The separation of the intestinal adhesions was very laborious. The left ureter was cut by mistake, together with the pedicle, and the patient died on the fifth day. The second case was that of a woman, fifty-five years old, suffering from an enormous calcified fibroma, included in the broad ligament. The tumor was enucleated, and the broad ligament was sutured with catgut, and the abdominal wound closed without drainage. The patient died the next day with symptoms of internal hemorrhage. The writer regretted not having performed a total abdominal hysterectomy. The third patient was operated on for a large sarcoma of the uterus. Death occurred on the third day from sepsis and circulatory disturbances. The fourth patient was in extremis, when she was operated on for a pelvic abscess, and part of the contents of the abscess had penetrated into the abdominal cavity, and had set up peritonitis, which carried off the patient.—*Archives Provinciales de Chirurgie*, August 1, 1902.

A Case of Tuberculosis of the Liver, of the Spleen, and of the Tracheobronchial Glands; Tubercles Simulating Gummata.—Tolot reports this case of a patient, aged sixty-six years. There was nothing of interest in the family history. The patient had, for a long time, had a tendency to indigestion. Menstruation had always been normal. She was married at fifty, and had never had any children. She showed no evidence of ever having syphilis. She had been in the habit of drinking wine. For the last five years her strength had been gradually declining. For the last two months she had had no appetite, and her weakness was marked. Examination of the lungs revealed only emphysema, but no signs of tuberculosis. The heart was normal; the radials clearly atheromatous. The pulse was compressible. Examination of the liver was negative. There was no splenic dulness. The tongue was lightly coated. The abdomen was slightly tender on pressure. The urine was clear, with no albumin. There was no œdema. In fact, the examination was completely negative. The patient remained in about the same condition for three months, not leaving her bed, and various examinations were negative. The weakness increased till death took place. Autopsy revealed many interesting features. The liver weighed 1,150 grams. It was yellow in color and looked fatty, and the surface looked a little like the cirrhotic liver. There were several nodules as large as a nut appearing on transverse section of the organ. They were gelatinous in appearance. The spleen weighed 480 grams, and presented certain nodules, in appearance like those of the liver. Microscopical examination showed these nodules to be tuberculous. The tracheobronchial ganglia were also similarly affected. The absence of pulmonary and digestive lesions, in this case, is remarkable.—*Lyon Médical*, September 7, 1902.

Ablation of the Stomach.—Jules Bœckel reports a case of cancer of the stomach on which he operated, removing the tumor. It was remarkable on account of its volume, weighing 275 grams; it comprised the entire stomach, with the exception of the left cul-de-sac and the first part of the duodenum. The length was from 17 cm. at the level of the greater curvature to 8 at the level of the lesser; it was 9 cm. in width at the middle point. The neoplasm occupied three-quarters of the two surfaces of the stomach, the pylorus and the first part of the duodenum; the form of the stomach was preserved, and the walls were infiltrated with the growth. The thickness of each wall varied from 3 to 4 cm. The growth terminated in a raised border on the first portion of the duodenum, and on the two surfaces of the stomach. At the cardiac end the border of the tumor was not so prominent. The omentum was scattered with large nodules, and a thick band of it had to be resected. The tumor, which presented on its posterior surface a cyst as large as a nut, was adherent on all sides. When the tumor was entirely separated, it was found impossible to perform a posterior gastroenterostomy, for there was now no posterior surface of the stomach, and gastrectomy was accomplished. The stomach was resected, and what was left of the cardiac end was joined to the first part of the jejunum. The operation lasted three hours and a half. The patient bore the ordeal well, but as this report was made on the third day after, it is impossible to foresee the outcome at this time. The case is interesting, clinically, on account of several features: The man was thirty-six years old; he had suffered for five years; he had never suffered from vomiting, hæmatemesis, or melæna; the tumor, although so large and so easily recognizable on palpation, had escaped, until the past three weeks, clinical experimental researches.—*Gazette Médicale de Strasbourg*, September 1, 1902.

Annals of Surgery, September, 1902.

Note on Synchronous Ligation of Both Internal Jugular Veins.—This operative experience fell to the lot of J. F. Baldwin, in the course of the removal of a tumor of the neck, made up of a collection of tuberculous glands. The vein was accidentally opened on the right side and immediately ligated. The same incident befell the operator when the left side was attacked and some air entered, but not to a dangerous degree. Recovery was without incident. There were no profound central disturbances. The vessels were of normal size, and the operator believes that the long-continued pressure of the surrounding tissues had so far interfered with the return of blood through the jugulars that a fair collateral circulation had already become established.

Operative Treatment of Exophthalmic Goiter.—E. Rixford gives a recapitulation of the various stages of the history of this operation, and discusses its indications and contraindications. He reports two personal cases, in both of which the growth was removed. In both cases the symptoms indicative of Graves' disease were secondary to pre-existing goiter; both cases were chronic and were characterized by increased rapidity of heart action, fine tremor, increased rapidity of respiration, excessive nervous sensibility, diarrhœa, periodical increase of these symptoms, with remissions, constant slight rise of temperature, dyspnœa, general muscular weakness, flushings, and sudden periods of excessive perspiration. In the first case, extraordinary attacks of severe pain in the region of the liver; in the other, a curious, general, non-pitting œdema. In neither case were there characteristic changes in the histological appearance of the tumors. In both cases operation was followed by temporary increase of the nervous symptoms, this followed by gradual remission, the one case having recurrence concomitant with development of a cyst in the remaining portion of the gland, relieved by second operation. No further recurrence of nervous symptoms in either case, the one being observed for two years, the other for seven months. From the standpoint of technique in the operations, neither case is of any particular interest, save that the operations were done without anæsthetic beyond the local use of a small amount of cocaine in the skin, and that the suffering caused by the manipulation of the deeper parts was bearable, and due more to interference with the respiration and the sensation of choking caused by traction on the tumor than to severe pain.

Subparietal Rupture of the Kidney.—From a study of collected cases supplemented by personal experience, T. A. Davis offers the following conclusions: (1) That the reduction in the mortality since Keen's report has been largely due to improved technique. Fewer deaths have been reported from sepsis. Several deaths have been reported from hemorrhage, which could undoubtedly have been avoided if more prompt and efficient means had been resorted to. He predicts that the mortality will be reduced to 15 per cent. (2) The expectant plan of treatment is permissible in cases where slight hæmaturia is the only symptom. Tumefaction—much blood in the urine, severe pain, and history of great violence, each is a positive indication for prompt operative intervention. (3) Early operations should be done in all cases where the history of the case and the symptoms point to serious injury of the kidney. (*a*) Nephrotomy, with gauze tamponage where the patient has not lost enough blood, so that little subsequent hemorrhage would not endanger life. (*b*) Nephrectomy where the kidney is irreparably injured, and in less extensive injuries where either sepsis or hemorrhage is likely to prove fatal. (4) In delayed cases it may be difficult or impossible to know just what is best to do. Every phase of the case must be considered, and then, if in doubt, operate. (5) Shock is the violent disturbance of the nervous system immediately consequent upon injury. While there is some ground for hesitation in those cases of true shock, most of the cases described as shock are depression of the vital force from hemorrhage or sepsis, and nothing short of prompt surgical intervention will prevent collapse. (6) Let operation be determined by the history of the case rather than wait for symptoms which may only suggest what should have been done earlier, but at last proclaim without hope for relief.

Removal of the Superior Cervical Ganglion for the Relief of Glaucoma, with Report of a Case. C. W. Cutler discusses the mode of formation of glaucoma, and briefly reviews the results of iridectomy which has so long been the classical operative procedure. More recently it has been proposed to remove the superior cervical ganglion of the sympathetic-sympathectomy, as the operation is styled. Too few cases are thus far on record to enable a comparison to be made with the older procedure. Two years' impartial observation can alone permit definite conclusions to be drawn. The details of one case are given by the author who analyzes recent literature on the subject. He says that one symptom may be mentioned, which if proven to exist in certain cases of glaucoma, will help to distinguish such cases as are dependent on the influence of the sympathetic ganglion. He refers to retraction of the lids or Von Graefe's sign, which in three cases of chronic glaucoma, seen recently, has been more marked than is usual in optic atrophy or impaired vision from other causes. It does not seem amiss to associate this symptom with the large, sluggish pupil and increased tension of glaucoma, since all are influenced by sympathectomy. In one case of unilateral glaucoma this sign is present only on the affected side. It is not as pronounced as it often is in Basedow's disease, but resembles the effects of cocaine. Von Graefe's sign is sometimes seen where there is no disease, and in normal eyes and in these cases it may be merely a result of the effort to see better, but the case in which it is present only on the side of the glaucoma is certainly suggestive. The operation in Cutler's case was done by C. L. Gibson, who thus describes the plan followed: A straight incision running downward from the mastoid along the anterior border of the sternomastoid. The sheath of the vessels having been exposed, the vessels and pneumogastric nerve were reflected inward, and after some further dissection the sympathetic ganglion was found posterior to the aforementioned structures. A painstaking dissection of the connections of the ganglion was made before division of the nerve above and below. The wound was sutured without drainage and healed *per primam*. Convalescence was uneventful. The patient was allowed up on the ninth day, and was discharged ten days later.

On the Avoidance of Shock in Major Amputations by Cocainization of Large Nerve-Trunks Preliminary to Their Division.—Harvey Cushing notes that injuries of the most diverse nature to peripheral nerves may, especially in some physical states, produce, reflexly, a fall in blood pressure, and that this loss of vascular tone, when it endures, is the most characteristic feature of shock, the symptom-complex of which is largely due to this one factor. He finds that local anæsthetization of a nerve-trunk will block the transmission of the centripetal impulses, which otherwise might bring about this reflex loss of vascular tone. Experimental observations have shown that the weakened or paralyzed condition of the vasomotor center in the medulla, brought about reflexly by the mechanical injury to peripheral sensory neurones, plays the chief *rôle* in inaugurating a state of shock. The loss of control over the general arterial tone which results from this weakening of the center results in a determination of blood in certain vascular fields. Of these the largest and most important is the great splanchnic territory the flooding of which side-tracks, as it were, such an amount of blood that there results an anæmia of the brain and lungs, a weakened cardiac action, or the "empty pump" principle of Goltz, and a consequent great fall in blood-pressure. Comparatively recent observations have been largely instrumental in establishing the view that in each bundle of mixed peripheral nerves there exist definite centripetal (pressor) fibers, stimulation of which calls forth by reflexations a vasoconstrictor response, and others equally definite, which, on the other hand, produce, when stimulated, a depressor effect from reflex vasodilatation, with consequent fall in blood-pressure. In the neck of the rabbit, as is well known from the classical experiments made in Ludwig's laboratory, afferent fibers subserving in certain measures these different functions, run apart, and may be individually stimulated. One of these nerves has become known in consequence as "the depressor nerve," and must not be confused with the depressor fibers supposed to be present in other mixed nerves. Under ordinary circumstances, however, in the neck as well as in the nerves of the extremities, both pressor and depressor fibers run together in the same trunk, and due to the fact, that the former, under normal conditions, respond more readily and effectually to most forms of stimulation a rise in blood-pressure is usually produced. Of these two sets of fibers, those having a pressor action seem to be the first to suffer from injury or over-stimulation, and when, in consequence, they have become exhausted, the same irritation to the mixed nerve which previously would have called forth a vasoconstrictor action, then elicits a fall in blood-pressure from stimulation of the still active depressor fibers.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A Treatise on Diseases of the Anus, Rectum, and Pelvic Colon. By James P. Tuttle, M.D. 8vo, 961 pages. Illustrated. D. Appleton & Co., New York.

The Practical Medicine Series of Year Books, Vol. IX. Physiology, Pathology, Bacteriology, Anatomy, 12mo, 212 pages. August 1902. Price $1.50. The Year Book Publishers, Chicago, Ill.

The Medical Directory of the City of New York. 12mo, 594 pages. Price, $1.50. Wynkoop-Hallenback-Crawford Co., New York.

The Diseases of Infancy and Childhood. By Henry Koplik, M.D. 675 pages. Illustrated. Lea Brothers & Co., New York.

Transactions of the American Dermatological Association, Twenty-fifth Annual Meeting. 8vo, 216 pages. Illustrated. Rooney & Otten Printing Co. New York.

Diseases of the Stomach. By John C. Hemmeter, M.D., 8vo, 896 pages. Illustrated. Third edition. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $6.00 net.

The Roosevelt Hospital, New York, Thirtieth Annual Report. From January 1, 1901, to December 31, 1901.

Compend of Special Pathology. By Alfred E. Thayer, M.D. 12mo, 322 pages. P. Blakiston's Son & Co. Philadelphia, Pa.

Annual Report of the Essex County Hospitals for the Insane for the year ending April 30, 1902. 8vo, 105 pages.

La Prostitution Reglementee et Les Pouvoirs Publics. By Louis Fiaux. 8vo, 348 pages. Felix Alcan, Paris, France.

A System of Physiologic Therapeutics, Vol. IX. Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy. By Wilhelm Winternitz, M.D. 8vo, 570 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa.

A Text-Book of Medicine. By Chas. H. Fagge, M.D., and Philip H. Pye-Smith, M.D. 8vo, 1,050 pages. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $6.00 net.

A Manual of Bacteriology. By Richard T. Hewlett, M.D. 8vo. Second edition, 533 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

Typhoid Fever. 12mo, 155 pages. By J. T. Moore, M.D. G. P. Engelhard & Co., Chicago, Ill.

Society Reports.

CANADIAN MEDICAL ASSOCIATION.

Thirty-fifth Annual Meeting, Held in Montreal, September 16, 17, and 18, 1902.

(Special Report to the MEDICAL RECORD.)

GENERAL SESSIONS.

Tuesday, September 16.—First Day.

At the morning general session of the first day a resolution of regret at the recent death of Professor Virchow, which was at the same time one of appreciation for the great work of this eminent pathologist, was proposed by Professor Adami, seconded by Dr. Gardner, Montreal, and carried unanimously.

Address in Surgery—The Contribution of Pathology to Surgery.—Dr. JOHN STEWART, Halifax, N. S., the author of this address, was absent, and the address was read by Dr. J. W. Stirling of Montreal. In this address Dr. Stewart, in commencing, compared the struggles of the early surgeons for a scientific knowledge of their craft to the daring exploits of the early navigators of the fifteenth and sixteenth centuries—a parallel not altogether fanciful might be drawn between those pioneers of ocean travel and the early masters of our craft. They worked on two lines, the long, weary, and often fallacious track of empiricism, and the ample, but often disconnected, road constructed by those whose chief aim was, in the words of him who led the vanguard, to "study and search out the secrets of Nature." The first advance came with the anatomist, Vesalius, "and day dawned with William Harvey, the Columbus of modern medicine," when he instituted the application of experimental methods to biological questions.

Finally came John Hunter, "the father of scientific surgery," of whom Billroth has said that "from the time of Hunter to the present, English surgery has had something of grandeur and style about it." But a great advance came from the study of plant life, and the researches of Schwann and Schleiden paved the way for the cellular pathology of Virchow, which is the basis of our present system of pathology. "And," said Dr. Stewart, "a shadow falls upon us gathered here, as we realize that the Veteran Master the undisputed leader of pathological thought and progress for over fifty years, has fallen, and we unite in the desire to lay our spray of cypress on the tomb of him whom we all considered the greatest German of our time."

While with all these new acquisitions the pathologist went on his way rejoicing, the surgeon still lingered with anxious mind and heavy heart, for the question of questions to him was still unanswered—the healing of wounds was the enigma of surgery. By the close of the eighteenth century, many scientific workers were satisfied the solution of this problem lay in the existence of pathogenic microbes, but it was reserved for Schonlein to prove, in 1839, that finea was due to the growth of a fungus. Later came Davaine and Chaveau, with their demonstration of the bacillus of anthrax. And finally came Lister, "and," said Dr. Stewart, "the dark hemisphere rolled in one grand movement from its age—long penumbra into noonday. Surgery, modern surgery, was born. In the chronology of our craft, time is divided into Before and After Lister." Lister, like Hunter, united in himself the pathologist and the surgeon, and, like him, worked on the lines of experimental pathology.

President's Address.—On the evening of the first day, in the Arts Museum, Dr. FRANCIS J. SHEPHERD of Montreal delivered the annual presidential address. After welcoming the members, Dr. Shepherd spoke of the Dominion Registration Bill, which has been so ably pushed through, in the face of many obstacles, by Dr. T. G. Roddick, and expressed the hope that no one province would decline to act in accord with the almost universal desire to see the bill finally made law. After a brief résumé of medical progress, the speaker entered a protest against the freedom with which syphilitics are allowed to mingle with the community at large, often causing the innocent to suffer more than the guilty. "It is time," said Dr. Shepherd, "that the profession took this subject up and educated the public to a better knowledge of sanitary laws." Passing on to the subject of modern laboratory teaching, the president said, after referring to the large sums of money that have been spent on the erection and endowment of laboratories for the encouragement of research work, "One danger of this great multiplication of laboratories is that it induces men to pursue original investigation who have not the true scientific spirit, and who are utterly unfit for such work. They frequently collect and publish a mass of useless and undigested material and therefrom draw inaccurate conclusions. All this will not redound to the credit of medical science. "But," continued Dr. Shepherd, "I do not wish it to be inferred that I am opposed to the addition of modern laboratories to our medical schools. They are all necessary, but they must not supplant other work quite as important to a man who wishes to become a practising physician or surgeon. Again, we must remember that the millennium will not be brought about by laboratories, nor will all scientific problems be solved by them. There is one laboratory which is not so much frequented now as when I was a student. I refer to the hospital wards. Students, while perhaps more scientific—I say scientific because nowadays every one who spends much of his time in a laboratory learning the use of all kinds of modern apparatus, including our old friend the microscope, is regarded as having a scientific training—I may say that students, while perhaps more scientific (microscopical and mechanical), have not the intimate personal knowledge of disease which continued observation at the bedside gives them, so that when started in some out-of-the-way place without their scientific machinery, they are like fish out of water. It may soon be that they will not be able to diagnose a fracture without the *x*-rays, tuberculosis without getting bacilli in the sputum, and so on without end. Students are not taught to observe so accurately the evident symptoms of disease, and, as I say, are becoming mere mechanics who need an armamentarium, which only a great hospital or university can possess, to make an accurate diagnosis of an ordinary disease; the higher and more intellectual means of drawing conclusions by inductive reasoning are almost neglected. Mind you, I do not wish to disparage laboratory teaching; it is essential, but we can have too much of a good thing, and laboratories nowadays take up too much of the student's time in the latter years of his curriculum. The ordinary student should have a good working knowledge of laboratory methods, and this should be obtained chiefly during his first two years, but the refinements, if insisted, will be acquired at the expense of some more useful and practical information, for the average student can only hold so much knowledge—it is hopeless to attempt to put a quart measure into a pint pot."

Speaking of specialism, Dr. Shepherd held up the ideal of all-round knowledge. He thought all doctors should acquire a good working knowledge of all specialties, but an excess of time should not be devoted to any one. A year or two of hospital work, followed by some experience in general practice, should be managed by any one who wishes to become a broad-minded specialist.

At the close of his most interesting address Dr. Shepherd paid a high tribute to the late Dr. Wyatt G. Johnston, Dr. Wm. S. Muir of Truro, and Dr. Brunelle of the Hotel Dieu.

Wednesday, September 17.—Second Day.

Diseases of the Gall-bladder and Bile-ducts.—Dr. ALEXANDER McPHEDRAN, Toronto, introduced the subject of the medical diagnosis in this discussion. He mentioned the fact that the gall-ducts were narrower at their entrance to the bowel than in other parts of their lumen, and as they lay nearly horizontally the outflow of bile was easily retarded or obstructed. The ducts were much exposed to infection from the intestinal tract. Of the cardinal symptoms in these cases, Dr. McPhedran considered jaundice the most common, while pain varies, but was generally intense. The attendant fever was generally due to toxic absorption. The main diseases to be considered in differential diagnosis were catarrhal and suppurative cholangitis and acute yellow atrophy. Most catarrhal conditions were infective, but the chills and fever might occur without pus formation. The most common germ present was the common colon bacillus. In the gangrenous cases the symptoms were often ill defined. A most characteristic sign of gallstone was the recurrence of the attack.

Dr. A. D. Blackader, in discussing the treatment of gall-bladder affections, said he would confine himself principally to catarrhal forms of the disease. He considered the condition more commonly due to altered secretion of the bile-ducts, the altered mucus causing inspissation of the bile. Infection of bile, he thought, took place in two ways—through the bile-ducts and through the portal circulation. In the matter of treatment he considered that no drugs stimulated the flow of bile to the same extent as the bile salts. The flow was increased by exercise and deep breathing. The diet should be carefully considered, should be simple, and, as far as possible, should contain a large amount of fat. Such patients should drink plenty of pure water or mineral water. The patient should also have due regard to a proper method of dress, no corsets or constricting clothing should be worn.

Dr. James Bell of Montreal spoke of the surgical diagnosis. He said it was common to find early vague symptoms of gastrointestinal indigestion, which were often found to be present for a long time before an acute attack was precipitated. He spoke of the colon bacillus and the typhoid bacillus as common causes of infective conditions.

J. F. W. Ross of Toronto took up the subject of surgical treatment. In commencing his paper Dr. Ross expressed a certain lack of faith in the so-called medical treatment of gallstones. Speaking of some details of gallstone operations, Dr. Ross advocated drainage through Morrison's pouch. He laid great stress on the free use of gauze packing to prevent leakage into the peritoneal cavity. In gangrene and empyema of the gall-bladder he did not advise removal of the gall-bladder, but preferred opening, flushing, and draining. In many cases of cystic enlargement of the gall-bladder, however, he advised entire removal of the viscus. It was well to remember, after the removal of the gall-bladder, that gallstones might form in the liver and be passed out into the intestines. He considered mucous fistulæ, which occasionally followed operation, as the most troublesome, and said the evil should, as far as possible, be prevented by the use of a small drainage tube. He also drew attention to the importance of being sure that the drainage tubes did not become blocked.

G. E. Armstrong of Montreal led the discussion of the surgical treatment. He recognized and recommended the employment of medicinal treatment first in gallstones, etc. He did not advise removal of the gall-bladder for stone in the cystic duct. He recommended lavage of the stomach before operating on all gall-bladder cases, and, as it was difficult to know what the surgeon might encounter on opening the abdomen, he advised the administration of calcium chloride before and after operation, to prevent possible hemorrhage.

Dr. Dudley Allan of Cleveland, Ohio, next spoke on the importance of early operation on the gall bladder. In view of the fact that an accurate diagnosis was often impossible, he considered an exploratory incision, at least, should generally be made early, when, he claimed, it was often found that many obscure cases were quite amenable to surgical treatment, and, in fact, would fail to recover if we were to temporize. He reported a number of cases in which the diagnosis was uncertain, in which he had made an exploratory incision, and had often been gratified with the results.

The subject was further discussed by Sir William Hingston of Montreal and Dr. Alex H. Ferguson of Chicago.

Foreign Bodies in the Vermiform Appendix.—Dr. James Bell of Montreal expressed the opinion that appendicitis never depended on the presence of foreign bodies in the lumen of the appendix. There was little doubt, however, that when foreign bodies gained entrance accidentally into the appendix, they aggravated an otherwise septic infection. Among the foreign bodies which he had found in the appendix were in two cases pins, in two cases seeds, in one case wood fiber, in one case gallstones, and in another case a fish bone.

Dr. Bell's paper was further discussed by Mr. Irving Cameron of Toronto.

Address in Medicine.—Dr. Wm. Osler of Baltimore delivered this address. He first spoke of the noble ancestry of our profession. The outlook for the profession, he said, was never brighter than to-day. Many of the diseases of our grandfathers were vanishing. The orator then put forward a strong plea for the unity of the profession. A sense of self-satisfaction was all too common in the medical ranks as in other walks in life. Chauvinism was an enemy to progress. He mentioned four forms of Chauvinism, namely, national, provincial, parochial, and individual. Nationalism was apt to become a widespread vice in so far as this concerned the medical profession, but international medical congresses had done much to dispel this spirit. Dr. Osler strongly advised young men to go abroad for post-graduate study, especially those who aspired to teach. If this were not possible, he strongly recommended the study of foreign medical literature. It helped a man, he said, to be a bit of a hero worshipper. Continuing, he said that there was a remarkable homogeneity of the profession on this continent, still there was no little provincialism among its numbers. Witness the various provincial medical councils in Canada and the various state boards in the United States. He considered it an outrage that a graduate of Ontario could not practice in Quebec, or a graduate of Quebec in Manitoba; it was democracy run riot, it was provincialism. The solution of this problem rested with the general practitioner. Dr. Osler here paid a high tribute to Dr. Roddick for his energy in pushing through the Dominion Medical Bill. Passing on to speak of parochial Chauvinism, the writer said all were tainted with it to some extent. A good method of counteracting this was to encourage professional interchanges.

Chauvinism in the unit, however, was of much more interest and importance. The consultants did the writing, and the talking, and took the fees; the backbone, however, of the medical profession was the general practitioner. But he should preserve his mental independence and keep up with the times in literature and appliances. Diagnosis, not drugging, was our chief weapon of offense. Lack of systematic personal training in the methods of the recognition of disease led to the misapplication of remedies, to long courses of treatment, when treatment was useless, and so directly to that lack of confidence in our methods which was apt to place us in the eyes of the public on a level with empirics and quacks. One should not degenerate into a mere dispenser of quack nostrums like the drug clerk who has a specific for everything from the pip to the pox. Dr. Osler said that learning alone was not sufficient, culture was the bichloride to keep one from intellectual deterioration; and, lastly, there should be charity among the profession; all should make the golden rule the code of ethics, and should adopt the motto of St.

Ambrose. "If you cannot speak well of your brother, keep silence."

Thursday, September 18.—Third Day.

Election of Officers.—Dr. T. G. Roddick, M. P., Chairman of the Nominating Committee, presented the report of this Committee. London, Ont., was selected as the next place of meeting. The following officers were elected:

President: Dr. W. H. Moorhouse, London, Ont. *Vice-Presidents:* Prince Edward Island, James Warburton; Nova Scotia, John Stewart, Halifax; New Brunswick, W. C. Crockett, Frederiction; Quebec, Dr. Mercier, Montreal; Ontario, Dr W. P. Caven, Toronto; Manitoba, Dr. McConnell, Morden; Northwest Territories, J. D. Lafferty, Calgary; British Columbia, C. J. Fagan, Victoria. *Local Secretaries:* Prince Edward Island, C. A. MacPhail, Summerside; Nova Scotia, Dr. Morse, Digby; New Brunswick, J. R. McIntosh, St. John; Quebec, R. Tait McKenzie, Montreal; Ontario, Hadley D. Williams, London; Manitoba, J. T. Lamont, Trehern; Northwest Territories, D. Low, Regina; British Columbia, L. H. McKechnie. *General Secretary:* George Elliott, 129 John street, Toronto. *Treasurer:* H B. Small, Ottawa. *Executive Council:* Drs. Moore, Eccles, and Wishart, London, Ont.

Dominion Health Bureau.—Dr. E. P. Lachapelle, Secretary of the Board of Health of the Province of Quebec, moved the following resolution, seconded by Dr. J. R. Jones, Winnipeg, which was carried unanimously:

"*Whereas*, Public health, with all that is comprised in the term sanitary science, has acquired great prominence in all civilized countries, and

"*Whereas*, Enormously practical results have been secured to the community at large by the creation of health departments under governmental supervision and control, and

"*Whereas*, Greater authority and usefulness are given to health regulation suggestions when they emanate from an acknowledged Government Department;

"*Therefore*, Be it resolved that in the opinion of the Canadian Medical Association, now in session, the time is opportune for the Dominion Government to earnestly consider the expediency of creating a separate department of public health, under one of the existing ministers, so that regulations, suggestions and correspondence on such health matters as fall within the jurisdiction of the Federal Government may be issued with the authority of a Department of Public Health. That copies of this resolution be sent by the General Secretary to the Governor-General in Council, and to the Honorable the Minister of Agriculture."

Treasurer's Report.—Dr. H. B. Small presented this report. Three hundred and seventeen members had been in attendance, nearly one hundred larger than at any other previous meeting. All outstanding indebtedness had been paid, and there was in the treasury $325 to the good of the Association. This announcement was received with the greatest satisfaction. Votes of thanks were passed to Mr. and Mrs. James Ross, of Montreal, in whose handsome grounds had been tendered a garden party on the afternoon of the first day; to the Local Committee and Transportation Committee, special reference being made to Drs. C. F. Martin and J. Alex. Hutchison, for their indefatigable efforts for the success of the meeting; to the Treasurer, the President, and the profession generally for their hospitality. Thus was closed the greatest meeting in the thirty-five years of the Association, and it is to be hoped that the profession throughout Canada will still further take an active interest in the national organization.

MEDICAL SECTION.

Tuesday, September 16.—First Day.

Splenic Anæmia.—Dr. H. A. Lafleur, Montreal, presented this patient—a man in middle life. There was a tumor—a movable mass about midway between the lower ribs on the left side and the crest of the ilium, with pulsation (not expansile) over the tumor. The first blood count, made in March, showed 75 per cent. hæmoglobin; the red corpuscles, 5,000,000; the white, 6,400. A blood count was made again on the 15th of September, 1902; and showed 4,000,000 and 5,800, respectively. The tumor changed according to the degree and distension of the stomach. There was absence of mobility.

Some Further Results in the Treatment of Tuberculosis.—Dr. J. H. Elliott of the Gravenhurst Sanatorium contributed this paper. At a meeting of this association in Toronto, in 1899, a report was made upon 155 cases of pulmonary tuberculosis under sanatorium treatment. This paper was a further contribution, covering some 400 additional cases treated during the past three years. The nomenclature used in the classification of discharged patients was that adopted by Trudeau: "apparently cured;" "disease arrested;" "much improved;" "stationary," and "failed." Five years' experience had shown that almost all of the patients discharged "apparently cured" remained perfectly well; of those with "disease arrested" many had progressed to good health at home by following the rules of life learned at the sanatorium, renewed activity of the disease, when occurring, having been, as a rule, due to unfavorable sorroundings, or the necessity of again taking up unsuitable work. Not the least important part of the work of a sanatorium was its educative influence. Each patient who returned home was a teacher of the value and importance of a hygienic life to those who wished to retain their health, as well as those who were not strong.

Experience was demonstrating the immense amount of influence for good which resulted from a properly equipped and conducted sanatorium. It was unfortunate that there were not more of them. It was hoped that the attention of our philanthropists would be drawn to the crying need of such institutions, and that ere long we should have a number of them in the various provinces of Canada.

Dr. Osler congratulated Dr. Elliott on the promising results which he had obtained. Two important points should be kept well in mind: First, early diagnosis; and second, getting patient as soon as possible under proper professional control.

Dr. T. D. Walker, St. John, N. B., referred to the control the physician in the sanatorium had over the patient.

Dr. John Ferguson, Toronto, spoke of the positive advances that have been made along the line of the curability of pulmonary tuberculosis.

Dr. McPhedran, Toronto, emphasized training patients how to care for themselves at home. He believed, too, that it was true that the neighborhoods of sanatoria were areas where tuberculosis was always diminishing.

Pleurisy as Associated with Tuberculosis.—Dr. John Hunter of Toronto read this paper. He first referred to the manner in which bacilli reached the visceral and parietal pleural through the subpleural, bronchial, or tracheal lymphatic glands, and from the cervical, mediastinal, and peritoneal lymphatics; also from the tonsils. In arriving at a diagnosis of pleurisy, a vigilant search should be made for a possible tuberculosis origin. One should not always consider the outlook gloomy, as with properly-carried-out treatment the progress is much more favorable than in pulmonary tuberculosis. In at least two-thirds of tuberculous pleurisy it is a curable affection. The rapidity of the filling of the pleural cavity is especially characteristic of tuberculous cases. Dwelling upon treatment, during convalescence, deep breathing should be practised very assiduously, and inflation with rubber bags was a valuable exercise. Then change to a suitable climate should be insisted on if the progress toward recovery was retarded.

Clinical Notes on Blood Pressure in Diseased Conditions.—Dr. A. E. Orr, Montreal, read this paper. A. Gaertner's tonometer was shown and the manner of its use demonstrated. Four hundred patients at the Royal Victoria

Hospital, Montreal, were experimented on. The normal pressure was found to be 110 to 120. Seventy cases of typhoid fever were recorded in different stages, showing an average blood pressure of 104.5 m.m It was highest, but still sub-normal, in the first week. There was only one death, which took place in a man of thirty-five years, when pressure was 105 on the tenth day, 110 on the twenty-first day; then occurred three hemorrhages, and on the twenty-fourth day a fatal hemorrhage. A large proportion of these had cold baths or cold sponging.

Nineteen cases of chronic nephritis were recorded Of this group the highest was 260; average 208 5. Of acute nephritis there were seven cases; only three of these showed high pressure. Of arterio-sclerosis twenty-seven cases were recorded: highest 110, sixteen being 150 and over; four from 130 to 145; three from 110 to 125; four subnormal. The highest was in a man of seventy-two; glycosuria, no albumin.

Valvular diseases of heart, forty-eight cases, including eleven cases of mitral regurgitation. In mitral stenosis eight cases were recorded, six being normal. Mitral stenosis with mitral regurgitation, fourteen cases. Eleven had practically normal tension. Aortic insufficiency, three cases. Myocarditis, four cases; one man, aged sixty, having pressure of 80. Hypertrophy and dilatation of heart of unknown causation, two cases, 120 and 110 respectively.

There were eighteen cases with actue lobar pneumonia, with an average for the series of 92.7; only one death. Pleurisy, sixteen cases. Neurashtenia, eighteen cases, thirteen having normal pressure; three from 135 to 140; one of 160. In malignant disease, cancer of viscera, there were no high readings. Anæmia, six cases, all being normal. Addison's disease, two cases, both in early stage; both normal. Puerpera hæmorrhagica, one case, normal. Puerperal septicæmia, one prolonged case, ending in recovery, had extremely low blood count; 930,000; above normal. One gall bladder case with suppuration—a blood pressure of only 50 ten days before death.

One lead poisoning, three of jaundice, one of tuberculous meningitis; two of diabetes; two of exophthalmic goitre; eight of acute articular rheumatism, heart not affected; chronic articular rheumatism, four cases, all normal; gonorrhæal rheumatism, eight cases, six normal; rheumatoid arthritis, sixteen cases, six normal; gout, four cases.

There was one case of hemiplegia and fourteen of tabes dorsalis, eleven normal pressure; cerebral tumor, eight cases; general paralysis of the insane, one case; Friedreich's ataxia, one with albuminuria, 140; one acute ascending paralysis, 140; two cases tic douloureux, one 130 during the attack. There was one case of epidemic influenza and thirty-six miscellaneous cases.

Wednesday, September 17.—Second Day.

Kernig's Sign, the Frequency of Occurrence, Causation, and Clinical Significance.—Dr. R. D. Rudolf of Toronto read this paper, which contained the results of an investigation carried out in the different hospitals of Toronto. A large number of patients of all ages were examined, suffering from divers troubles, and the angles at the hip and knee accurately measured in over 200 of them. In 162, Kernig's sign was present in ninety-seven; that is, in over 60 per cent. It was always absent in perfectly healthy children. Dr. Rudolf considered that a more convenient plan was to extend the knee and then flex the hip as far as possible. Sometimes there was more than the usual degree of stretching of the ham string possible, and this extra flexion could, by the writer's method, be exactly measured when Kernig's sign did not show it. Of the ninety-seven cases, in which Kernig's sign was present in fifty-nine, an angle of less than 165 degrees at the knee could be obtained, and of these, in ten cases, the angle was 135 degrees or less, showing a very marked degree of the sign. These fifty-nine cases were of all kinds, and only one of them was of meningitis. Dr. Rudolf then went on to state that none of the theories of explanation of Kernig's sign were [illegible] it [illegible] meningitis.

Multiple Sarcoma, Report of a Case. The [illegible] reported by Drs F N G Starr and J J MacK[illegible] Toronto Dr MacKenzie read the notes on the ca[illegible] No autopsy could be made The patient was a woman [illegible] years of age, a seamstress The personal or family history had no bearing on the case. For a number of year before 1901 the patient had a goitre, which, under treatment, almost disappeared in the winter of 1901 In April, 1901, a lump about the size of a pea was noticed slightly to the left of the middle line of the abdomen, near the symphysis pubis, hard but painless and subcutaneous In May two or three appeared in the middle line, an inch above the umbilicus; then two or three were discovered in the back. In June two others appeared to the right of the middle line of the abdomen In July several additional lumps were discovered in the right breast, in size from a pea to a bean. Loss of weight occurred In August the liver was noticed to be enlarging. Commenced taking arsenic in September. In October a large tumor appeared in the left breast, and a small one was also noticed in the left thigh. Patient began to suffer from rheumatic pains. In November and December the tumors appeared in enormous numbers over the chest and back, abdomen, thighs and arms above elbows, neck and over back, sides and top of head. In January, 1902, chains of tumors, bean-sized, were noticed in the cervical region, submaxillary and suboccipital regions. By March 8 she had thousands of tumors, most quite hard. Excisions were made and microscopic examination revealed a type of spindle-celled sarcoma, in which the prevailing cell was very long. As regards treatment, the patient took arsenic with no influence on the condition. Thyroid extract produced slight diminution in the size of the tumors. Patient died. Without autopsy one cannot say where the primary seat of the disease was, although from the great involvement of the liver, that might be the source of the disease.

SURGICAL SECTION.

Tuesday, September 16—First Day.

Amputation of the Upper Extremity for Sarcoma of the Shoulder Joint.—Dr. J. Alex. Hutchison of Montreal presented the patient—a young woman— who gave a history of previous injury to the shoulder, followed by the development of a growth in the head of the humerus, accompanied by intense pain. An *x*-ray of the parts revealed the presence of a large growth which invaded the joint, and involved the scapula. The patient was in an extremely unsatisfactory condition for operation, and presented evidences of marked cardiac disease. The incision extended from the middle of the clavicle in front down over the pectoral regions to the lower part of the axilla, and behind, passed over the scapula down to meet the anterior incision. After severing the middle of the clavicle, the great vessels were ligated, the brachial nerves divided high up, the muscles divided, and the scapula freed from its attachments. There was little hemorrhage and the wound healed readily. Microscopic examination of the growth showed it to be a mixed spindle and round, called myeloid sarcoma.

A Fatal Case of Secondary Hemorrhage Four Days Following the Removal of Adenoids.—Dr. Perry G. Goldsmith of Belleville, Ont., read this paper, which dealt with the case of a child operated on by Dr. Goldsmith for obstructive deafness due to enlarged faucial tonsils. The operation was not unusual, and the condition of the patient, on the second and third day after the operation, was apparently satisfactory; on the fourth day, however, repeated and alarming attacks of hemorrhage set in, resulting fatally in a few hours. There was no history of hemophilia. The patient was under the care of the family physician at the time of death, and as no post mortem could be obtained, the cause of the hemorrhage remained unknown.

Occlusion of the Posterior Naris.—Dr. H. D. Hamilton of Montreal reported the case of a young man, aged seventeen, who complained of constant discharge from the right naris, with complete obstruction of the same side. The duration of the condition had been about twelve months. On examination, the patient presented a complete bony partition, occluding the right choana. Family and personal history was negative. Treatment—the bony wall was perforated, and the opening further enlarged by graduated bougies.

Subcutaneous Injections of Paraffin for Correcting Deformities of the Nose.—Dr. G. Grimmer of Montreal spoke briefly of various deformities which had been corrected in this manner. The paraffin was first sterilized by subjecting it to high temperature. It was then injected by means of a sterilized syringe. In the case of the nose, the inner canthi of the eyes should be protected from the spreading of the paraffin, by firm pressure applied to the sides of the nose by an assistant's fingers. After injection, the parts should be molded by the operator as required. After treatment—Collodion was to be applied to the needle puncture, and cold compresses, to control œdema of the nose and eyelids. Some possible dangers from the treatment were paraffin embolism and necrosis of the skin over the parts. Dr. Grimmer exhibited two patients successfully treated in this manner; also two rabbits which had been subjected to similar injections.

The Telephonic Properties of the Inflamed Abdomen; a Sign not Hitherto Described, due to Paralysis of the Bowel in Peritonitis.—Dr. George A. Peters of Toronto, read this paper. In auscultating the abdomen with a view to ascertaining whether there was paralysis of the bowel in cases of appendicitis, typhoid perforations, traumatism, and other conditions which stand in a causative relation to peritonitis, Dr. Peters had observed that where the gurging sounds due to the passage of gas and liquid in the bowel were absent by reason of paralysis, the heart sounds were invariably very plainly present over the whole abdomen. In intense cases, particularly in children, both inspiratory and expiratory breath sounds might be heard. Dr. Peter's explanation of the phenomena was that unlike the healthy bowel—in which the gas was retained in certain well defined and circumscribed compartments, each constituting a complete retainer in itself, with vital walls possessing a muscular tonicity under nervous control, the paralyzed bowel, by reason of its flaccid and atonic condition, permitted an entire change in the disposition of the contained gas: the entire distended abdomen becomes practically and accoustically considered, a continuous column of air or gas, of the precise principle of the stetheoscope. The effect of this was further heightened by the rigid abdominal wall, which acted as a sounding board. The prognostic significance would seem to indicate an unfavorable termination in those cases in which the sign was very well marked in cases of septic origin.

A Case of Filariasis in Man Cured by Operation.—Dr. A. Primrose of Toronto, reported the case of a man from the West Indies suffering from lymph scrotum, who presented himself for treatment and gave a history of attacks of fever which suggested the presence of filaria. On examination of the blood the embryos were found to be present in large numbers. The embryo filariæ were found in large numbers at night, but disappeared from the blood during the day. An operation was performed and a large portion of the scrotum removed. The excised tissue was carefully examined by teasing it in salt solution, and a parent worm was discovered and removed alive. This proved to be a female, and it was subsequently fixed and mounted in a suitable manner for microscopic examination. Subsequent to the operation the filaria embryos entirely disappeared from the blood, and the influence was that the parent producing the embryos had been removed by operation. The parent worm was afterwards carefully studied by Dr. J. H. Elliott, M.D., Toronto, (late of the Malaria Expedition to Nigeria from Liverpool School of Tropical Medicine) and a report of his investigations with drawings of the worm formed a part of the paper as communicated by Dr. Elliott.

Wednesday, September 17.—Second day.

Three Cases of Congenital Dislocation of the Hip.—Dr. A. E. Garrow of Montreal read this paper. The etiology of this condition was not well established, but heredity seemed to play a part. Dr. Garrow spoke of two methods of reduction—(*a*) bloodless method, (*b*) through an incision. The chief obstacle to reduction was generally fibrous stricture of the lower part of the capsule. Dr. Garrow's experience had been mainly by the open method.

The Operative Treatment of Goiter with a Report of Cases.—Dr. Ingersol Olmstead of Hamilton, Ont., presented this communication. As the medical treatment of goiter was very unsatisfactory, an operation was recommended in the following conditions: (1) As soon as goiter became dangerous—that is, when attacks of dyspnœa or inflammatory changes occurred—or there was the slightest suspicion of malignant degeneration. (2) All enlarged thyroids having a tendency to grow toward the aperture of the thorax, even if they were movable. (3) Goiters that have reached considerable development from the formation of single large colloid nodes. (4) When with a moderate goiter, symptoms like those of Graves' disease appeared, accompanied with an increased development of the goiter. The operation advised was the one usually performed by Kocher, and was done under cocaine anæsthesia. It consisted of a transverse, symmetrically-bowed incision, with its convexity downward, from the outer surface of one sternomastoid muscle to the other, higher or lower, according to the position of the goiter. The skin, underlying platysma, and fascia of the sternohyoid and sternotyhroid muscles were reflected upward. The fascia joining the muscles in the median line of the neck was then divided as well as the outer fibrous capsule of the gland. The half of the gland which was most involved was then shelled out of its capsule, the superior and inferior thyroid arteries tied, the isthmus cut with goiter clamp, and ligated.

The remaining attachments were then ligated and portion removed. The wound was closed with a subcuticular wire suture without drainage. Twelve cases operated on during the past year were reported. The average stay in the hospital was seven days. The resulting scar was very slight, and little or no pain was complained of during the operation.

The Pathological Prostate and Its Removal Through the Perineum.—Dr. Alex. H. Ferguson of Chicago, Ill., in opening, said he proposed to discuss more particularly hypertrophy of the prostate. Some of the macroscopical changes in the hypertrophied prostate were: (1) Increased weight—even up to eight or nine ounces; (2) Greater size; (3) Any part or the whole of the gland might be involved. The shape varied very much. Microscopically, Dr. Ferguson found all hypertrophied prostates were benign in character. He also found frequent evidences of inflammatory changes. The effects produced might be stated as: (1) The prostatic urethra was contracted and elonged; (2) The vesical meatus was often rendered patulous and sometimes obliterated; (3) The ejaculatory ducts were also often patulous, allowing regurgitation of the semen into the bladder, and they were also often obstructed. The effects of obstruction on the kidneys and bladder were too well known to require discussion. Dr. Ferguson's method of removal was by the perineal route. He used a prostatic depressor, introduced into the urethra, then elevated in such a manner as to press the prostate down in the perineum. The fingers of the left hand were passed into the rectum as a guide, and then he made one bold incision through the perineum down to the prostatic capsule. Dr. Ferguson exhibited some special instruments devised and used by himself in this operation.

Surgical Treatment of Enlarged Prostate.—Dr. G. E. ARMSTRONG of Montreal exhibited a specially-constructed suprapubic vesical speculum, devised by himself, with a lateral opening which allowed the prostate alone to come well in view in the speculum. The speculum could be packed around with gauze to protect the parts from possible burning, the offending lobe or lobes are then cauterized with the thermocautery. Dr. Armstrong reported seven cases successfully operated on. One point of advantage in this operation lay in the fact that the cauterized surface did not admit of septic absorption. He urged this method in early stages of prostatic hypertrophy.

The paper by Dr. Ferguson and also that of Dr. Armstrong was discussed by Dr. James Bell of Montreal, Sir William Hingston of Montreal; Mr. Irving Cameron of Toronto, and Dr. Elder of Montreal.

The X-Ray as a Therapeutic Agent.—Dr. E. R. DICKSON of Toronto said that the explanation of the rationale of the *x*-ray was at best as yet but a hypothesis. Fortunately, we had a practical proof of its utility as a therapeutic agent in many conditions. Dr. Dickson had used it successfully in the following cases, nævus, lupus vulgaris, tuberculous joints, scleroderma, subacute articular rheumatism (it relieved pain in many cases), neurasthenia, carcinoma of the stomach (this patient gained weight), and in carcinoma of the rectum, which case is also improving.

Dr. G. P. GIRDWOOD of Montreal read a paper on the diagnostic and therapeutic uses of the *x*-rays, and exhibited a number of photographs.

Dr. A. R. ROBINSON of New York said that the *x*-ray largely did away with the knife, and left little scar. It was probable that all superficial cancers could be removed by the *x*-ray if seen early. In a delicate locality, such as the eyelid, the rays should always be used, as paste or the knife would do more harm. When malignant growths had spread deeply, the *x*-ray might be considered our best treatment.

Thursday, September 18.—Third Day.

The first paper was "Remarks on the Sympathetic Ophthalmia," by Dr. G. HERBERT BURNHAM of Toronto, followed by a paper on the "Ocular Manifestations on Systemic Gonorrhœa," by Dr. W. GORDON M BYERS of Montreal.

Excision of the Cæcum.—Dr. O. M. JONES of Victoria, B. C., cited four cases operated on. The first patient lived about two years after. A post mortem proved that the cancerous growth had not recurred at the point of the original operation. Symptoms in all cases were griping pains in the abdomen, loss of weight, and irregular action of the bowels, together with the presence of a mass in the region of the cæcum.

Three Cases of Perforating Typhoid Ulcer Successfully Operated on.—Dr. F. J. SHEPHERD of Montreal reported these cases. Dr. Shepherd had always made use of the lateral incision, and had usually found the perforation near the ileocæcal valve. By this incision the site of the perforation was more easily found than by the medium. He had always closed the incision by turning in the bowel and making use of a continuous Lembert suture, employing fine silk. Other ulcerations in the neighborhood were treated in the same way. Rubber drainage was employed. There was always suppuration in these cases, and usually a hernia resulted. General anæsthesia was always used in these cases. The first case was in a woman of thirty years, with the ambulatory form of her disease. The second was in a woman of twenty-eight years, admitted on about the eighth day. It was of interest in this case that, although perforation had taken place, there was no leucocytosis. The third was in a man, thirty years old, in the third week of the disease. He had been seized with severe pain, and one hour after there was obliteration of liver dulness and marked leucocytosis. All the patients were quite well at the time of the report, with the exception of hernias.

A Case of Total Extirpation of the Urinary Bladder for Cancer.—Dr LAPTHORN SMITH of Montreal reported this case. There had been previous removal of fibroid by myomectomy. This was followed by cystitis, which was treated first by medicine, then by injection, and afterward by drainage by permanent catheter, and then by button-hole operation; when the cancer was detected by the finger. He performed extraperitoneal removal of bladder and affected part of ureter and pelvic glands. Recovery followed the operation, but death occurred on the seventh day from exhaustion.

SECOND INTERNATIONAL CONFERENCE ON THE PROPHYLAXIS OF VENEREAL DISEASES AND SYPHILIS.

Held at Brussels, September 1-6 1902.

(Special Report to the MEDICAL RECORD.)

The International Conference for the Sanitary and Moral Prophylaxis of Venereal Diseases and Syphilis began its discussions on the morning of Monday, September 1, in the General Assembly Hall of the Palais des Académies, at Brussels.

Baron VANDERBRUGGEN, the Belgian Minister of Agriculture, opened the session. In a very documentary discourse he described the practical measures that had been adopted by the various countries, in accordance with the resolutions of the first Conference. He reported the assistance which had been given by the governments to the International Society of sanitary and moral prophylaxis. Belgium had shown its favor to this work. He stated that the objections that had been sent to the Conference were: A harm to science; a stirring up of ideas; a shaking off of indifference and prejudices, and daring to publicly present certain problems—this would be to serve humanity. The art of governing humanity consisted partly in that which was practical, and partly in that which was not; and, in social politics, especially, progress could be realized only in full maturity, at the risk of retrogression. He next described the insufficiency of university teaching, the defects of actual regulation, the necessity of making a clear line of demarcation between sanitary surveillance and the ordinary police laws.

He then welcomed the delegates and the foreign members, and he was warmly applauded in his cordial praise of the fine work of the members of the permanent committee, M. Lejeune, the Minister of State; M. Beco, Director in the Department of Agriculture, and Dr. Dubois-Havenith.

This committee was nominated by acclamation: *President,* M. Lejeune; *Vice-President,* M. Beco; *Secretary,* M. Dubois-Havenith.

Public Prophylaxis of Venereal Diseases in Their Relation to Prostitution.—Dr. H. MINOD, secretary of the International Abolitionist Federation (Geneva), opened the discussion. In regard to the protection of young girls, he held that: (1) The law should have full control over them up to the time of their civil majority; (2) The State ought to encourage the institutions for the protection of apprentices, etc., schools for domestic science, the aid societies, the co-operative associations of production, the restaurants and lodgings for working women, and all measures for the protection of children who have been morally abandoned, etc.; (3) The State ought to ally itself with the aid societies, in order to deliver over to the latter minors who were arraigned on the charge of prostitution, or who had been pointed out as having delivered themselves up to prostitution.

Regarding the duties of the State, he held that: (1) Regulations ought to be abolished; (2) The Code ought to offer the same guarantees to every individual, whatever might be the sex, against seduction, fraud, violence or public scandal, protecting more especially the weak and minors; (3) It was necessary to spread abroad the idea that prostitution was always dangerous; (4) All of the obstacles which were connected with the treatment of these patients should be dissipated.

5. It was necessary to proclaim the principle of unity of morals.

Professor Neisser, Director of the Dermatological Clinic of Breslau, read the next paper on this subject. In the struggle which the State had begun against venereal diseases it ought not to be satisfied with passing resolutions in regard to prostitution; it ought also to take advantage of the numerous occasions which gave it the opportunity of combating the spread of venereal diseases. The most important and the most efficacious means to employ in the struggle against the diffusion of venereal diseases consisted in the spreading abroad as widely as possible the ideas relative to the dangers and to the importance of these diseases. It was necessary not only to teach young men that chastity and continence were not harmful, but also that these virtues were valuable from the medical point of view. All of the measures taken by the authorities with a view of realizing the prophylaxis of venereal diseases, and of combating the fatal consequences of prostitution, ought to be regulated by law. The application of the law ought to be left to the communities and to the self-governing administrations of each district.

It was necessary that the law guarantee to each patient of this kind gratuitous treatment at the hospital, and that it forbid absolutely the remuneration of the expenses incident to this treatment; there should in no case be any demand made on the parents, tutors, or fellow citizens for the reimbursement of hospital expenses. The State should defray all of the expenses of this gratuitous treatment, except in the cases in which the rescue funds and those of the public associations were held responsible for the expenses of the patient.

In all the towns, in all of the important communities, and in all the districts, it was necessary—eventually with the aid of the State—to erect hospitals, to offer hospital services or public consultations, or to appoint physicians with a view of giving gratuitous treatment to these patients, and to distribute medicine without cost to these patients. It was necessary to see that all rules unfavorable to venereal patients should be made to disappear from the hospitals and their consultations. It was preferable to place these patients in the departments of dermatosyphilography, rather than in special hospitals. It was necessary to see that in the public establishments the medical secret and the shame of the patient be respected.

Special measures to be taken were: The creation of a sanitary committee; it should be the central administrative point where all measures should be taken which were necessary to assure the surveillance of venereal patients, and the prophylaxis of venereal diseases. It was necessary to enforce obligatory medical notification under a double form, either with or without mention of the name, as circumstances might indicate. It was necessary to promulgate a law forbidding every person not possessing a medical diploma to treat venereal diseases; the threatened punishments ought to be severe.

The persons who, knowing that they were affected with a venereal disease, continued to have sexual relations, committed a crime, even in the cases in which contamination had not been produced.

Dr. Pierson of Holland pointed out a contradiction in the proportions of the defenders of regulation: "You teach," said he, "that debauchery is fatal; you recommend chastity, and you hasten to tell of the fatal consequences of the non-observance of this advice. What influence can this advice have if you already anticipate the measures which should be taken in the cases in which it is not followed?"

M. Boeck of Norway defended the system used in Norway, of the obligatory declaration by the physicians of the cases of contagious diseases which they had under treatment.

Mme. Sheldon Amos insisted upon the necessity of putting an end to the propagation of immorality among minors. The activity of the school called "abolitionist" had done much for morality. The English government, during the war in South Africa, had affirmed repeatedly that women had never been violated in the course of the war. Was not this fact, new in the world's history, on the part of 250,000 soldiers, a proof of improved morality?

Signor Santoliquido, the eminent director of the Department of Hygiene in Italy, described the progress made in Italy by the system of liberty. Prophylaxis by the hospitals, the dispensaries, the consultations, private intervention accomplishing the work of protection, such was the system which had given such good results in Italy.

Dr. Ferd. C. Valentine of New York proposed the segregation of young girls in special quarters.

M. Petrini of Roumania thought that attention should be paid to those who seduced young girls, and to those who led young boys astray.

Mrs. Drysdale of England praised the favorable results of the régime of liberty.

M. Démétriade of Roumania begged the conference to take account in its resolutions of the particular situation of the small countries.

Dr. Yves Guyot of France remarked that the "abolitionists," although so much derided, had at least one merit. They had made a study of the question. In 1867 no one doubted the excellence of the system employed. To-day the presence of so many members of the conference proved that all the world recognized the necessity of reforms.

Dr. Neisser of Breslau proposed various practical measures. The dissemination of knowledge relative to the verereal diseases, free treatment to each patient, and the prohibition of treatment by charlatans.

M. Verchere of Paris described the results of his experience at St. Lazare. He spoke of the characteristic mental status of fallen girls, and insisted on the necessity of obliging them to care for themselves, whenever they would not voluntarily submit to treatment. He agreed with the opinions of M. Yves Guyot and spoke in terms of praise of his teacher Fournier. The liberty of each one ceased when danger to others commenced.

The Secretary-General announced to the Assembly that a generous donor, Professor Lassar of Berlin, had contributed to the funds of the Society, a sum of a thousand francs. The Conference gave a vote of thanks to Dr. Lassar.

M. Gaston of France insisted upon the necessity of indirect measures, and as the protection of the child-mother and of the illegitimate infant, and prosecution of the wrong doers, etc.

Dr. Merk of Austria discoursed on the excellent methods of the bureaus of hygiene in Austria. He proposed that every physician ought to make a report of every case of contagious disease.

M. Minod of Geneva was opposed to the coercive systems; he approved of submitting minors to guardianship.

Professor Landouzy of Paris wished that contamination might be treated like poisoning, and be made amenable to the common law. He wished to see suppressed as inefficient all regulations.

Sr. Santoliquido, director of the Italian bureau of hygiene, insisted upon the ambiguity of the terms regulationist and abolitionist. He begged the Secretary-General of the Department of Agriculture, M. Beco, to give his opinion on this question.

M. Rethan-Macaré wished that the physician was obliged to denounce the syphilitic patient who was about to marry, thus bringing about a veritable catastrophe

M Beco, Vice-President of the Conference declared that the insufficiency of the systems now in use was proved by the unanimity of the reports, and proposed to separate absolutely the police surveillance from sanitary surveillance

Prof Lesser of Berlin defended absolute medical secrecy, the restricition of which paralyzed medical action

Dr Lane, chief of the service at Lock Hospital, London, defended the hospital system used in England.

Dr Havard, delegate from the United States, described the system employed in America

The Protection of Minors.—Dr. Good of France proposed that the state support an assurance company that would refuse venereal patients. Every candidate for marriage that the society refused would then be suspected of having a venereal disease

M de Mersier explained the measures of legal protection that could be taken

The Organization of Aid and Treatment to be Accorded to Venereal Patients.—Dr. Blaschko of Berlin, explained the necessity of assuring to all venereal patients, without exception, gratuitous treatment

Prof Petrini of Galatz, Roumania, demonstrated the good effects produced by the system that was largely in use in Roumania

Dr Kohn, of Berlin, proposed certain reforms which could be made by means of the aid afforded by the mutual aid societies.

Contagion by Nursing, by Vaccination, Contagion Carried by Clothes, etc.—MM. Havard (United States), Cicero (Mexico), Beco, Professor Landouzy (Paris), Good (France), Castelo (Madrid), Sicard (Paris), Bertarelli (Milan), Drysdale (England), Santoliquido (Rome), de Sturmer (St. Petersburg), Petrini (Bucharest), discussed this question. As regards vaccination the unanimous sentiment was in favor of animal vaccine as the only really safe method

Dr Engel Reimers of Hamburg spoke of measures to be taken in regard to sailors.

Prof Landouzy of Paris insisted on the necessity of introducing both civil and penal responsibility

Dr Pierson pointed out the duty of mothers to nurse their own children.

The conference then discussed various resolutions which had been proposed by Drs. Landouzy, Beco, and Neisser

Proposed Resolutions. By Prof. Landouzy.—Since the régime of regulation, such as had actually been put into practice, had been shown to be inefficient, it was necessary, in the matter of prophylaxis of venereal diseases, to have a common law, equal for men and women.

By M. Beco, Vice-President of the Congress. The conference having determined from the reports which had been submitted to it, and from the unanimous declarations of the speakers who had taken part in the discussions, that the systems of regulation of prostitution actually in use were defective from various points of view, and especially in regard to the point that intervention by the police was harmful to the action of sanitary authority, while its sole object should be that of its disposition. It judged that there was reason in law as in fact to distinguish sanitary action from police action, and to render the first independent of the second, in such a way that prophylaxis of venereal patients, like that of every other transmissible disease, presented a character exclusively hygienic and medical

Amendment by Dr Neisser The State had the right and it was its duty to combat, by means of legal measures, the dangers caused by prostitution from the hygienic point of view. The system actually in use, especially concerned with police authority, ought to be transformed into a sanitary system, which ought to be obligatory only so far as was absolutely necessary for the attainment of an hygienic end

These resolutions had numerous partisans but were not adopted

Civil and Criminal Responsibility of the Contaminator of Either Sex M Bonnevie of Brussels said he had devoted much study to this subject He defended the establishment of both civil and criminal responsibility The laws in effect allowed these two actions to be introduced M Bonnevie cited a case in proof of this If actions of this kind had not been brought more often it was because attention had not been drawn to the matter When it was very difficult to attain prophylaxis in regard to prostitutes possibility of the civil and criminal action would be efficient in protecting innocent individuals, and those worthy of protection.

Individual Prophylaxis.—Although the public authorities had to take measures of prophylaxis against venereal diseases, the duty of taking care of himself was incumbent on each individual for himself. The healthy individual should avoid all dangerous contact with any contaminated person or thing, and the diseased individual should avoid anything which could contaminate others. This being the case, what were the methods of dissemination to which it was necessary to have recourse, to enlighten the youth and the public in general, concerning the individual and social dangers of syphilis and gonorrhœa, as well as concerning the methods of contagion, both direct and indirect, of these two diseases?

Dr Good of France explained various methods of individual prophylaxis, and recalled his brochure, in which he had insisted upon a propaganda of hygiene and morality

Mme. Sheldon Amos of London expressed herself as opposed to the practice of teaching the young that prostitution was inevitable.

Dr. Queyrat of Paris opposed the practice of connecting certain organs and certain functions with the idea of shame.

M. Morsier of Geneva insisted on the necessity of moral prophylaxis.

The next subject was: In what manner can individual prophylaxis be facilitated by means of the aid of institutions, hospitals, dispensaries, refuges, etc , and by medical services which are intended for persons of both sexes afflicted with either syphilis or gonorrhœa?

Dr. Santoliquido, director of the Italian Bureau of Hygiene, described the admirable work accomplished in Italy, definite treatment at home or at the hospital, assured to each one; gratuitous distribution of medicines; reimbursement to the patient for the expenses of the journey, etc. The State directed this immense system.

Prof. Jadassohn of Berne insisted on the necessity of giving to all patients printed instructions explaining the dangers of which they were the source.

Dr. Valentine of New York expressed the wish that medical societies might publish brochures explaining the prophylactic measures which ought to be taken by every one.

Resolutions of the Congress.—At the closing session the conference adopted unanimously the following resolutions:

Resolution of Trois-Fontaines: To give to conscripts arriving from their regiment very condensed, printed instructions on the dangers of gonorrhœa and syphilis To add to this a paragraph pointing out the necessity of always remembering any attack of venereal disease, in order to describe it later to the physician. Also to add perhaps, some brief notes concerning the dangers of alcoholism and the prophylaxis of tuberculosis To be assured that the man leaving the service carried these instructions away with him as he did his military certificate.

Resolution of Neisser, Gaucher-Judassohn It was desirable that a guarantee be made to each patient suffering from venereal diseases of gratuitious treatment, to the largest possible extent It was necessary to see that all factors unfavorable to venereal patients should be abolished from hospitals and consultations. It was necessary to see that in public institutions the treatment respected the medical secret and the shame of the patients.

Resolution of Minod: The most important and the most efficacious means to employ to combat the diffusion of venereal diseases consisted in the dissemination to as great extent as possible of the knowledge relative to the very grave dangers, and to the importance of these diseases. It was necessary especially to teach young men that not only were chastity and continence not harmful, but that these virtues were the most valuable from the medical standpoint.

Resolution of Santiliquido: *Whereas,* The different statistics ought to be in a condition to be compared: 1. It was necessary to establish statistics on a uniform bases. 2. It was necessary to submit the task of their compilation to an international bureau. 3. The President of the International Bureau ought to transmit these propositions that had been submitted to it to the various governments and should take their advice on the formation of this bureau and on the subsidies.

Resolution of Franck: The Conference should issue the resolution that the problem of rational and progressive education of the questions of intersexual order, from the hygienic and moral point of view, should be brought before the institutions for the education of the young in all degrees.

A committee was appointed to determine the preliminaries for the compilation of a treatise, based upon already existing monographs and larger works, which might serve as a tract for the instruction of the general public regarding the dangers of venereal disease, the means of prevention of the same, and the necessity of immediate and persistent treatment. The committee was also instructed to devise means for the popularization of such a work, for its translation into the principal languages, and for its general distribution in all countries of the civilized world.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 20, 1902:

	Cases.	Deaths.
Measles	27	1
Diphtheria and croup	195	28
Scarlet fever	102	7
Smallpox	3	1
Varicella	7	..
Tuberculosis	226	128
Typhoid fever	151	20
Cerebrospinal meningitis	..	..

Persistent Hiccough.—William McDonald reports a case in a young married woman, in which they had to relieve general exhaustion, paresis of abdominal and intestinal muscles, intra abdominal pressure and diminished vascular tone. They gave gelsemium in rather large doses, and its administration was followed by relief, but they do not attribute the cure to the drug, but rather to purging, gavage, rest, tonic, stimulant and electric treatment. In the use of the static machine several larger sparks were directed at the epigastrium, much to the surprise and possibly fright of the patient, and producing immediately a longer interval between the spasms than had been noticed previously. The moral to be found in the history of hiccough is—treat not the name of the disease, not even the disease, but the patient.—*Albany Medical Annals.*

Hepatic Regeneration in Echinococcus Cysts and other Diseases of the Liver.—Rocco Caminiti gives a detailed study of the pathologico-histological condition of the liver in various affections, such as syphilis, malaria, cysts, etc. Regeneration occurs most frequently in the case of echinococcus cysts, but also takes place after other diseases, giving renewed activity of the organ for awhile at least. The conclusion appears to be that these morbid conditions at first affect only a certain number of cells, and progress with more or less rapidity, with more or less lengthened pauses. The regenerative process can intervene and compensate for the damage done, but by reason of the progress of the disease the reparatory process will sooner or later be overcome.—*Il Policlinico.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended September 20, 1902:

SMALLPOX—UNITED STATES.

		CASES	DEATHS
California, San Franciso	Aug. 31–Sept. 7	4	
Colorado, Denver	Aug. 30–Sept. 6	2	
District of Columbia, Washington	Sept. 17	2	
Florida, Escambia Co., Pensacola included	Sept. 6–13	3	
Illinois, Chicago	Sept. 6–13	1	
Kansas, Wichita	Aug. 24–31	1	
Kentucky, Covington	Aug. 30–Sept. 6	6	
Massachusetts, Boston	Sept. 6–13	7	3
Chelsea	Sept. 6–13	1	
Fitchburg	Aug. 30–Sept, 6	1	
Missouri, St Joseph	Sept. 6–13	1	
New Jersey, Newark	Sept. 6–13	3	1
Passaic	Aug. 30–Sept. 13	2	
New York, New York	Sept. 6–13	6	3
Ohio, Cincinnati	Sept. 5–12	3	
Cleveland	Sept. 6–13	84	16
Hamilton	Sept. 6–13	1	
Pennsylvania, Altoona	Sept. 6–13	1	
Johnstown	Sept. 6–13	9	1
McKeesport	Sept. 6–13	16	
Philadelphia	Sept. 6–13	6	
Pittsburg	Sept. 6–13	25	1
Reading	Sept. 8–15	5	
South Carolina, Charleston	Sept. 6–13	3	
Tennessee, Memphis	Sept. 6–13	1	
Wisconsin, Milwaukee	Sept. 6–13	1	
SMALLPOX—FOREIGN.			
Brazil, Pernambuco	Aug. 1–15		11
Ecuador, Guayaquil	Aug. 23–30		3
France, Paris	Aug. 16–23		1
Gibraltar	Aug. 24–31	1	
Great Britain, Liverpool	Aug. 23–30	14	
London	Aug. 23–30	11	2
India, Bombay	Aug. 13–19		4
Calcutta	Aug. 9–16		2
Russia, Moscow	Aug. 16–23	2	1
Odessa	Aug. 24–31	4	
St. Petersburg	Aug. 16–23	12	1
Spain, Barcelona	Aug. 16–30		4
YELLOW FEVER.			
Colombia, Panama	Sept. 1–8	4	1 among soldiers.
Ecuador, Guayaquil	Aug. 16–23		1
Mexico, Coatcacoalcos	Aug. 30–Sept. 6	4	
Orizaba	Sept. 7	Epidemic	
Progreso	Sept. 12	1	
Vera Cruz	Aug. 30–Sept. 13	45	9
CHOLERA—INSULAR.			
Philippine Islands, Manila	July 12–19	250	189
Provinces	To July 19	15,555	11,691
CHOLERA—FOREIGN.			
China, Amoy	July 27–Aug. 2	40 cases est.	
Hongkong	Aug. 2–9	6	6
New Chwang	July 19–Aug. 2	175	145
Egypt, Alexandria	Aug. 5–27	17	12
Cairo	July 22–Aug. 27	913	816
India, Bombay	Aug. 13–10		1
Calcutta	Aug. 9–16		4
Japan, Ehime Ken	To Aug. 18	39	
Formosa	To Aug. 18	213	133
Fukuoka Ken	To Aug. 18	671	372
Hioga Ken	To Aug. 18	12	6
Hiroshima Ken	To Aug. 18	2	
Kagawa Ken	To Aug. 18	606	
Kumamota Ken	To Aug. 18	11	4
Kyoto Ken	To Aug. 18	14	2
Nagasaki Ken	To Aug. 18	90	31
Oita Ken	To Aug. 18	12	4
O'Kayama Ken	To Aug. 18	1,268	783
Osaka Ken	To Aug. 18	96	5
Saga Ken	To Aug. 18	88	53
Shimana Ken	To Aug. 18	5	
Tokushima Ken	To Aug. 18	1	
Tokyo Ken.	To Aug. 18	5	4
Wakayann Ken	To Aug. 18	1	
Yamaguchi Ken	To Aug. 18	90	1
Java, Batavia	July 27–Aug. 2	32	25
Russia, Chabarowsk	July 28–Aug. 7	11	8
Olowjannaja	To Aug. 8	8	5
PLAGUE—UNITED STATES.			
California, San Francisco	Aug. 31–Sept. 7		3 Chinese.
PLAGUE—FOREIGN			
China Hongkong	Aug. 2–9		34
India, Bombay	Aug. 13–19		35
Calcutta	Aug. 9–16		9
Japan, Yokohama	Aug. 9–16	16	4

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Original Articles.

THE POST-OPERATIVE HISTORY OF FIFTY CASES OF SIMPLE CHRONIC GLAUCOMA.*

By CHARLES STEDMAN BULL, A.M., M.D.,
NEW YORK.

THE fifty cases of glaucoma, which form the subject of this paper, were all cases of simple, non-inflammatory, chronic glaucoma, occurring in private practice. They all showed increased tension, narrowing of the field of vision, especially on the nasal side, and impairment of central vision. None of the cases, while under observation, ever showed any signs of irritation or inflammation. They were all under my personal observation for a varying length of time, and in all the cases the examinations of the field of vision, visual acuity, condition of tension, and of the fundus, were made by myself. The operative procedure in all cases was iridectomy, and was done on ninety-four eyes. The incision was made sometimes with a very broad lance-knife, and sometimes with a narrow cataract knife, the aim being to make the incision at a distance of two millimeters back of the sclero-corneal margin, so as to include the root of the iris. In other words, a long incision was made and a broad piece of iris was removed. In no case was a second iridectomy done upon either eye of a patient.

Age of the Patients.—The age of the fifty patients varied between twenty-six and eighty-four years. In the decade between twenty and thirty years, there were two cases; in the decade between thirty and forty years, there were four cases; in the decade between forty and fifty years, there were six cases; in the decade between fifty and sixty years, there were five cases; in the decade between sixty and seventy years, there were seventeen cases; in the decade between seventy and eighty years, there were fourteen cases; in the decade between eighty and ninety years, there were two cases.

Sex of the Patients.—Of the fifty patients, twenty-three were men and twenty-seven were women.

Race.—Of the fifty patients, only two were Hebrews, the remainder being native Americans of English, Scotch, French, or Dutch ancestry.

Existing Refractive Condition.—Of the fifty patients, twenty-two were hypermetropic; twelve had simple hypermetropic astigmatism; seven had compound hypermetropic astigmatism; four were myopic; three had simple myopic astigmatism; one had compound myopic astigmatism, and one had mixed astigmatism.

Unilateral or Bilateral.—In forty-four cases the disease involved both eyes, either simultaneously or at a varying interval of time. In six cases but one eye was involved, the other remaining intact as long as the patient was under observation.

Operation.—Iridectomy was done on one eye alone in six cases; on both eyes at a varying interval of time in thirty-one cases; and on both eyes simultaneously in thirteen cases.

Field of Vision before Operation.—The condition of the field of vision before operation was an interesting study, and varied materially in the different patients, and in the two eyes of the same patient. There was concentric narrowing of the field, most marked on the nasal side, in forty-four eyes. There was concentric narrowing of the field with central or paracentral scotomata in fourteen eyes. There was narrowing of the field on the nasal side only in twenty-one eyes. There was loss of the entire nasal half of the field in ten eyes. The field was reduced to a quadrant in three eyes. The field was telescopic in two eyes. The scotomata showed a varying shape, size, and even location at different times, and in some cases entirely disappeared before operation.

In the cases in which the operation was done on both eyes, but with an interval of time between them, the *length of time* which *elapsed* between the two operations was as follows:

In one case, twenty-four hours; in one case, five days; in two cases, one week; in two cases, two weeks; in two cases, three weeks; in four cases, one month; in one case, six weeks; in two cases, two months; in two cases, six months; in seven cases, one year; in three cases, two years; in one case, twenty-six months; in one case, three and a half years; in one case, four years; in one case, six years.

Length of Time under Observation.—The cases were under observation a varying length of time, ranging from one to twenty years, as follows:

Five cases were under observation for one year; ten cases were under observation for two years; eleven cases were under observation for three years; six cases were under observation for four years; five cases were under observation for five years; one case was under observation for six years; one case was under observation for seven years; three cases were under observation for eight years; two cases were under observation for nine years, one case was under observation for ten years; one case was under observation for eleven years; two cases were under observation for twelve years; one case was under observation for eighteen years; one case was under observation for twenty years.

Effect of Iridectomy on Central Vision. Special care was observed in testing the central vision of these cases at various times after the operation, and the results were carefully tabulated; and the following is a brief résumé of these data:

There was a temporary improvement in central vision in seven eyes; there was a permanent improvement in central vision in three eyes; there was immediate failure in central vision in two eyes (these were the eyes with telescopic fields): there was a gradual failure in central vision in fifty-eight eyes; there was maintenance of the vision existing at the time of operation, while under observation, in twenty-four eyes, as follows: In one eye for two years, in seven eyes for three years, in three eyes for four years, in one eye for five years, in one eye for seven years, in seven eyes for eight years, in two eyes for twelve years, and in two eyes for eighteen years.

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*Read before the American Ophthalmological Society, July 16, 1902.

Condition of the Intraocular Tension after Operation.—There was immediate diminution of tension in eighty-nine eyes; there was permanent diminution of tension in eighteen eyes; there was no effect on tension after operation in five eyes.

Condition of the Color-Fields after Operation.—There was no change in the color-fields in three eyes; there was continuous narrowing of all the color-fields in both eyes of eighteen patients, and in one eye in twenty-six patients; there was loss of the entire color-fields in both eyes of ten patients, and of one eye in nine patients.

Condition of the Field for Form after Operation.—There was loss of the entire nasal half of both fields in four cases; there was loss of the entire nasal half of one field in five cases; there was loss of the entire field in both eyes in one case; there was loss of the entire field in one eye in twelve cases; the field was reduced to a quadrant in both eyes in one case; the field was reduced to a quadrant in one eye in six cases; there was continuous concentric narrowing of both fields in eight cases; there was continuous concentric narrowing of one field in nine cases; the field was unchanged in both eyes in one case; the field was unchanged in one eye in two cases; the field was widened in one eye in one case; in eleven eyes the final result was absolute glaucoma.

Brief Résumé.—In *seven* cases, under observation for a period varying from fifteen months to eleven years, the fields remained as they were at the time of operation. In *six* of these *seven* cases the vision grew slowly worse, and in *one* case the vision was somewhat improved.

In *five* cases the vision remained as it was at the time of operation, or improved while the fields grew narrower.

Age, in itself, did not seem to exercise any definitely bad effect, for some of the most satisfactory results occurred in patients over seventy years of age.

The best results as to ultimate vision occurred in the cases in which the central vision was the best and the fields were the least encroached upon at the time of operation, or, in other words, as soon as the existence of the disease was definitely established.

A careful study of these cases has led me to the conclusion that where the disease undoubtedly exists in both eyes of a patient better results as to visual acuity and the field of vision are obtained by a simultaneous operation on the two eyes. Finally, quoting from a recent statement of my own made before the New York Academy of Medicine: "The operative effect of iridectomy is more certain and undeniable, the earlier it is done. The slightest narrowing of the field, whether for form or color, demands operation, once our diagnosis is made. The curative action of iridectomy stands in direct proportion to the increase of tension. Early iridectomy, while the iris is still mobile, the field but little contracted, and the cupping of the disc slight, very often arrests the disease, at least for a long period, and preserves what sight remains. *Done early*, it offers the best prospects for the arrest of the process, and its effects are either permanent or very prolonged.

Virchow's Ancestry.—A writer in the *Saturday Review* of London says that Virchow, like very many of the greater Germans of the last two hundred years, had in him a large strain of Jewish blood.

MEDICAL RECIPROCITY, OR INTERSTATE EXCHANGE OF LICENSURES.*

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The reciprocal exchange of certificates of registration or licenses by one State with another is not a new or recent idea with the medical profession of the United States. The inconvenience, injustice, unnecessary labor, and expense connected with the change of location from one State to another of a properly-qualified and ethical practitioner has long been recognized and commented upon, and various means have been suggested to overcome this anomaly in American medical practice.

Within the past few years a great many of the States, which either had no medical legislation or a very insufficient medical act, have obtained from their legislatures a more or less effective medical act, and in addition to the prevention of the registration and practice within their borders of incompetents, it has also necessarily, but without purpose, raised a barrier against the holders of reputable and standard qualifications registering and practising in other States, who for one reason or another desire to change their State location, and who before such legislation was effected could comply with the laws relative to medical practice. In other words, while recent legislation in a large number of the States has cut off and given the quietus to a very large and ever-increasing supply of incompetent and fraudulent practitioners, it has also cut off to a large, if, perhaps, to a lesser, extent, the supply of experienced and properly-qualified practitioners from without States.

Therefore, the trend of medical legislation has been more favorable to the recent graduate, while it has not been quite so favorable to the older and more experienced, and yet properly-qualified practitioner. Then, again, as all medical legislation, directly and materially, benefits the people generally, necessary legislative restrictions which prevent a reputable and properly-qualified practitioner from changing his State residence is certainly not productive of benefits that would be otherwise derived from a freer exchange of a good article in the form of a desirable medical practitioner.

A number of the States that recognize the benefits of interstate exchange of licensures have provided more or less fully for such exchange in their respective acts; namely, California, Delaware, District of Columbia, Illinois, Indiana, Kansas, Maine, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Porto Rico, Texas, Virginia, Washington, and Wisconsin. Of the above-named States Illinois, New Jersey, Ohio, and one or two others, provide for only partial or modified reciprocity; that is, these States can exchange certificates or licenses obtained by an examination before a State board, provided the holder thereof is possessed of a medical diploma recognized by the two States in reciprocity, and also has a recognized certificate of preliminary education. In other words, the latter States' acts mentioned provide for the going out and coming in of a very recent graduate in medicine, and denies these privileges to the teachers and examiners of such graduate.

As I have before stated, the reciprocal exchange of State medical licenses is not a recent idea. The American Medical Association, at its St. Paul meeting, appointed a committee to report upon the matter. This committee reported favorably at

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*Read before the Upper Peninsular Medical Society at its annual meeting at Ishpeming, July 15, 16, 1902.

Saratoga last month upon the subject of reciprocity, with certain recommendations looking toward its future promotion, but with no practical result further than directing professional opinion—of course an important factor.

In 1899 the Wayne County Medical Society appointed a commitee to promote medical reciprocity between States, and its secretary, Dr. Emil Amberg of Detroit has done a great amount of work, and has made many valuable suggestions in connection with the subject.

The National Confederation of Medical Examining and Licensing Boards was founded, and its object and existence is expressed in the following constitution:

"*Whereas*, The action in many of the States in requiring a State license before entering on the practice of medicine makes it eminently desirable that the qualification for licensure be fairly equivalent in the various States; and that eventually, by a system of reciprocity, a physician licensed by any one board may obtain the privilege of practising under the jurisdiction of any other board by the proper certification of the license without a new examination, a closer affiliation of the various examining and licensing boards becomes a necessity."

Its membership is made up of individual members of examining and licensing boards of the several States and Territories, and also of physicians not members of examining or licensing boards. It holds an annual meeting, but, beyond discussing the subject of reciprocity in all of its details, so far nothing practical has resulted from its labors.

The Confederation of New England State Medical Boards was founded, and had for one of its objects the reciprocal exchange of State certificates or licenses. Like its sister organization, the National Confederation, it has thus far accomplished but little of a practical nature.

The American Medical Association also has a committee on national legislation, and the subject of reciprocity and uniform medical legislation has received its attention, but without result. This committee is composed of three members, appointed by the president, and an auxiliary committee, composed of one member from each State and Territorial society, represented in the Association, appointed annually by the president, and one member from the Army, Navy, and Marine Hospital Service. I note in connection with such committee that its membership is composed of eminently-qualified physicians, but very few of them have ever had any connection with the work of medical legislation or of medical boards, and, therefore, are not qualified, and could hardly be considered especially competent for such a committee.

It is almost impossible to take up a medical journal published in this country during the past year or so and not find leading articles and communications discussing and approving of the principle involved in medical reciprocity between the several States and Territories.

While an almost unanimous opinion seems to exist relative to the principle involved in reciprocity, there is a great divergence of ideas regarding the practicability of reciprocity and the method by which it can be safely brought about.

Dr. W. L. Rodman of Philadelphia attempted to solve the problem by suggesting the formation of a voluntary national examining board, and this suggestion was supported by the *Journal of the American Medical Association*, and had a great many enthusiastic supporters throughout the country. The committee of the Confederation of State Boards, however, reported against this plan, as follows:

"Against Voluntary National Examining Board.

"On motion of Dr. MacCormack, Dr. A. Walter Suiter, Secretary of the National Confederation of Medical Examining and Licensing Boards, was given the privilege of the floor.

"He said that at a meeting of the confederation, held Monday afternoon, the subject of a Voluntary Board of National Examiners was discussed and subsequently referred to a committee. This committee reported as follows:

"Your committee to whom was referred the proposition originally made and discussed in the medical press by Dr. W. L. Rodman of Philadelphia, for the establishment of a voluntary board of national examiners, with instruction to consider the same, and report thereon to this confederation as to its feasibility, begs leave to report as follows:

"In the opinion of your committee, this confederation cannot endorse nor approve such a proposition for the following reasons, namely:

"1. A voluntary national examining board would have no power, no authority, or legal right to exist.

"2. No guarantee could be given of the continuance or permanency of such voluntary board, even were the laws of the several States so modified as to meet its requirements.

"3. Being a voluntary board, there could be no legal manner of constituting, changing, or limiting its membership, or defining its duties.

"4. Such a board would be representative of the profession only and of the regular profession alone.

"5. Without the endorsement of a State board authorized by law to grant a license to practice, a certificate of qualification from the proposed voluntary board could have no legal value whatever and under the existing laws of the several States, the State examining boards are required to conduct the examinations, and such boards cannot evade, nor surrender, such duty, even if they desired to do so.

"6. To attempt the stupendous task of securing the passage of amendments to the existing laws regulating the practice of medicine in the several States would entail enormous labor and expense, and would probably endanger the laws themselves."

This report was received by the American Medical Association at its Saratoga meeting.

The question then of the method by which the reciprocal exchange of State licenses and the uniformity of standards can be accomplished in the several States is still seemingly as unsettled as it was at the beginning of its agitation. To my mind, however, the question seems a simple one, and the difficulties and hindrances which have heretofore been raised toward its accomplishment, and which have prevented any practical work from being done I believe are more imaginary than real.

Without fear of successful contradiction, I contend that if reciprocity is to become a fact as well as a theory it must be brought about by the influence, action, and coöperation of the several State medical boards, not through individual members of boards or by other members of the profession, who may have the necessary knowledge and enthusiasm, but who actually have no authority or means to do anything practical in the matter.

While the National Confederation of Members of State Examining and Licensing Boards have undoubtedly done good work in the way of education, still it does not represent the authority necessary to accomplish practical things, and its members, who are also members of State boards, could have done more real good by advocating and working for reciprocity within their several State boards than as members of an association which represents no authority. This they have not done to any very appreciable degree.

Dr. Rodman's suggested voluntary national board was the most impracticable scheme yet offered the profession, and should have received no consideration whatever. It has simply clouded the reciprocal atmosphere. As well might be advocated the appointment of a bishop previous to the existence and organization of the parishes, or of the general and colonel before the organization and discipline of the regiments and companies. All the combined efforts at reciprocity so far have been of the "cart-before-the-horse" and of the "tail-wagging-the-dog" variety.

As State boards represent the authority *to do things*, and as its members in nine cases out of ten are responsible for and the authors of the medical acts, or represent those who are so responsible, it seems to me that only through the boards can effective action be had in the matter of reciprocity and uniformity and elevation of the standard of medical requirements for a license to practise medicine in the several States and Territories. This special work should be undertaken by an association or confederation of boards, not by a confederation of board members.

It is, of course, not expected that immediate results will be had in a question of such magnitude as reciprocity and a uniform standard. The idea is to make a correct start, and to grow gradually but surely, and to feel your way as you go. If this is not done, the questions and principles involved will be discredited, and failure will result. It is a question not only of action, but of education and experience as well.

In October, 1901, the Michigan Board passed the following resolution:

"*Resolved*, That the secretary of this board be requested to open communication with the secretaries of the boards of neighboring States, with a view to the adoption, in the near future, of some practical system of reciprocity."

Considering the subject thoroughly before taking any action, and obtaining all the information possible relative to reciprocity, I selected the States of Wisconsin, Indiana, Illinois, and Ohio as objective points to work on, and for the reason that all of the above States had provisions in their medical acts for reciprocity, and were, geographically, in a group known as the Central Western States.

Correspondence elicited the information that all of the above-named States, with the exception of Ohio, were willing to enter into reciprocal relations, of one form or another, with Michigan and with each other. I then suggested a meeting of the executive officers of the several boards interested, which was agreed to, with the result that two meetings were held in Chicago in January and May last, resulting in the formation of the American Confederation of Reciprocating Examining and Licensing Medical Boards.

The following quotations from its constitution are self-explanatory:

"The object of this confederation shall be to establish reciprocal relations between the medical examining and licensing boards of the States, Territories, districts, and provinces of the United States; the purpose of which being that thoroughly worthy and well-qualified physicians and surgeons, who have been legally authorized to practice under the laws of one of said States, Territories, districts, or provinces, may be given authority and be admitted to practice in any State, Territory, district or province represented in this confederation, without a repetition of the tests of qualification to which such practitioner has submitted."

"Any examining or licensing board of any State, Territory, district, or province of the United States, having a medical practice law requiring an examination before said board and requiring thorough professional qualifications as the basis of legal authority to practice in said State, Territory, district, or province, and providing for interstate reciprocity, shall be eligible for membership in this confederation, and may obtain membership by the signature of its authorized representative to this constitution, and maintain such membership by compliance with the requirements of the constitution and by-laws of the confederation.

"It shall be the duty of each examining or licensing board having membership in this confederation to draft and spread on record in its home office a resolution embodying the basis of reciprocal recognition of applicants from other reciprocating States."

The confederation also adopted the two following qualifications as a basis upon which to exchange State licenses with those States in present membership; namely, Indiana, Wisconsin, Illinois, and Michigan:

Qualification No. 1.—That a license or certificate of qualification of at least one year's date, based upon presentation of a satisfactory diploma, and an examination before a State board in specified branches of medicine and surgery, may be accepted at the discretion of a board in lieu of an examination, and as a basis upon which the license of a State may be issued.

Qualification No. 2.—That a license or certificate of qualification, issued by a State board of registration or medical examiners of at least one year's date, based upon presentation of a satisfactory diploma, and upon the recommendation of a State board of registration or medical examiners as to the reputability of the applicant, may be accepted at the discretion of a board in lieu of an examination and as a basis upon which the license of a State may be issued.

It will be noted that simply a policy was adopted relative to reciprocity, leaving it for the individual boards in membership to adopt a standard of preliminary and medical qualifications. This standard must be adjusted by the boards entering into reciprocal relations, but, as far as the standard is concerned, the trend will necessarily be upward.

The dividing line or date between Qualification No. 1 and Qualification No. 2 will have to be set by individual reciprocating boards. No. 1 including only those applicants for the exchange of certificates who have obtained their certificates through a State board examination, and No. 2 including those reputable practitioners who have re-registered under a re-registration clause, or who have obtained their certificates upon the basis of graduation from a recognized or listed college, or who have obtained such licenses previous to the adoption of the dividing line or date between Qualification No. 1 and Qualification No. 2.

Under the law a person who had graduated from a reputable medical college under a two-year course some years ago has the same standing in law that a medical man has who has graduated from the same college under a four-year course at a later date.

Reciprocity would be a failure if it did not take care of those physicians who have been in practice several years, but who graduated from reputable medical colleges previous to the advance of such colleges to a higher standard. If this principle was not acquiesced in, then men of the very highest standing and experience could not be included in any reciprocal exchange of State certificates, and only very recent graduates could obtain the benefits of reciprocity.

If, for example, it is proper for Michigan to receive and register without examination a recent graduate who has passed his examination before the Illinois Board, it also seems proper to recognize the teachers and examiners of such Illinois licentiate without examination. Under the Medical Act of Illinois this cannot be done at present, as it allows only for registration after an examination by a State board. Therefore, Michigan will only be able to reciprocate with Illinois under Qualification No. 1.

Therefore, it behooves the profession of Illinois and of other States having like acts to amend their medical laws, which prevent fully 75 per cent. of their reputable practitioners from receiving their just rights.

Any reciprocal legislation which provides for the present and future practitioner, and ignores the older and experienced practitioner, simply for the reason that the latter has not obtained his certificate of registration through a State board examination, is not only incompetent and unjust, but is also unconstitutional legislation.

One of the great hindrances of reciprocal medical legislation, and of the bringing into effect of the proper exchange of licenses by those States having competent reciprocity clauses in their medical acts, is the almost universal idea held by the profession at large that reciprocity under Qualification No. 2 necessarily means the letting down of the legislative bars, and the unrestricted migration from one State to another of the undesirable and incompetent practitioner, who has obtained registration in the different States through a re-registration clause of the medical acts.

This is not the case, however, for it will be seen that under Qualification No. 2 only graduates of reputable colleges are included, and it leaves it entirely at the discretion of a board as to whether it shall accept an application or not, even though the applicant may be a graduate of a reputable college.

It has been held by some in the past that it would be unconstitutional in law for a State to accord privileges to one registered physician in a State, and deny them to another registered physician in the same State, but there are numbers of decisions of the Supreme Courts in almost every State upholding the principle that when a qualification is exacted the element of prohibition is eliminated if it is possible to obtain the qualification demanded, and such legislation cannot be held as prohibitive legislation.

Therefore, a State has a right to accept with a qualification a physician registered in a State and to reject another registered physician without a similar qualification, although in possession of a similar State license in the same State. This legal question has been a more or less important factor in the past against reciprocity.

Under Qualification No. 1 the raising of the standard of medical education and its uniformity is assured. The boards entering into reciprocity will not, as has been done by the American College Association, set a course in years, as a "four-year course of six months in each year," which may mean little or no actual work accomplished; but will set the course in hours, itemizing each subject and laboratory course. In other words, in the recognition of standards the *fact* will be required as well as the *form*, and every applicant, for the exchange of certificate under this qualification, must sign, and attest to same under oath on an application blank, in which every item of study, including the laboratory work and demonstrations, is itemized, and which represents the standard adopted by the boards in reciprocity.

As this method will promote and assure uniformity and a higher standard in the exchange of certificates under Qualification No. 1 applicable to graduates of medical colleges subsequent to July 1, 1902, it will also promote uniformity and a higher standard in medical colleges, from the fact that graduates, who do not in their course at college take the standard of preliminary and medical education set by the boards holding membership in the American confederation, can obtain none of the benefits of reciprocity. A medical college in the future must do business to be successful upon the quality of its diploma, and its value as a qualification for State license.

For example, a graduate of a Michigan College could possibly go before the Wisconsin Board for examination, and if successful receive the Wisconsin license, but if he did not in his course at the Michigan college obtain a certain standard, he could not, in consequence of having the Wisconsin license obtained by examination, exchange it with a State in reciprocity with Wisconsin unless the Michigan college came up to a certain standard as agreed upon by the two States in reciprocity.

It seems to me necessary, if only from a business point of view, for a college to adopt in its curriculum the requirements of those States having the highest standard, otherwise its students or graduates would be at a disadvantage after graduation, and would not be able to take advantage of the reciprocity regulations in some of the better States.

Those States and colleges adopting the most stringent standard will be able to give more to their licentiates and graduates, and it certainly would be an object for both States and colleges to furnish their licentiates and graduates with the highest quality of a license or diploma.

Every college and State board in the United States will be furnished with the minimum standard of medical and preliminary education adopted by reciprocating boards, and, as I stated previously, it is simply a business proposition for a college to meet the requirements of this standard.

A fact that must not be lost sight of is the overwhelming evidence that the great mass of the profession is determined to elevate the standard, and unless the plan of reciprocity conforms with this idea of a higher standard reciprocity can never be and should not be accomplished.

Three or four State boards uniting means the raising of the standard of every college affected by this union, and if this union means, as it should, only the complete recognition of colleges of the highest standard, then cheap and inferior schools must go by the board. Union with other boards makes it possible for a State board to throw out its inferior schools, for they would not be recognized by the other States in union, and it would then be comparatively easy for a State board in a State in which they are located not to recognize them in consequence.

Another fact that must be remembered is that reciprocal exchange of certificates between States should only be made upon equal terms, and that no State should give or take a certificate except upon the basis of an equal qualification. Therefore, for a time at any rate, complete reciprocity between States will not be possible, but a modified reciprocity will surely, in due course of time, bring about complete reciprocity.

Michigan will have established within a very short time reciprocal relations under Qualifications Nos. 1 and 2, above quoted, with Indiana and Wisconsin, and will undoubtedly reciprocate with

Illinois and several other States under Qualification No 1.

Of course the beginning is not large. In place of starting the culture with a score or more of germs, some healthy, others unhealthy, and still others of an uncertain class or mixed culture, it was thought best to begin the culture of reciprocity by implanting three or four germs of a certain class, knowing that under proper attention and circumstances, the smaller and healthy, but pure culture, would certainly develop in time, and avoiding the risk usually incident to the growth of a larger and mixed culture.

Already I am in receipt daily of inquiries from other States asking for information relative to the American Confederation and its work, and I can safely and surely predict the rapid growth of medical reciprocity and uniformity of qualifications under the auspices of the American Confederation of Reciprocating Examining and Licensing Medical Boards.

To illustrate the *modus operandi* of the confederation's plans in the reciprocal exchange of licensures and in the promotion of a higher and more uniform standard, I append the Michigan Board's resolutions relative to the same passed at its June meeting, and also the blank forms of application adopted under Qualifications No. 1 and 2 quoted before.

The following is the reciprocity clause in the Michigan Medical Act, Sec. 3, Sub-div. 4, "The applicant shall be registered and given a certificate of registration if he shall present a certified copy of certificate of registration or license which has been issued to said applicant in another State of the Union where the requirements for registration shall be deemed by said board to be equivalent to those of this act; provided such State shall accord a like privilege to holders of certificates from this board. The fee for registration from applicants of this class shall be ten dollars."

RECIPROCITY RESOLUTIONS PASSED AT A MEETING OF THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE, HELD IN LANSING, JUNE 11, 1902.

Resolved, That this board approves and endorses the action of its members and representatives, Dr. William Bell, President; Dr J. H Cowell, Chairman of the Registration Committee; and Dr. B. D. Harison, Secretary, at the meeting of the American Confederation of Reciprocating Medical Examining and Licensing Boards, held in Chicago, May 20, 1902, in subscribing to the Constitution of the Confederation in and on behalf of the Michigan Board, and in accordance therewith adopts the following qualifications hereinafter designated Qualification No. 1 and Qualification No. 2, as the basis for the reciprocal exchange of certificates under and in harmony with Section 3, Subdivision 4, Act No. 237, Michigan Laws 1899, to wit:

Qualification No 1.—That a license or certificate of registration of at least one year's date, based upon presentation of a satisfactory medical diploma of graduation, and an examination, before a State medical examining board in Specified Branches of Medicine and Surgery, shall be accepted at the discretion of this board in lieu of an examination under Section 3, Subdivision 3, Act No. 237, Michigan Laws 1899, and as a basis upon which a certificate of registration may be issued by the Secretary, with the endorsement of the President and Chairman of the Registration Committee of this board.

Qualification No. 2.—That a license or certificate of qualification issued by a State Board of Registration or Medical Examiners of at least one year's date, based upon presentation of a satisfactory medical diploma, and upon the recommendation of a State Board of Registration or Medical Examiners as to the reputability of the applicant, shall be accepted at the discretion of this board, in lieu of an examination under Sec. 3, Subdiv. 3, Act 237, Mich. Laws 1890, and as a basis upon which a certificate of registration may be issued by the Secretary, with the endorsement of the President and Chairman of the Registration Committee of this board.

Resolved, That the provisions of qualification No. 1, as above carried, shall apply only to those applicants for a Michigan certificate of registration who have obtained their medical diplomas of graduation and State licenses subsequent to July 1st, A. D. 1902, and that the provisions of Qualification No. 2, as above carried, shall apply only to those applicants who have obtained their medical diplomas and State licenses previous to July 1st, A. D. 1902.

Resolved, That under Qualification No. 1 a satisfactory medical diploma shall be of the following minimum standard, viz.:

Minimum Standard of Preliminary Education.

Required under Reciprocity Qualification No. 1.

A certificate of graduation from an approved and reputable high school, academy, college, or university, with the following minimum requirements:

Group I.–English Language.—(a) English Grammar; (b) Rhetoric and Composition.

Group II.–History.—(a) History of the United States, as presented in McLaughlin's History of the American Nation, Johnston's History of the United States, or equivalent text. (b) General History, as presented in Myer's General History, or equivalent text. Greek and Roman History or English History will be accepted as a substitute for General History.

Group III.–Mathematics.—(a) Algebra—Fundamental rules, Fractions, Simple Equations, Involution and Evolution, the Calculus of Radicals and Quadratic Equations, as given in Onley's Complete School Algebra, or Beman and Smith's Elements of Algebra, or some equivalent text. (b) Geometry—Plane Geometry as given in Beman and Smith's Plane and Solid Geometry, or equivalent text. (c) Plane Trigonometry, as given in Wentworth's Trigonometry, or equivalent text.

Group IV.–Natural Sciences.—(a) Physics, as presented in Carhart and Chute's Elements of Physics, or an equivalent text. (b) General Biology, or Botany and Zoology, as presented in Sedwick and Wilson's General Biology, or Spaulding's Introduction to Botany and Kingsley's Comparative Zoology. These courses will be accepted only when accompanied by laboratory work. (c) Chemistry, as presented in Freer's Elementary Chemistry, or an equivalent amount of work in Remsen's Introduction to the Study of Chemistry.

Group V.–Modern Languages.—(a) German or French—The applicant must be able to read French or German. This requires, for one not born to one of these languages, two years of school work.

Group VI.–Latin.—(a) Grammar; (b) Prose Composition; (c) Reading—Four books of Cæsar's Gallic War.

Minimum Standard of Medical Education.

Required under Reciprocity Qualification No. 1

Lectures and Teaching.—30 hours in Electro-Therapeutics; 160 hours in Physiology; 100 hours in Pathology; 80 hours in Histology; 200 hours in Practice of Medicine; 100 hours in Obstetrics; 60 hours in Bacteriology; 15 hours in Medical Jurisprudence; 160 hours in Anatomy; 160 hours in Chemistry and Toxicology; 130 hours in Therapeutics; 30 hours in Hygiene; 200 hours in Surgery; 30 hours in Gynecology; 48 hours in Diseases of the Eye and Ear; 100 hours in Pharmacology.

Laboratory Work and Demonstrations.—240 hours in Anatomy; 120 hours in Pathology; 100 hours in Histology; 120 hours in Bacteriology; 36 hours in Obstetrics; 60 hours in Eye and Ear; 180 hours in Physiology; 180 hours in Chemistry and Toxicology; 200 hours in Surgery; 120 hours in Practice; 32 hours in Dermatology; 120 hours in Gynecology.

The medical course to cover a four years' course of not less than six months in each year, no two courses to be taken in one year and the beginning of the fourth or final six months of such course shall be dated from October preceding the year of the final examinations for the degree of M.D.

Resolved: That under Qualification No. 1 adopted as above, the Specified Branches of Medicine and Surgery in a board's examination shall be as follows: Anatomy, Pathology, Chemistry, Physiology, Therapeutics, Toxicology, Histology, Hygiene, Public Health Laws, Practice of Medicine, Surgery, Obstetrics, Gynecology, Diseases of the Eye and Ear, Bacteriology, and Medical Jurisprudence.

Resolved: That the following colleges fulfil the requirements under Qualification No. 2, adopted as above: (a) Those colleges listed as Reputable Medical Colleges in the United States, March 1, 1902, in the Official List of Legally Qualified Physicians, State of Illinois, March, 1902, from page xxv to page xxxl, inclusive. (b) Those colleges listed in the appendix of the 20th Annual Report of the Illinois State Board of Health from page clxxvi to page cxciii, inclusive, as reputable and legally authorized (c) Those extinct colleges in the United States and Canada which are held reputable by this board

Resolved That the following blank form of application for endorsement of State license under Qualification No 1 be adopted See form, viz: Reciprocity Qualification No 1

Resolved, That the following blank form of application for endorsement of State license under Qualification No. 2 be adopted See form, viz.: Reciprocity Qualification No. 2.

FORM NO. 1.

APPLICATION FOR ENDORSEMENT BY THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Of Certificate of Registration or License to practise Medicine and Surgery in the State of ..... issued by the ..... Mo. ..... day ..... year. ..... .

I hereby apply for certificate of registration to practice Medicine and Surgery in the State of Michigan, and submit the following proofs, as required by Michigan Act. 237, Laws 1899.

1 Name .....
(write name in full, including middle name)
P O Address ..... Date .....
2 Place and date of birth ..... Age.....
3 Present residence ..... 4. Intended residence. .....
5 **Preliminary Education.**

Name and location of Institution attended	Have you fulfilled the minimum requirements of Preliminary Education as recorded on page 4 of this application? Ans..... (yes or no)

Academic degree of ..... received from ..... 19....

6. **Medical Education.**

Name and Location of Institution attended	Have you fulfilled the minimum requirements of Medical Education as recorded on page 4 of this application? Ans..... (yes or no)

Degree of Doctor of Medicine received from .....
at 19
..... M D., Applicant.

7 **Certificate of Medical Examination.**

It is hereby certified that ..... holding ..... as evidence of Preliminary Education, on the ..... day of ..... 1 ....., received from ..... a diploma conferring upon him the degree of doctor of medicine and that he previously studied medicine at least ..... full years, including ..... regular courses of lectures in different years, as follows:

Month	Year	Month.	Year	Name of Institution
	1	to	1	
	1	to....	1	
	1	to	1	
	1	to	1	
	1	to	1	
	1	to	1	

and that he has fulfilled the maximum requirements of Preliminary and Medical Education as recorded on page 4 of this application.

Dated at ..... 19 .....
Signature of Pres., Dean or Sec'y

.....
Name of College.

(SEAL)
The seal of the Institution must be affixed

No. 8. Certified Copy of State License or Certificate.

(A verbatim copy to follow here over seal of State License Board, certified by the Secretary thereof.)

9. **Certificate of Secretary:**

I ..... of .....
Secretary of ..... certify that the original of the preceding certified copy of State License or Certificate No. ..... was issued to Dr ..... of ..... in ..... 19.... upon obtaining at least a general average of 75 per cent after an examination by this board in the following branches Anatomy Physiology Therapeutics, Toxicology, Histology, Hygiene Public Health Laws, Practice of Medicine Surgery Obstetrics, Gynecology, Diseases of the Eye and Ear Bacteriology and Medical Jurisprudence

..... M D.
(SEAL) Secretary.
Affix seal.

10. **Affidavit of Applicant:**

STATE OF ..... } ss
County of ..... } ..... of .....

being duly sworn, says that ..... is the person referred to in the above application for license to practise Medicine and Surgery in the State of Michigan, that he has studied medicine four years, including four courses of lectures of not less than six months in each year, in different years, and the beginning of the fourth or final six months of such course dated from October preceding the year of the final examinations for the degree of M D., and that all the statements herein contained respecting age, residence, academic and medical education and State Examination and license are each and all strictly true in every respect.

Sworn to before me this
day of 19

..... M.D.
Applicant.

.....
Notary Public
(SEAL)
Affix seal.

Certificate of ethical and moral character from President or Secretary of County, District or State Medical Society.

..... 19
P O. address. Date.

I certify that Dr..... of ..... is a member of good standing of the ..... and
Name of and location of society.
that he is an ethical practitioner and is of good moral character.

..... M. D.
President or Secretary.
(SEAL)
Affix seal

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE
Approved..... 19 ..... M D.
Secretary.

Title: On page 4 of this application blank is the printed standard of Preliminary and Medical Education as previously quoted in Reciprocity Resolutions, page of this article.

FORM NO. 2.

APPLICATION FOR ENDORSEMENT BY THE MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Of Certificate of Registration or License to practise Medicine and Surgery in the State of. ..... issued by the ..... Mo..... day..... year.. ..

I hereby apply for certificate of registration to practise Medicine and Surgery in the State of Michigan, and submit the following proofs of medical qualification and license issued by the. .....
prior to ..... 19..

1. Name .....
Write name in full, including middle name.
P. O. Address... Date
2. Place and date of birth ..... Age
3. Present residence ..... 4 Intended residence .....
5. **Preliminary Education.**

(Name and location of Institution attended, with concise statement of period of study, and diploma or certificate received, and date of same)

.....

Academic degree of ..... received from ..... 19 .

6 **Medical Education.**

(Name and location of Institution attended with concise statement of period of study, number of courses of lectures, with date of beginning and ending of each)

.....

Degree of ..... received from .....
at ..... date 19

7 **Certificate of Medical Education.**

It is hereby certified that ..... of ..... matriculated in ..... at ..... 19.... attended ..... courses of lectures, and received a diploma from this Institution conferring the degree of Doctor of Medicine...................19.... M.D.

....

Pres., Secretary or Dean.

(SEAL)

The seal of the institution must be affixed.

No. 8. Certified Copy of State License or Certificate:

A verbatim copy to follow here over seal of State License Board, certified by the Secretary thereof.

9. **Certificate of Secretary.**

I.............................of.................... Secretary of................................certify that the original of the preceding certified copy of State license or certificate, No......................was issued to Dr. ....of.............................. on ....19........ upon the following qualifications ....

Registration, approved college or examination.

....

State College and date of graduation.

....

.... M.D.

Secretary.

(SEAL)

Affix seal.

10. **Recommendation.**

Acting in behalf of the..........................I do hereby

Name of State Board.

certify to the reputability of Dr......................of............ and recommend him to.................... as a fit and proper

Name of Board.

person to receive An Endorsement for State License by the ....

Name of State Board.

.... M.D

Secretary.

11. **Affidavit of Applicant:**

STATE OF .... }
County of .... } ss.

.of......................

being duly sworn, says that he is the person referred to in the above application for license to practise Medicine and Surgery in the State of ...., that .... he has studied medicine ... years, including........courses of lectures in different years prior to receiving the degree of .... of Medicine, and that all the statements herein contained respecting age, residence, academic and medical education, and State Examination and license are each and all strictly true in every respect.

Sworn to before me this ....
day of ....19.......

.... M.D.

Applicant.

....

Notary Public.

(SEAL)

Affix seal.

12. **Certificate of ethical and moral character from President or Secretary of County, District or State Medical Society.**

....19.......

P O address. Date

I certify that Dr.......................of..................... is a member of good standing of the ....and

Name of and location of society.

that he is an ethical practitioner and is of good moral character.

.... M.D.

President or Secretary.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

Approved.......... ....19 .... M.D.

Secretary.

A Contribution to the Biology of the Meningococcus.—P Sorgente, from the results of his studies, holds that the diplococcus, isolated and cultivated from the nasal cavities and the ears, was the agent of infection in the cerebrospinal meningitis of a child The nasal and auditory canals are the most frequent channels of infection in this disease. The diplococcus, isolated from the nose and kept for three months in cephalo-rachidian fluid, acquired characteristics very similar to those of the meningococcus isolated from the liquid of the cerebral ventricles, whence the author concludes that the properties described as peculiar to the meningococcus of Weichselbaum are, probably, due to the influence of the cephalorachidian fluid.—*Il Policlinico*

EPIDEMIC POLIOMYELITIS, WITH A REPORT OF TEN CASES.*

By D. H. MacKENZIE, M.D.,
MABBETTSVILLE, N. Y.

I ASK attention in this paper to the consideration of an acute form of disease, seemingly infectious and of bacterial origin, presenting in its initial stages the clinical features of an acute germ invasion, quickly followed by atrophic paralysis of associated muscle groups, in one or more extremities. Instances of its seeming epidemic, or rather endemic occurrence have been reported, the most noted examples in North America being an irruption of poliomyelitis reported by J. J. Putnam, which occurred in and near Boston in 1894, and the outbreak in Vermont during the same year, reported by Dr. Dana of New York. The last mentioned is said to be the most remarkable instance of epidemic poliomyelitis on record. The cases, some 160 in number, appeared from June to September, in the towns and country lying in the valley of Otto Creek. Most of the cases occurred in children, although several adults were attacked, and one man, aged seventy, had a typical case. Domestic animals, such as fowls, horses, and dogs, also suffered from the malady.

A somewhat similar outbreak occurred in Dutchess County, N. Y., during the summer and autumn of 1899. There were in this instance some thirty cases, confined to an area of country ten miles in diameter, lying to the east of the city of Poughkeepsie. In this epidemic adults were attacked as well as children, and all of the fatal cases were those of adults, or at least those over twelve years of age. The ten cases which came under my care I will describe in the order of their occurrence.

CASE I.—Young man, aged twenty-three years, healthy and well nourished; without discoverable cause, was taken ill whilst engaged in lumbering. He came home on Friday night complaining of pain in the back and legs. This condition continued on Saturday. Sunday he had retention of urine, when I saw him for the first time. At that time his back and legs were less painful, and gave the sensation of being asleep. He had a temperature of 103°, was restless with a furred tongue, and some gastric disturbance. He was unable to move the right leg, the left he could flex slightly toward the body. Tuesday the paralysis extended to the arms. After this, phonation, deglutition, and respiration became affected, and he died on Saturday, nine days after he came home.

CASE II.—Colored girl, aged fifteen years; previously well and strong; was taken with fever and pain in the neck and right arm. In five days the fever subsided and the right arm was found to be paralyzed, also the right leg partially so. She was able to sit up in about two weeks, but was not able to walk or move her right arm for three months. From that time the legs began to grow stronger, the right being slightly atrophied. At the present time there is no atrophy of the muscles of the leg, and she can walk as well as usual. She has not fully recovered the use of the right arm. The muscles around the shoulder and upper part of the arm are atrophied, and the right biceps is only about two-thirds the size of left. In other respects she is perfectly well.

CASE III.—Young man, aged twenty-one years, college student of previous good health; without any apparent cause was taken with fever, but no pain or tenderness in any part of the spine. However, he was restless, and kept moving his arms and legs about uneasily. Next day he had confusion of ideas. Part of the time he thought he was back in college. He had also photophobia and slight strabismus. The fever subsided in ten days. Convalescence was slow, it being about four weeks before he could sit up. When he tried to walk, the toe of right foot would drop. Three months afterward I found that the muscles of the left side of the face were shrunken, and at that time the right leg was one inch smaller than the left. At the present time there is scarcely any difference in size, and there is no toe-drop. The muscles of the face are very much improved. The man's mind is strong and vigorous as before, and he appears to be fully recovered.

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*Read before the Dutchess County Medical Society July 9, 1902.

Case IV. The day I was first called to see the case I have just described, I also prescribed for a younger brother, twelve years old, who had a slight fever, and appeared to be developing some form of malaria. The next day he complained of pain and stiffness in neck and back, and began to have weakness in the legs, both legs being equally affected. The day following paralysis was more pronounced and was extending upward, the arms showing a gradual weakness. On the two succeeding days there was a gradual extension of the paralysis, which finally affected the muscles of respiration. His general appearance at any time would not indicate that his condition was serious, and he was able to converse intelligently up to the time of his death. After the second day he complained of no pain and seemed unconcerned, though apparently conscious of the approaching end. Death was due to paralysis of the muscles of inspiration. The condition might be illustrated and not overdrawn by comparing it to a man caught in a quicksand, where hour after hour he sinks deeper and deeper in the slough, until finally he disappears altogether.

Case V.—Colored girl, aged fifteen years, was taken with fever, pain, and stiffness in the neck, and pain in the left arm. The fever rose to 103°, but dropped to 100° in forty-eight hours. There was slight fever for three days longer, during which time the pain and stiffness disappeared, and there remained a partial paralysis of the left arm and leg. Six months afterward there was some atrophy of the leg, also toe-drop. At the present time she walks as well as ever, and there is no atrophy in arm or leg.

Case VI.—Boy, six years old, was taken on Friday evening with fever, pain in neck, arms, and legs. I did not see him until Monday. The temperature was then 99°, there was pain in the neck, but none in arms or legs, and there was loss of muscular strength on the left side. In two weeks he could walk as well as usual, and has been well ever since.

Case VII.—Girl, seven years old, was taken with acute symptoms similar to the others. Next day there was inequality of the pupils, and she was very uneasy. She recovered with loss of muscular strength on the right side. Three months afterward she was improved, but would trip easily when walking. Her parents left the town soon afterward, and I have not heard from her since.

Case VIII.—Child, two years old, had been ill for three days when I saw her. The mother said that she did not notice anything about the child, except that she had been feverish for a few days, and on the morning that I saw her she discovered that the arm and leg of the left side were paralyzed. At the present time there is partial loss of motion and decided atrophy of the leg.

Case IX.—Girl, eight years old, began with symptoms similar to the others. She recovered with weakness in the right leg, which continued for about ten days, then began to improve, and she was apparently well in four weeks.

Case X.—Young man, thirty-five years old, of healthy appearance and strictly temperate habits, was taken on Sunday morning. I saw him in the afternoon. He had been around all day, but said that he felt uneasy, and had an aching sensation in his back. Temperature 102°, pulse 95. Next morning his condition was about the same as the day before and he remained in bed During the day he had retention of urine, which was relieved. About ten o'clock in the evening he said he felt better and slept for a short time; when he awoke he breathed with difficulty, and also complained of weakness in his legs. At midnight his condition was quite serious, respiration 56, pulse 120, but regular. There was no respiratory motion whatever in the chest, and only a faint respiratory sound could be heard. There did not appear to be any obstruction in the breathing, only a mechanical inability to expand the chest. The muscles of inspiration grew steadily weaker, and the man died at four o'clock Tuesday morning, being about six hours after the muscles of respiration became affected. He was able to talk intelligently up to the time of his death.

These cases occurred in the town of Washington. There were also five other cases in the town. To describe them would only be a repetition of the preceding reports. Three proved fatal, and in each case the paralysis began in the lower extremities, and extended upward until the muscles of respiration became affected. The other two recovered, one with muscular weakness in the right side, but was entirely recovered in six months, the other with flaccid paralysis of the left leg, which at the present time is atrophied and partially paralyzed. There were also two cases in the town of Amenia, with one death. This makes seventeen cases in the towns of Washington and Amenia, with seven deaths, or a mortality of over 41 per cent.

Of these seventeen cases only two presented the classical symptoms of poliomyelitis. One case in Amenia was, undoubtedly, cerebrospinal meningitis, having the convulsions, coma, and other symptoms peculiar to that disease, and was diagnosed as such by the attending physician. Now the question arises: What was the disease in the other fourteen cases? Dr. Bondurant of Mobile, Ala., who has written several articles on this and kindred subjects, in his comment on the Vermont outbreak of 1894, says: "The clinical histories of the majority of the cases were typical of poliomyelitis, but some of them presented the features of peripheral neuritis, while many of the fatal cases exhibited the convulsions, coma, and other symptoms of cerebrospinal meningitis. We have then presented to us the interesting fact that during the same epidemic, and presumably from the same cause, there occurred cases of poliomyelitis, neuritis, and cerebrospinal meningitis, a circumstance lending color to the contention of Auerbach, that these several forms of nervous disease may result from the same microbic infection. It is also noteworthy that during this epidemic mild cases of poliomyelitis terminated in complete recovery, although a study of the reported cases of recovery convinces me that some of them were instances of multiple neuritis rather than of poliomyelitis."

Two of the fatal cases which I have mentioned were diagnosed as Landry's paralysis, and this diagnosis was afterward sanctioned by some of the local physicians. Dr. W. B. Pritchard of New York, in an article in Sajou's Encyclopedia, makes the statement that "Landry's paralysis is quite probably a special form of multiple neuritis." Zusch of Groesbreitenbach also evolves the following conclusions: "Landry's paralysis must no doubt be considered an acute intoxication paralysis. Concerning the cause we have so far no fixed indications; however, it does not seem to be a single factor. In the majority of cases the initial point of the lesion appears to be in the peripheral nervous system."

Now, from the fact that most of the cases were those of adults, from the pain, tenderness, and parasthæsia of the early symptoms, and the fact that the paralysis extended from below upward, and also that all the cases which did not prove fatal in the acute stage, except two, fully recovered, we may conclude that a large percentage of the cases was probably of multiple neuritis.

It would also seem that during this epidemic there occurred cases of poliomyelitis, cerebrospinal meningitis, and multiple neuritis, and if the contention of Auerbach be correct, we may infer that they all arose from the same cause, and from the same microbic infection.

Since writing the above, I have read with great interest the article of Dr. W. B. Pritchard in the Medical Record of July 26, 1902, entitled "A Classical Example of Landry's Paralysis," particularly because it describes very minutely and exactly at least two of the fatal cases in the epidemic of 1899.

DISCUSSION OF THE REPORT ON YELLOW FEVER ON THE U. S. SHIP "PLYMOUTH" IN 1878 AND 1879.

By W. C. GORGAS, M.D.,
MAJOR, MEDICAL CORPS, U. S. ARMY.

This instance of yellow fever, recurring on a ship some months after the disappearance of the disease, and after the ship had been exposed to the cold of a Boston winter, and carefully disinfected, is more frequently referred to than any other example in the history of yellow fever, as one in which the disease could not have been perpetuated and transmitted by the mosquito. I go into the discussion in reply to quite a number of inquiries on the subject, but more particularly in reply to a letter from Dr. Stanford E. Chaillé of New Orleans, La. I know of no higher authority on the subject of yellow fever than Dr. Chaillé, and any objections urged by him against the theory that "The stegomyia mosquito is the only means of transmitting yellow fever from man to man" should receive due consideration and careful thought from its advocates. Dr. Chaillé writes as follows:

> "But I write to you largely because I am by no means satisfied that this is the sole means of propagation. This mosquito theory fails to explain the facts recorded in the case of the U. S. S. *Plymouth*, in 1878–'9, and in some other outbreaks at sea recorded by La Roche, etc.
>
> "The Surgeon-General, U. S. N., issued, in 1880, a 'Report of Yellow Fever in the U. S. S. *Plymouth* in 1878–'9.' If you have not that report I hope you will get it, and then if you can explain the facts consistently with the sole propagation of yellow fever by mosquitos, I am sure you would effect a good work by publishing your explanation."

The whole question of yellow fever and malaria, and the relation of the two diseases, comes up with renewed interest at this time, in connection with the Panama Canal. The one great difficulty heretofore in the work on the Isthmus of Panama, both in the Panama railroad, which was finished in 1855, and in the De Lesseps canal, which was worked on between the years 1880—'90, has been the health of those employed in this work. The deaths in both undertakings were very numerous, and caused what at that time appeared to be insurmountable difficulties. Work on the railroad had to be stopped time and time again from the fact of the laborers all dying off, and in the canal this difficulty has been given as the greatest cause of failure. It is probable, therefore, that the building of the isthmian canal, which has finally been undertaken by our country, is rather more a sanitary than an engineering problem. These two diseases, yellow fever and malaria, which were the great cause of mortality on the isthmus, are mosquito-borne, and mosquito-killing measures, similar to those which have been successful in combating both diseases in Havana, ought to accomplish much the same result on the isthmus; or at least to decrease these two diseases to such an extent that the work can be carried to a successful issue.

The facts which the report assumes as established with regard to the *Plymouth* are these: That the U. S. S. *Plymouth*, on October 6, 1878, sailed from Portsmouth, N. H.; on the 19th she arrived at Christianstadt; on the 21st she proceeded to St. Thomas, where she coaled. On the 25th she proceeded to Frederickstadt, Santa Cruz, where she remained until the 7th of November. On the evening of the 4th of November a case of yellow fever developed. Between that and the 7th, seven cases of yellow fever occurred. No case occurred after November 7.

The ship at once proceeded north, reaching Norfolk, Va., November 18, and Portsmouth, N. H., on December 1. From January 8 to February 12 the vessel was empty and thoroughly exposed to the cold of Boston harbor. On February 12 the crew returned, and on March 15 she sailed from Boston for a cruise in the West Indies. On the 19th and 21st of March two cases of yellow fever developed aboard.

The question in this case is to account for the yellow fever under the mosquito theory, and the particular point to be accounted for under this theory is the redevelopment of yellow fever on March 19—the last possible date of infection being November 10—considering the exceedingly unfavorable condition in which the ship had been placed during this time for the life of the mosquito. I say the 10th, though the last case occurred on the night of the 7th, since the mosquito might have been infected, as far as our experience goes, at any time within the first thirty-six hours of the disease in the patient.

If I accepted the facts as recorded above, my explanation would be as follows: That the ship had in all probability, gotten a supply of stegomyia mosquitos in her former cruising in the tropics. She left the tropics in June, 1878, and the weather between June and the first of November, at Portsmouth, N. H., had not been cold enough to kill the stegomyia. That on reaching Christianstadt, on October 19, somebody went ashore and contracted yellow fever. The case was so mild that it escaped observation. About the 21st this patient was taken sick, and on the 21st this case infected several of the stegomyia mosquitos aboard. About November 2 these mosquitos became capable of conveying fever, and on November 4 the first case came down with fever. It is possible, of course, that the ship became infected by having infected mosquitos blown aboard while lying at the dock at St. Thomas taking on coal. But I think this is unlikely. If infected mosquitos had gotten aboard, it would probably have been one or two, and we would have had a single case occurring about the 25th or 26th of October, and a secondary case occurring about the 8th or 9th of November, at the earliest. The ship arrived at Santa Cruz on the 25th.

There were evidently quite a number of infected mosquitos on board, and it seems to me much more probable that the mosquitos became infected from the introduction of a sick man. My own experience points toward the disease spreading by means of a sick man, rather than by means of infected mosquitos passing from house to house. A female mosquito would hardly have bitten a second time within three days, and as eight cases occurred inside of four days, there must have been at least eight infected mosquitos aboard, and in all probability a good many more. The disinfection which took place on the 8th killed most of the infected mosquitos, and the getting into a cooler climate at this time of the year rendered torpid those that had escaped.

All who have had practical experience in yellow fever are quite aware how possible it is that a man may have a very mild attack of yellow fever and not take to bed, and some of the experimental cases that I have seen in Havana would probably not have reported to the doctor if they had been sick aboard ship, particularly if the patient had been an officer who had no hard manual labor to do, and could lie up and take care of himself for a day or two. But this point is not very important in the explanation of this case. I am explaining what I think is the most probable way of the introduction having occurred. As the ship lay at the dock and coaled, it is possible that the infected mosquitos blew aboard there. I put the date of my hypothetical case getting sick as the 21st, supposing him to have been bitten by an infected mosquito at Christianstadt on the 19th, and giving him a period of forty-eight hours for incubation.

The report states that there had been one case of yellow fever in the island of Santa Cruz about three weeks before, which had been fatal. While the crew were not allowed to go ashore at either port, except at Santa Cruz for drill, the officers and stewards were allowed to go between the hours of 10 A. M. and 5 P. M.

Allowing, I repeat, this case forty-eight hours for incubation, the man would have been taken sick on the morning of the 21st. Experimentally we had quite a number of cases which incubated under forty-eight hours. On the 21st he was bitten by the mosquitos on board, within twenty-four hours after he was taken sick; this has been done experimentally. allowing twelve days for the incubation in the mosquito, would bring it up to November 2, and forty-eight hours for incubation in the man, would bring it up to November 4, when the first case occurred on board the *Plymouth*.

It might be that the mild case came aboard at St. Thomas, on the first day the ship came in, the 21st, just as I suggested that it came aboard at Christianstadt. But as this would shorten the time by two days, I think the probability is in favor of Christianstadt. But taking the minimum periods, as observed in the experimental cases, it could be very well explained as coming aboard at St. Thomas.

Now comes the difficult part of the explanation, under the mosquito theory. The latest date at which a mosquito aboard the *Plymouth* could have become infected was on November 10. Experimentally, they have not been able to be infected after the third day of the disease in man. I have, therefore, to explain the life of the stegomyia from November 10, 1878, to March 17, 1879, a period of 127 days. The report states (page 10) that during October, November, and December, 1878, there occurred on the *Plymouth* seven cases of yellow fever, three cases of continued fever, and one of intermittent fever. Page 14 of the report states that from the time of leaving Portsmouth to November 4 there had been no case of fever of any kind aboard. So that the three cases of continued fever and one of intermittent fever must have occurred between November 4 and December 31. If either or all of them were cases of mild yellow fever, the time to be accounted for would be shortened by as much as the date of occurrence fell after November 7. I assume the date to have been March 17, as the first patient took sick on March 19, and he might have been bitten by the infected mosquito on March 17, though the longest case of incubation in man in the experiments by the Army Board was a little over six days. Still, as the ship was in Boston six days before the case occurred, it is more probable that the hibernating mosquitos did not stir around until the ship had gotten to a warmer latitude, say the 16th or 17th. It is, however, entirely possible for a hibernating stegomyia to be warmed up in a closed room and become active, even with a pretty cold outside temperature. As the ship was occupied by the crew, although in a very cold climate, there would be no difficulty in accounting for the few mosquitos hibernating in protected places up to January 8. From January 8 to February 12 everything was taken out of the ship, and all parts were exposed to cold much below the freezing point, and a thorough and careful disinfection was made. But evidently there were many parts of the ship, under the floors and in the protected parts, where the temperature was not reduced to a very low point, and to which the disinfectants used did not penetrate. The Board which examined the ship in February, 1880, after a second thorough freezing, states on page 22:

> "Under the lead lining the sheathing was entirely rotten and blackened as if the wood had been charred, and in this rotten wood dead rats and their nests were found. The thick strakes and ceiling were badly decayed. On cutting the bread-room floors, confined air of offensive odor escaped. A second floor had been here laid above the original floor, and between the two was a confined space about three inches deep, from which living and active flies crawled out. It is plain that, although ice had long been standing in the fire-room, this space had not been sufficiently chilled to kill the flies."

From this quotation it can be seen that where it was possible for flies to remain active and lively, it would also be possible for a mosquito to hibernate, and that into such places around a ship to which rats and flies had access it was entirely possible for a mosquito to enter and live, so far as cold and disinfectants were concerned.

And again on the same page:

> "These spaces, as is shown by the presence of living flies, are so protected from external atmospheric changes as to be practically unaffected by either heat or cold, and have probably not been reached by any of the disinfecting agents heretofore employed."

These quotations, I think, demonstrate the possibility of the mosquito living from January 8 to February 12, in spite of the severe cold and disinfection to which the ship was exposed during this period.

On the 19th of March, or possibly a few days earlier, the ship became sufficiently warm for the hibernating mosquitos to revive. Only two female infected mosquitos had survived the rigorous measures taken. These bit the two seamen and gave them yellow fever. The two infected mosquitos were either killed accidentally or again hibernated when the ship turned north, and died from natural causes. I say two mosquitos, as it was necessary to have at least that number to give two different men yellow fever within forty-eight hours. A mosquito after once filling with blood does not bite again within about three days. And it is probable that a very small number of mosquitos survived the ordeal through which the ship was put.

The report does not say at what latitude yellow fever appeared for the second time, but as it was four days out from Boston, it was evidently pretty well down toward the Windward Islands. One hundred and twenty-seven days is a very long life for a mosquito, as far as my experience goes. How they survive in the frigid zone is not known, but as the mosquitos native to those latitudes occur in very much greater numbers than they do in the tropics, if they survive at all in the adult form, they must hibernate for at least six or eight months. I have known a stegomyia mosquito to live sixty-five days between the biting of the first and last case, and this particular mosquito finally died from a traumatism. We had another mosquito at Las Animas Hospital, hatched in captivity and kept in a jar all its life, that lived one hundred days. These examples do not, of course, quite cover the case in point, but if a mosquito born and bred in captivity could live a hundred days, it would be no great stretch to believe that one in the more favorable circumstances of the hold of a ship might live one hundred and twenty-seven days.

I submit this as a reasonable explanation, under the theory that the infected stegomyia mosquito is the only means of transmitting yellow fever from man to man, of the occurrence of the second outbreak of yellow fever on March 21, 1879, on board the *Plymouth*.

Personally, however, I should be rather inclined to question the diagnosis of the two cases occurring in March, 1879. It would be very unusual for the stegomyia, as we know her here, to escape the cold and disinfection, as described with regard to the *Plymouth*. While I think there is a possibility of her doing so in such parts of the ship as the fly could survive in, it would be unusual, and the more probable explanation, from the record of the case as given in the report, is that the two cases referred to were not yellow fever. In the history of yellow fever it is very unusual that the infection could have survived such a course as the *Plymouth* was put through. I am speaking now purely of the history of yellow fever, whether we believe it to have been conveyed by fomites or by a mosquito. This case of the *Plymouth* is probably the most extreme case recorded, and the two cases on which the diagnosis rests should be proved beyond any question or reasonable doubt.

The first case, that of Richard Saunders, had a very fair history of yellow fever, and if it had occurred in Havana, with yellow fever about, I would accept the history as it is. But under the exceptional circumstances, the record is an exceedingly imperfect one on which to base a diagnosis. The temperature is given on the evening of the first day, on the morning of the second, and on the evening of the second; on the third and fourth days no record is given. On the fifth day, the 25th, it is stated that the temperature is 102° throughout the day; on the sixth day, the 26th the temperature is again given, and from this time, it is stated, the temperature subsided. The other symptoms as reported bear out the diagnosis of yellow fever, but the temperature, as given, would indicate a very sharp case of yellow fever. I would have expected in such a case the jaundice to have been pronounced, and to have continued for more than a week. There is no mention made of the condition of the gums; not only should they have been very markedly puffy, but there should have been very extensive hemorrhage. As no reference is made to this striking symptom, it apparently did not occur. The broad and tooth indented tongue, as described, would be against yellow fever, though it appears sufficiently often not to be a very pronounced diagnostic point.

In the second case, that of Eagan, the temperature is mentioned only once, and it is stated that the man died in a typhoid condition on the eleventh day of the disease. It is stated that the symptoms and appearance were the same as those of Saunders. He probably had albumin in the urine, as Saunders had, though it is not specifically stated. The irritability of the stomach is described as being great. This the former case did not have. He fell into a typhoid condition and died on the eleventh day. This is a very unusual mode of death in yellow fever. No uræmia or convulsions are spoken of, nor is hemorrhage referred to. In the case of Eagan, in which death occurred, there should surely have been hemorrhage from the gums, and, as the stomach was very irritable, gastric hemorrhage, to some extent, also. No autopsy was made, and no description of the body given, as to whether or not jaundice occurred after death. This is so marked in yellow fever that one would expect it to be noted.

This would be my criticism upon the report in the two cases, Saunders and Eagan. The symptoms are not sufficiently recorded to make a diagnosis of yellow fever. I think in the second case, Eagan's, the symptoms as recorded rather tend to a diagnosis of not yellow fever. The report states, page 13, that in November, 1878, Surgeon T. Woolverton was the medical officer in charge. It does not specify who was the medical officer making the diagnosis in March, 1879. It would strengthen the case if the same officer made the diagnosis on both occasions. It would help the diagnosis if it were known whether or not others were sick on board about this time of any other disease. The report, page 11, states that in January, February, and March, 1879, two cases of yellow fever, one of continued fever and one of intermittent fever occurred on board the *Plymouth*; whether or not they occurred about the same date as the yellow fever, the report does not specify. As recorded, I think continued fever would be a fairer diagnosis than yellow fever for these two cases.

What the disease was in these two cases, I do not think can be definitely determined from the symptoms recorded. Surgeon-General Rixey of the Navy has written me that the report contains all the data concerning these two cases, in the possession of the department, But that it was yellow fever should be shown beyond a reasonable doubt before an explanation of the infection of the ship is demanded.

The following letters from two acknowledged authorities on the subject of yellow fever and of mosquito infection were written in answer to my request for an expression of their views:

AUGUST 4, 1902.

Major W. C. Gorgas, Surgeon, U. S. Army:

MY DEAR MAJOR GORGAS: In compliance with your request, I shall briefly state my views with regard to the doubts entertained by my respected friend Dr. Stanford Chaillé as to the possibility of explaining the two belated cases of yellow fever on the *Plymouth*, in 1879, through the exclusive agency of contaminated mosquitos, in accordance with my original mosquito theory. I still hold the same opinion which I expressed in my first paper on the subject, twenty-one years ago; namely, "that in the notorious instance of the *Plymouth* the two cases which occurred at sea, after the vessel had been disinfected and frozen during the winter and after four months had elapsed since the last of the previous cases had been recorded on board (the preceding November), can be readily accounted for by the hibernation of mosquitos which had bitten the former yellow-fever patients, and which, upon finding themselves once more within tropical temperatures, recovered from their lethargy and bit two of the new men of the crew." (See p. 18 in the English translation of my original paper on the subject, published in the *Revista de la Associacion Medico-Farmacéutica*, for January, 1902, of which I am sending you a reprint). Since that time, notwithstanding the important contributions which have been made to the study of the etiology of the disease, I have found myself at a loss to find any other theory by which the above-mentioned facts might be explained.

The theory of miasma in connection with yellow fever has long since been exploded, the theory of a germ which requires to go through certain transformations among the inanimate surroundings of a previous case leaves unanswered the question as to the reason why the germ after having reached its maturity, should have acted upon two of the non-immunes, leaving all the others untouched. It might be argued that, since the yellow-fever mosquito is capable of transmitting the disease, flies of the kind which were seen to creep out of the crevices in the rotten wood when the vessel was subsequently re-inspected might do the same, as also fleas, bedbugs, and other blood-sucking insects. But there is this difference: that the Stegomyia species of mosquito only dwells in yellow-fever countries, or in places where, during the summer months, the disease may be propagated, while the flies, fleas and bedbugs, which have been supposed to share with the Culex mosquito the faculty of transmitting yellow fever in Havana or Vera Cruz, are not different, so far as I know, from the insects of that kind found in the city of Mexico, or in Puebla, in neither of which places is the disease ever transmitted from the sick to the healthy.

Regarding the diagnosis of the two cases on board [of the *Plymouth*, I see no reason for doubting its correctness. The clinical history, temperatures, pulse, and general course of the first case (Saunders) appears to me to be quite typical of the disease; about the other case (Eagan), the account is very incomplete, it is true, but, so far as it goes, it is quite consistent with the diagnosis, the death having occurred, not on the eleventh day, but, according to the report, on the ninth, which is a frequent occurrence in yellow fever.

I do not think it necessary to bring forward any additional arguments to bear upon the question at issue, but it would be a very great satisfaction to me if I could contribute to bring over to our own views a man whose keen judgment I have had occasion to appreciate. Indeed, it would only be a small return for the great service which at one time he rendered me; for it was through his close reasoning and unanswerable facts, as set down in his preliminary report of 1880 (which he kindly sent me), that I became convinced of my former errors, and set to work in a new direction, which soon led me to the discovery of the yellow-fever mosquito.

Yours very truly,
(Signed) Charles J. Finlay.

August 11, 1902.

Major W. C. Gorgas, U. S. A.:

My Dear Dr. Gorgas. I have to thank you for the opportunity to read once more the report on the outbreak of yellow fever on board the U. S. S. *Plymouth*, and, as you request, I shall give you my views concerning the said outbreak:

It appears to me that it is difficult to explain no matter which of the theories of the etiology of the disease we may maintain. At the time of the occurrence we all looked upon it as an exceptional case, and as such it stands today, though we are much richer in the possession of actual facts concerning the etiology of yellow fever.

Under these circumstances one is justified in demanding that a more thorough clinical study of the cases of Saunders and Eagan be presented before we accept the diagnosis of yellow fever. The case of Eagan can certainly be dismissed as proving nothing, in so far as we can judge from the clinical history. In the case of Saunders there is no statement as to the amount of albumin found in the urine. We are not informed of the duration of the disease. We are surprised to find that, though the case was a severe one, the pulse is not recorded as beating slower than 80 at any time, and jaundice is mentioned as a symptom only during the convalescence.

But if those who adhere to the theory of fomites are willing to take such records as evidence of yellow fever, we, who accept fully the doctrine of mosquito infection, see nothing absolutely incompatible with our doctrine in the facts of the case. Those who are bringing it up as proof against the mosquito being the only means of conveyance of the disease, are obliged to suppose that some sort of fomites escaped the action of cold and the disinfectants, and they have pointed out how living organisms, and even flies, escaped after treatment of the ship by the the same agencies during the following winter. We have only to follow the same line of argument to explain this exceptional case on the doctrine of mosquito infection; and we can bring in our support the known facts concerning the long duration of life and the hibernation of mosquitos. We can suppose, as others do concerning their fomites, that infected [illegible], through imperfect attempts at freezing and fumigation.

Basing our calculations on the reported cases of yellow fever mentioned in the history of the ship, I should fix the necessary duration of life of the two insects that infected Saunders and Eagan at 126 days. Now I have had in my jars a mosquito that was capable of biting on the 105th day of its life, and it perished on that day by accident.

But it is possible that the duration of life of the mosquitos that bit Saunders and Eagan may have been shorter than 120 days. The last cases reported of the previous outbreak occurred on the 7th of November, 1878. Mosquitos became infected from them on the 10th and possibly the 11th. These would give us the period mentioned of 126 days. But the mosquitos infected at St. Thomas or at Frederickstadt, or on board the vessel itself—the mosquitos, I mean, that produced the cases on the 7th of November—may have produced at any time during November, some mild, unrecognized case of the disease. Though the ship sailed to Norfolk, Va., during that month I notice that the average temperature on board for the month was 65.8 on the spar-deck and 72.5 on the berth-deck. The temperature for March, when the second outbreak occurred, was 49.5 and 62, respectively. See table opposite page 47 of the report. A mosquito bred on board the ship during the month of November—say, on the 23d, the day she left Norfolk—or a young mosquito taken on board at Norfolk, could have bitten the mild, unrecognized case. Such mosquito would have been about 114 days old on the 15th of March, when Saunders and Eagan were infected. Accepting the possibility of such mild, unrecognized case, it is possible to reduce the number of days of the duration of life of the mosquito in question even to 106.

For many years I have insisted on the importance of the mild, unrecognized cases of yellow fever as factors in the maintenance and propagation of the infection. During the epidemic of Jacksonville, in 1888, we had a detention camp at Camp Perry, on the St. Mary river. We were successfully allowing a large population to pass through our camp, and to go north. We considered it as a test of our measures that the towns immediately to the north of us, Folkstown and Uptonville, were receiving our discharged population without becoming contaminated. One day I saw Mr. Upton, the owner of the lumber mill at Uptonville, sitting in this station waiting for the train. His appearance made me suspect that he was convalescing from yellow fever. I felt so sure of my diagnosis that I insisted upon his going into observation at Camp Perry. I remember well the doubts that were entertained as to the possibility of such being a case of yellow fever. Three days later the housekeeper of Mr. Upton and her husband were down with yellow fever. Mr. Upton had passed most of his attack in his buggy, moving about the country. He had rested two or three nights in Uptonville, and the two persons mentioned had waited on him, and slept in his house. To complete the history I should mention that Mr. Upton had contracted the disease by running through the lines into Jacksonville. Of course, neither he nor his attendants had the remotest suspicion that the case had been one of yellow fever.

Yours very truly,
(Signed) John Guitéras.

SOME CLINICAL AND OPERATIVE PHASES OF APPENDICITIS.

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In the early history of the clinical phases of appendicitis the discussions were mostly along the line of diagnosis. The question of typhlitis, perityphlitis, and other supposed pathological changes in the ileocæcal region was discussed at length by the greatest medical minds of that day. Later the fallacies of those who maintained that the symptoms now recognized as those of appendicitis were due to a perityphlitis, etc., were dropped, and the true condition was recognized and accepted by most surgeons and physicians. Then a new discrepancy developed in the minds of the profession—that is, how shall these cases be treated? Along this line there have been written more essays, and longer discussions have been held, and more varied opinions expressed, than on any other problem ever before the profession for proper solution. That those entering into these varied discussions have been sincere and honest no one will deny. That there exists a want of unanimity is only too true. The lay papers, ever ready to enter into scientific disputes, have not made this disagreement an exception, and the vast amount of harm done and the number of lives lost as a result of this source of information to the lay readers would be hard to estimate.

The diagnosis of appendicitis offers to the experienced physician very little difficulty. As a rule, the determining of the exact location of the pathology in the appendix and the extent of that change is not so easy; however, in many cases the experienced surgeon can tell quite accurately the character and extent of some of those changes before the operation. This uncertainty in foretelling the condition the appendix is in and how the case will terminate has led to the most bitter discussions entered into on this subject. It has led to one class of surgeons taking a position of waiting until what they call definite prognostic symptoms develop; while another class maintain that to delay is dangerous, as the so-called characteristic symptoms may not appear at all or be delayed until the safe period for operating has passed. A third class of surgeons say wait in all cases and operate in the interval of the attack. And yet others are found who oppose operations in every case, and continue signing death certificates, "Peritonitis," "Inflammation of the bowels," "Obstruction of intestines," etc.

All kinds of medical management have been advised, from opium narcosis to total abstinence of all food and liquids by the stomach. With all this array of professional opinions, can we wonder much at the articles appearing in the lay press? Why should this diversity of opinion exist in this day when opportunities are so frequently presented to all to gain a similar knowledge on this subject?

Basing the operative indications upon a purely conjectural (in many cases), or a pathological classification will often lead to error in staying the surgeon's efforts at relief. To say that this case is one of appendicitis gangrenosa, or that it is one of so-called catarrhal variety, and deciding for or against the operation, will lead to serious mistakes in many cases. I do not wish to create the impression in this paper that an operation is imperative in every case of acute appendicitis—far from it. I do believe that 60 per cent. of all cases of acute appendicitis recover from the primary attack, thus leaving 40 per cent. in the uncured and doubtful class to run the gauntlet of recurrences and the dangers incident thereto. My position with reference to the time when to operate is that if every case of appendicitis was operated on as soon as the diagnosis was made, the mortality would be reduced to practically nothing. Dr. Lloyd of New York kept track of twenty cases of this disease that have been observed for a number of years. Twenty-four per cent. died. 70 per cent. had recurrent attacks. Fitz's figures are about the same as Lloyd's. The medical man and the waiting surgeon should keep their cases under observation a much longer time before reporting them cured without an operation. Many a case of appendicitis is reported by three or a dozen physicians as having been cured by medicines, the same case having been operated on by some surgeon later, who reports the case anew. Many cases of acute appendicitis never have an *interval* if a delay in operating is permitted. In many cases the pathology in a first attack of appendicitis is of such a character as to leave no doubt that the patient had been having unhealthy changes in the appendix for weeks or months. A fecal or other concretion may have remained in the appendix for months, slowly but surely destroying the surface epithelium, thus breaking down nature's protective barrier to septic microorganism invasion to the deeper structures.

In a primary attack of three hours' duration, as far as clinical history is concerned, an ulcer through the mucous and muscular coats, or even a complete perforation may be met with, the patient giving no history of a previous acute attack, or even of any obscure or remote symptoms of these changes taking place in the appendix. I have operated on large, healthy young men within six hours after the development of the first acute symptom and found a perforated appendix, or a complete stricture at the base of the appendix from old inflammatory changes at that point, the appendix being much dilated and filled with virulent pus.

The clinical history in this disease is often misleading. Take for instance the fever; in one case the patient may have a temperature of 104° F. on the first or second day and a pulse rate of 96, or even 84. An operation reveals a small ulcer in the appendix as the only pathological change present. A temperature of this height in another case with primary history the same on the second or third day, may go down to normal and many of the symptoms improve; at operation an appendix is found perforated, with a few ounces of pus surrounding it, or the appendix may be completely gangrenous, with not an adhesion about it. We are told that a high temperature implies, as a rule, streptococcal infection, while a low temperature points to the colon bacillus or staphylococcus as the cause of the mischief. An operation reveals a general diffused septic peritonitis with fluid teeming with the streptococcus, yet the patient never had a temperature above 101° F. So this symptom as an operative indicator loses much of its value in the face of demonstrated facts at the post-mortem or on the operating table. The operator who relies upon the height of the temperature as a guide to the kind of infection or to tell him when to operate, will make many costly mistakes. Temperature increase is of value in making a diagnosis of appendicitis, but is unreliable when used beyond this in the question of prognosis and proper treatment of these cases.

The pulse rate is, as a rule, increased in frequency, and more reliance can be placed on it in matters of prognosis than on the temperature. This is true especially in the later stages of a general peritonitis, but as long as the disease is confined to the appendix proper, or to the immediate vicinity of the appendix, its behavior is very erratic and misleading. An appendix filled with pus may raise the pulse only ten beats, while a well-walled-off appendicular abscess may be accompanied by a pulse of only 70. A rapidly-spreading peritonitis is usually associated with a rapid increase of the pulse, while there may not be any peritonitis at all the patient may have a pulse rate of 140 from the rapid absorption of ptomains and septic microorganisms and their prolific increase in the blood. This is a clinical feature often lost sight of by the practitioner. The rapidly constitutional septic cases are the most fatal types of this disease. The removal of a diseased appendix and drainage of iliac fossa will not remove streptococci in the blood circulating through the brain, liver, and other structures of the body.

Pain as a symptom of this disease is always present at some stage, yet its character and intensity is as variable as any one symptom of the disease. In many cases, to rely upon the severity of the pain to predict the outcome of the case would be disastrous. In the beginning the pain may be referred to a point above the umbilicus, with waves of colic over the abdomen. These pains are often quite severe, and the appendix may remain in a comparatively good condition; yet the most virulent pus may be escaping from a perforated appendix into the general peritoneal cavity, and the patient may tell you he is much easier than on the first day of the attack.

The most unfortunate discovery ever made in appendical explorations was that of "McBurney's point." I do not refer to this in a disrespectful manner, because I fully appreciate the great work of this skilled surgeon. Dr. McBurney is not responsible for the want of a proper interpretation of the various locations of the appendix. Many fail to realize that the appendix "points" according to its location, to its length and to the location of the pathology in the organ. This is another clinical feature, to rely upon which, in treatment, may lead to error. Pain on pressure or tenderness is to be distinguished from symptomatic pain mentioned by the patient. A patient may complain of much pain at many points in the abdomen, yet pressure pain (tenderness) will be found in only one location, and that point will be nearest to the site of that portion of the appendix diseased. I consider this one of the most trustworthy indications of the true condition existing in and about the appendix. The palpating, skilled fingers I believe can collect more reliable evidence for or against operation than all other methods or histories combined.

Intestinal gaseous distention, as a symptom of danger, is valuable when present, but its absence is often misleading, as some of the most rapidly fatal cases I have ever seen have not been distended at all. I consider the quick formation of gas in these cases (when morphine has not been given), one of the most dangerous symptoms, and especially is this true if the pulse rate is greatly accelerated and the pain diminished—all symptoms pointing to a rapid and general extension of the peritonitis. To delay here means, with rare exceptions, a rapidly fatal termination. Persistent vomiting is a bad indication, and is usually accompanied by the symptoms just mentioned.

In a general summary of these cases the operative indications for immediate interference are often present and well marked, and need not mislead anyone of much practical experience, but with this class all are familiar. The object of this paper is to lay stress upon the fact that to expect to find these typical symptoms, and be governed by their presence or absence, is a mistake, and will cause delays and fatal errors in cases that should be operated on early and saved.

The presence or absence of a leucocytosis in cases of appendicitis, to decide the question to operate or wait, is so uncertain and misleading as to not be taken seriously in these cases.

In skilled and aseptic hands, no uncomplicated case of appendicitis should end fatally from the operation if too much delay is not permitted before operating. When a case proves fatal in such hands it is not the operation that kills, but the patient dies in spite of the operation. An incision through the abdominal walls, with removal of the appendix, is not going to head off the peritonitis under the liver and left kidney. No case of appendicitis should be permitted to go on until the pancreas and spleen are bathed in pus. All timely operations are easy, free from adhesions, with no open wound with tuberculous or other drainage and no subsequent hernia. A little incision, quick surgery, and a closed wound are symbolic of a moist tongue, a slow, soft pulse, a flat abdomen, a cheerful, quick, and comfortable convalescence, with no post-operative complications. What more could the surgeon wish or the patient desire? Delayed operations mean a game of chance, in which a human life is the stake; if the medical attendant loses, it means a death; if he wins, it means a tardy recovery, a long incision, with painful dressings to the patient, and bad odor in that part of the hospital from fecal fistulæ and offensive pus, and post-operative hernia occasionally.

With these truths before us, our duty is plain, and we should meet these obligations intelligently

TRAUMATIC INJURIES OF THE LIVER.*

By J. L. WIGGINS, M.D.,
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The number of reported cases of lacerations of the liver has increased of late years, as the field of abdominal surgery has been enlarged.

The diagnosis of this lesion, divested of direct history of injury, does not differ materially from injury to any of the abdominal viscera, being dependent on the presence of shock and hemorrhage. This is of slight importance in locating the lesion, as hemorrhage follows laceration of any of the contained organs, and shock, which indicates merely the abolition of the controlling influences exercised by the nervous system over the vital organic functions of the body, may be produced with equal severity, by mental as well as physical conditions

In examining reported cases one is impressed with the number in which it is further noted, that vomiting of greenish bile ensued, this being frequently tinged with blood, yet no logical explanation is advanced as to the reason why blood should be in evidence in the vomit of those suffering from hepatic injuries, except the suggestion that possibly there was an injury to the stomach which had escaped observation. In the case to be reported, not only can we exclude the stomach from any injury, but also every other organ in the abdomen, as all were closely examined previous to the location of the wound. We may well give some attention to this clinical symptom as an aid in locating more definitely obscure lesions, especially in non-penetrating wounds of the abdomen.

Usually the anterior surface of the liver is involved, this on account of its exposed position, and of the fact that in many instances a fracture of the ribs, the result of the violence, precedes injury to the liver. Whenever the sharp point of a fractured rib penetrates the liver substance, shock and hemorrhage follows immediately. Under these conditions blood escapes without restraint into the free abdominal cavity. If, however, there is no wound of this nature, the clinical symptoms will be masked, and the patient need not present marked symptoms of shock, although indications of abdominal injury may exist, from a period ranging from a few hours to several days, we may then have a sudden collapse, or the formation of abscess in the hepatic substance. This has been the observation without any clear explanation.

I would call attention to a few anatomical points for a clear understanding as to how delayed shock, abscesses, bloody vomit or stool, may ensue. The surface of the liver is covered by a strong fibrous capsule, which, under the name of Glisson's capsule, accompanies the portal vessels into the liver; all surface portions are further reinforced by a layer of peritoneum, except at ligamentous reflections the fissure of the gall-bladder, and the portal fissure. The liver substance is a soft solid, friable and composed of lobules, each of which represents an independent atom of the whole, the essential element being the secreting cell; the grooved surfaces of contiguous cells forming the beginning of bile-duct radicles, which pour their secretion into a common drain, which empties into the second portion of the duodenum, with the duct of the pancreas, about four inches from the pylorus.

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*Read before the Illinois State Society.

The anterior liver surface being in contact with the thoracic cage, may, by impact, cause a separation of the friable tissue beneath, without causing a laceration of the serous or fibrous coats. Under these conditions we would have limited shock, referable to the sympathetic nerves, but blood and bile extravasation would be limited by the coverings and the further support of chondrocostal apposition. The fluid under these conditions would follow the law of projectiles, insinuating itself along the course of the least resistance. If adhesions following inflammatory action ensued, between the hepatic and diaphragmatic peritoneum, up to a certain point, the least resistance would be directed toward the center of the organ, the sides of the fissure being separated by the accumulation, to their utmost limit, then reversed along the point of adhesions, on outer surface until rupture ensued, followed by pouring of contents into abdomen. Before this takes place, however, we would find, according to the depth of the fissure, a greater or less quantity of blood, forced through the hepatic ducts into the duodenum, with a resulting bloody vomit, and if excessive, bloody stool.

The case presenting in my service was that of a Polander, aged thirty-one years, height five feet eight and one-half inches; weight 170 pounds; very muscular. Was seen by the assistant company physician, March 27, 1901, at 12.45 A.M. While manipulating the large shears at the Rolling Mill, he was struck in the abdomen by a piece of boiler iron. There was but slight shock; the patient was conscious and complained of severe pain in the left hypochondriac region. The following morning, pain was accentuated, tympanites ensued, and intestinal paresis developed. Temperature, 101°; pulse, 106, and of fair volume. Solution of magnesia sulphate was given, followed by high enema, resulting in a free bowel movement.

Second day.—A.M., temperature, 101°; pulse, 96. P.M., temperature, 100.4°; pulse, 88. At this time he was free from pain; bowels having moved four times during the day.

Third day.—A.M., temperature, 98.8°; pulse, 88. P.M., temperature, 98.8°; pulse, 70. Fluid nourishment was given without any bad results. The bowels were open. The symptoms at this time, as shown by temperature, pulse, and general condition, indicated no serious lesion. There was no marked pain at any point upon pressure, and the dullness over hepatic area extended but little below the normal line.

The case was considered past the point where it required any special attention. This condition continued until 10 A.M. of the fourth day, when, on rising, the patient was seized with sharp pain in the right side, followed by syncope and all indications of shock; temperature subnormal; pulse rapid. The nature of the injury at this time was not suspected. Vomiting of bloody bile ensued and also a large bloody stool. This condition suggested to my mind the bursting of a hæmatoma into the abdomen, which also connected directly with the intestinal canal; and the fact that the blood was freely mixed with the vomit suggested a point close to the pylorus.

The abdomen was opened by a free incision along the median line and was found to contain from six to eight liters of dark venous blood. An examination of the upper surface of the right lobe of the liver disclosed a stellate rupture two and one-half inches from the anterior margin, situated directly over the fissure of the gall-bladder, its diverging points being contained in the right lobe, while the spur was opposite the quadrate lobe. The wound was three inches long, the lacerated tissue being in close apposition. There was but slight hemorrhage, except at the point of convergence, where there existed a loss of hepatic substance about one-fourth by one-fourth inches.

The gall-bladder was greatly distended with about 4 ounces of dark greenish brown fluid, evidently of the same character as that within the free abdominal cavity. The wound was sutured with No. 2 catgut; abdomen cleansed and closed without drainage. At the time of, and following the operation, the patient was moribund. Intravenous injection of decinormal salt solution was given and repeated every twelve hours. His pulse ranged from 80 to 130, and his temperature from 98.6° to 103°. On the twelfth day after the operation, symptoms of shock again ensued with considerable pain in the hepatic region. He had much trouble with the bowels, they being loose, of waxy color, and mixed with blood clots. On the twenty-second day dulness was discovered over the liver, indicating reformation of the hæmatoma. I aspirated, withdrawing about three ounces of blood and bile.

On the following day I resected three inches of the seventh and eighth ribs, wiping out the cavity and introducing loose gauze drainage. His temperature, which was at this time 103°, fell to 100.6°. Two days later there was a free discharge of bile, saturating dressings and bed. The amount secreted daily being from two to three pints. The temperature ranged from 98° to 101°, and the secretion of bile gradually decreased until fistulous wound closed on July 17. A conservative estimate of the quantity of bile secreted in fifty-three days in which the wound was open is fourteen gallons.

The drain of biliary secretion caused great emaciation. All nourishment was rejected and nutriment enemas were expelled. The bowels did not move except as the result of high stimulating enemas.

The patient was discharged on August 10, 132 days from the time of the first operation. He resumed his work, and, so far as I am able to learn, has since suffered no inconvenience as the result of the injury.

Conclusions.—1. Delayed bloody vomit or stool, in obscure abdominal injuries, is indicative of rupture of hepatic substance without laceration of its fibrous or serous coverings.

2. No method of suturing can be entirely satisfactory. (*a*) Because if laceration is superficial it is not required. (*b*) If laceration is deep, the dead space cannot be obliterated; as a consequence there is an accumulation of arterial and venous blood mixed with bile from this vascular organ, which may become infected, forming an abscess; or if accumulation is excessive, break line of suture and tear protective adhesions.

3. The suture material, to be of any service, must be large; to control hemorrhage it must exert pressure. In the first instance many lobules must be destroyed, and there will be interference with venous and arterial branches and secreting radicles. In the second, a tight-drawn suture may cut through friable structure or cause tissue necrosis.

4. The use of any sealing material, with the possible exception of the actual cautery, is not sound in theory or warranted by results. The best results accrue from drainage by the most direct route and isolating damaged structure.

5. Immediate operation, irrespective of degree of shock, is the only rational method of treatment and the only one which has yielded good results.

11½ N. MAIN STREET.

MEDICAL RECORD:

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THE TREATMENT OF TYPHOID-CONTAMINATED SEWAGE.

In every country of the world, but more especially, perhaps, in the United States, the question of extirpating typhoid fever is one of the first moment. Many cities of this continent are peculiarly subject to epidemics of the disease, and Chicago at the present time is suffering from a somewhat virulent outbreak. The cause of these periodical visitations is, of course, not far to seek. Undoubtedly a contaminated water supply and general defective sanitation is chiefly responsible for such oft-recurring epidemics of enteric fever. This being the case, any effective means of ridding sewage of typhoid germs, without exaggeration, would be regarded as an almost incomparable boon conferred upon humanity.

The fact is freely admitted that in Europe, and in Great Britain in particular, greater progress has been made toward the solution of the sanitation problem than in America. There are here notable outstanding exceptions, but, as a rule, sanitary efforts have been more intelligently carried out, and sanitation is, on the whole, further advanced in the cities of Germany and of Great Britain than in those on this side of the ocean. The matter, which now for some few years has occupied the supreme attention of scientific sanitarians, is how to render sewage free from the germs of typhoid. Bacteriologists enthusiastically grappled with the subject, and the outcome was the septic tank.

A short time ago, the annual Congress of the British Royal Institute of Public Health was held at Exeter, the city which may almost be termed the home of the septic tank. Dr. Ranson Pickard, who is in charge of the bacteriological experimental department of the Exeter Sewage Works, read a paper before the Congress, in which he said that "however disagreeable sewage might be to the senses, its power of reproducing disease was far more important, and it was easy to conceive that a system of sewage purification might be very good in getting rid of those parts of the sewage which were offensive, and yet it might not interfere at all with the disease organisms contained in the sewage. He had experimented in three directions in order to determine: (1) The action of sewage sterilized by heat upon typhoid germs grown upon gelatin; (2) The action of crude sewage upon typhoid germs; (3) The action of intermittent filtration upon typhoid germs previously exposed to crude sewage for forty hours in warm weather."

The sum of the deductions which Dr Pickard drew, as a result of his experiments, was that the septic tank system, destroyed a distinct proportion of the typhoid bacilli which might be present in the sewage. Some were killed in the tank, and others probably had their vitality diminished, so that exposure in the filtering beds much more easily killed them than if the sewage was passed directly on to the filters. It was not possible to state with any exactness the proportion destroyed under all variations in the duration of stay in the tank and filters, dilution of sewage, alteration of temperature, etc. There were several fallacies which must be remembered in making exact deductions as to the tank and filters. The main one was that the number of typhoid germs introduced in the experiments vastly exceeded any possible contamination by the excreta of typhoid patients.

The second report of the British Royal Commission to consider methods of treatment and disposal of sewage has been recently published. Some of the most important papers therein contained were contributed by Dr. Houston, dealing with the subject viewed from a bacteriological standpoint. It would appear, from a brief consideration of these papers, that the treatment of sewage in bacteria beds although much progress has been exhibited in bringing the method to a degree of effectiveness—is at present far from being an ideal plan of rendering sewage innoxious as a disseminator of typhoid fever. Nevertheless, the prediction may be made with a reasonable amount of certainty, that the method of disposing of sewage by bacteriological treatment will advance in public favor. At any rate, under the existing septic-tank system—which is, as it were, in its infancy—many of the pathogenic germs are killed, and the vitality of more is distinctly diminished.

TREATMENT OF INOPERABLE CANCER.

In the Section on Surgery at the meeting of the British Medical Association, a discussion took place on the above subject. Mr. Henry Morris of London, a recognized authority on the matter, read the first paper.

Mr. Morris first defined what he meant by "cancer" and the term "inoperable." There were, he said, for practical purposes, four groups of inoperable cases: (1) Primary cancer, affecting inaccessible parts or vital organs; (2) Primary cancer which, although at first removable, had advanced beyond the limits within which a local operation was prudent and complete removal possible; (3) Certain cases of acute diffuse carcinoma and very rapidly growing or widely infiltrating new growths of exceptionally virulent character, and (4) Recurrent carcinoma in which the disease had recurred in many places, or in parts where it was impossible to reach it.

As to the various modes of treatment, remedial and radical, Mr. Morris arrived at the following conclusions:

1. That the serum treatment of malignant disease is not of the slightest use in carcinoma; that not one-half of the cases of spindle-celled sarcoma disappear under treatment with Coley's fluid; that the treatment by Coley's fluid has many dangers, and

should never be employed except in absolutely inoperable cases.

2. That Beatson's treatment is limited in its action to cases of mammary carcinoma, and the local and glandular recurrences after mammary carcinoma, and that even of these cases only a small proportion are influenced by the treatment, whilst neither as a cure nor a palliative can it be relied upon in any given case.

3. That rodent ulcer has in the Finsen light and in the *x*-rays its most successful treatment, so far as we know at present; and that this is true not only of cases otherwise inoperable, but also of operable cases, because of the excellent cosmetic results and of the effect upon insidious and non-evident foci. There are, nevertheless, cases of rodent ulcer which resist the light and the *x*-ray treatment, and some of these cases are successfully treated by excision and caustics.

4. That sarcoma, epithelioma, and the other forms of carcinoma are best treated, whenever possible, by early excision, and that all forms of treatment hitherto tried in inoperable cancers of these kinds are uncertain and inconstant in their effects, and untrustworthy as to the durability of the results they produce. In the vast majority of cases they are quite without palliative influence of any kind, except possibly in relieving pain.

5. That the boundary line between what are considered operable and inoperable cases needs revision from time to time; that the tendency to extend the limits of operable cases needs, in some instances, to be restricted, and in others possibly there may prove room for fuller extension.

6. That it is open to question whether some of the operations performed for relief or prolongation of life in inoperable cases of malignant disease should not be abandoned, and whether in other cases palliative operation ought not to be more often performed.

7. That investigations into both the cause and nature of cancer are of the first importance, as being more likely to lead ultimately to the cure than excision.

8. That, with few exceptions, the attempts to cure cancer by means other than early and free operations have been hitherto almost invariably futile.

9. The complete ignorance as to the cause, nature, and curative treatment of cancer has long pointed to the necessity of instituting a comprehensive, collaborative, and cooperating inquiry into the whole question of malignant disease; and that it is a source of great satisfaction to know that at last, though with great difficulty, sufficient funds have been raised to enable the two royal colleges to make, at any rate, a beginning in this wide-reaching and unspeakably important subject.

Mr. Morris's presentation of the cancer situation—although by some it may be looked upon as somewhat too dogmatic—will be, upon the whole, accepted as a fair and unprejudiced statement of facts.

With regard to treatment—excision excepted—the paper of the British surgeon is a confession of failure. Finsen's light and the *x*-rays may now be said to have proved their efficacy in the treatment of rodent ulcers.

The most strikingly insistent part of Mr. Morris's paper is that in which he declares our ignorance as to the cause, nature, and curative treatment of cancer, and the necessity of instituting a comprehensive inquiry into the whole question of malignant disease.

The researches of various investigators in different parts of the world has undoubtedly done much to pave the way to the final solution of the cancer problem, but it is just as certain that the theories advanced with respect to the cause of cancer are far from being conclusive, and are, in fact, as yet no more than theories.

At present there is a crying need of instituting inquiries in the manner suggested by Mr. Morris. The Medical Record on several occasions has proposed that the scientific investigators of civilized nations should lay aside all spirit of emulation and self-glory, and should work together for the good of mankind, to endeavor to remove the awful scourge of cancer. But if this scheme be impracticable, American scientists at least should see that they are not left behind in the race. The rich men of this country have shown themselves in a high degree willing and eager to advance the cause of education and science, and now, by supplying the funds to prosecute under the most favorable auspices the search for the origin of cancer, they have a splendid opportunity of ridding mankind of, perhaps, the most terrible malady to which it is subject, and of conferring lasting honor upon their country and themselves.

THE FINGER-NAILS AS A MEDIUM FOR THE TRANSMISSION OF TUBERCULOSIS.

It is now universally admitted that much can be done in the treatment of tuberculosis by hygienic measures and improvement of the general nutrition, but it is a self-evident fact that if this disease is measurably to be suppressed such a result must be attained through preventive measures. For the successful application of the latter it is essential that the channels of communication should be known, in order that they may be effectively closed and the dissemination of the infection thereby controlled. Tuberculosis, particularly of glands, bones and joints, is common among children, and it is to be surmised that such local lesions must be of local origin.

In accordance with current conceptions, the disease can no longer be considered hereditary. In the exceptional instances of congenital tuberculosis, in which transmission occurs from either parent to the fœtus, the mode of infection is precisely the same as during extrauterine existence, except that instead of occurring through the intermediation of the air, water, or food, the conveyance is more direct, through the blood and lymph, or through cellular implantation. After birth the principal source of infection resides in association with others suffering from the disease. An additional danger is encountered when the child is able to crawl and creep, in conjunction with the bad habit so common among children of introducing all sorts of things, including the hands, into the mouth. Tubercle bacilli have repeatedly been found in the dust of rooms and corridors, especially in houses occupied by tuberculous persons, and Drs. Kornel Preisich and Alader Schütz, in an article in the *Berliner* *klinische Wochenschrift*, May 19, 1902, adduce evidence to show that the same microorganisms can often be demonstrated in the dirt obtained from beneath the fingernails of children, whence they become a source of danger. The observations were made upon children from six months to two years of age for a period of two and one-half months, during which they were kept indoors a good deal. The dirt from the finger-nails was rubbed upon a sterile glass slide with a drop of sterile bouillon and the resulting emulsion was spread on the slide and was used in part for subcutaneous injection in guinea-pigs. Great importance was attached in advance to the result of inoculation, but it was soon found that a number of the animals died shortly afterward as a result of acute infection. Accordingly, reliance had to be placed principally on the results of staining, as it also developed that the number of tubercle bacilli in the dirt was insufficient for successful inoculation. Sixty-six cases were thus examined, and positive results obtained in twenty-four—21.4 per cent. Of the successful cases there was no history of tuberculosis in five; in two there was a predisposition to the disease, and in one merely a suspicion thereof; in two there was a family or a house history of tuberculosis; in four suppurating bone disease was present. Among the fifty-two unsuccessful cases there was no history of tuberculosis in twenty-five; in five there was a doubtful history, and in seventeen there was a definite history of this character, but in none of these was tuberculosis present in the family at the time. In the remaining five cases tuberculosis existed in the family or in the house.

The results of this investigation emphasize the care that should be taken to keep the finger-nails of children as clean as possible, and also to prevent children from putting their fingers and other foreign bodies into the mouth, and further, the danger, especially to children, from living in a house or a room previously occupied by a tuberculous individual.

BOOK REVIEWING.

In a recent issue of the *Publisher's Weekly* is an interesting and suggestive discussion on the utility of book reviews from a literary, as well as commercial point of view. So far, it seems to have been decided on the affirmative side, although the contrary argument has had a good showing. The purely business aspect of the question receives most attention, as might be expected, and narrows itself to the consideration of the degree of advertising which the book may thus obtain. If criticisms are honest, impartial, and discriminative, the mere cost of a volume weighs very small in the equivalent of returns. With most of the sensational novels of the day the merest notice of their appearance is a most extravagant acknowledgment of their worth.

So long as publishers insist that every new work shall receive attention at the hand of the reviewer and so long as periodicals will acquiesce in such requirements we must expect useless, perfunctory, and slip-shod opinions. The public cannot be blamed for taking the latter at their true worth and for properly estimating the motives which actuate the writers. Almost every new publication that comes to such journals "is the best of its kind, deserves wonderful success, and is destined to make its mark." Thus it happens that the price of the book is paid by the merest machine-made scribble.

On the contrary, an independent periodical seeking only the good of its readers and endeavoring to minister to their real needs must exert its beneficial influence in discriminating the good from the bad and in rendering a candid criticism of the best fruits of an open market.

Judicious criticism always makes itself apparent, and carries with it becoming respect. The reader of a review can seldom fail to be convinced that its writer is candid and competent and that his conclusions are worthy of respect.

On the principle that it is easier to commend than to condemn, most so-called critics yield to the convenience rather than to the justice of the thing, more especially when a prepared notice from the publisher is so ready at hand. The latter may serve its purpose for works on fiction, in which it is necessary to give the plot and laud the author, but in scientific treatises the case is entirely different. In one the prospective buyer seeks only amusement, and in the other instruction. The fulfilment of the latter duty implies the possession of the highest critical sense, backed by thorough knowledge of the subject and a conscientious desire to do strict justice to all parties concerned. Hence it is the practice in all high-class journals to leave the task to experts in given lines, whose verdict shall carry with it the due weight of authority. To the furtherance of such an end, and to give the reviewer the freest possible scope for the expression of his views, he speaks for the paper or magazine rather than for himself, the editor being the only peron who is accountable for the fairness of the transactions. The main questions are, how much a given book differs from others of its kind, what it contains that is new and useful, and what new fields of inquiry have been explored. These, in the judgment of the impartial critic, are of the highest importance, and settle the actual value of the new work for the student. In rendering his decision he must place himself in the position of the reader, who wishes to know through him if it is worth while to add a new volume to his working library.

It is with such ends in view that the Medical Record has endeavored to conduct its review columns, reserving for itself the right to select such works only as are deemed worthy of notice. In this respect it differs from no other first-class periodical, and strives to place criticism on the high plane it should occupy irrespective of the wishes of a few authors and publishers who may think to the contrary. The mere sending of a book to a reviewer in pay for his opinion is the smallest possible recompense that can be given for a most valuable service to author, publisher, and buyer, and to claim for one moment, as has been done by some of the publishers, that the work is not sufficiently advertised by such means, is the height of absurdity. The motives of the reviewer are quite different from those of the book-maker. It is never a question if the volume will sell but if it will fulfil the higher mission of profit to the reader.

TASTE AND THE FIFTH NERVE.

Some years ago Sir W. R. Gowers treated a case of disease which suggested to him strongly that the path for taste reaches the brain by the roots of the fifth nerve, as regards both the front and the back of the tongue. A modern surgical procedure has since supplied the proof that he was correct in thus surmising. The operation in question is the removal of the Gasserian ganglion and adjacent part of the fifth nerve, known as "Krause's operation" for neuralgia, from the distinguished German surgeon who introduced it.

Sir W. Gowers describes the technique of this operation in the *Journal of Physiology* of July 21, 1902, as follows: "It consists in trephining the skull and raising the cerebral hemisphere so as to expose the position of the Gasserian ganglion. As Victor Horsley performs the operation, the ganglion is seized by forceps and torn from the pons, bringing away with it a third of an inch or more of the roots of the nerve. The whole of the nerve is usually removed; it not being practicable to attempt to spare the motor portion. The effect of the complete removal of the ganglion and the roots of the nerve is to abolish all function, to cause anæsthesia in the whole region supplied. In five consecutive cases operated upon in this manner at the National Hospital for the Paralyzed and Epileptic, London, the sense of taste was found to be lost." Sir W. Gowers thinks that these facts constitute strong evidence that all the fibers of taste—at least in most persons—reach the brain by the fifth nerve.

A somewhat curious feature in connection with this phenomenon is pointed out: that no weight can be attached to the results of observations made during the first two or, perhaps, three weeks after the operation. Some surgeons have not found taste constantly abolished by the operation, and Sir W. Gowers draws attention to some sources of fallacy which might account for the discrepancy, one being that mentioned above—the fallacy of too early observation—and another, that the operation may have been imperfectly performed, some parts of the nerve not having been removed. Sir W. Gowers is positive that by some path the fibers for taste do reach the fifth nerve, at least frequently, and pass to the brain by its roots.

It would be an interesting study in physiology to investigate by what route taste impressions reach the fifth nerve, but it is so abstruse and hedged in with difficulties as neither to lend itself nor, perhaps, to commend itself as a subject for experimental research.

A NEW CURE FOR NEURALGIA.

A recent number of *La Nature* publishes a remedy for neuralgia which is said to have been used with good results. Neuralgia proceeds sometimes from a lesion, or functional derangement of the nervous centres, and sometimes from an inflammation of the nerve, and is accompanied by pains peculiarly violent. The complaint is also extremely rebellious to treatment; in many cases no relief can be gained except by the most radical measures.

Dr. Cordier, a surgeon of Lyons, has thought out a mode of treatment based on the fact that in certain cases of obstinate sciatica the nerve has been cut down upon and drawn. M. Cordier thought that if the peripheric network were treated in a similar way, the effects might be as beneficial. In order to distend the network of nerves he has used gaseous injections and insufflations of air.

The ordinary hypodermic needle is sufficient to make the insufflations of air, and a rubber ball will serve as an insufflator, but small bellows, like that of the Potain apparatus, will answer the purpose better. To remove all danger of infection a glass filled with sterilized wadding can be placed between the rubber bulb and the needle.

The needle is then buried in the cellular subcutaneous tissue, when a certain quantity of air, variable according to the locality, is slowly injected. This procedure is followed by a distention of the skin resembling a ball. In order to bring about the distention and elongation of the fine nervous terminations, M. Cordier states that vigorous massage should be practised over and in the neighborhood of the air ball, so that the air may be diffused.

The results of this treatment are declared to have been very successful, according to the initiator of the remedy, who claims to have had but two failures in twenty-five cases of sciatica treated in this way.

THE SO-CALLED "SPOTTED FEVER" OF THE ROCKY MOUNTAINS.

The U. S. Public Health and Marine-Hospital Service directed Surgeon J. O. Cobb, in June last, to proceed to Missoula, Mont., to investigate an outbreak of the so-called "spotted fever" prevailing in that district. Surgeon Cobb's report is published in *Public Health Reports*, August 15. It seems that the disease has been known to the local practitioners of the Bitter Root valley, Montana, for seventeen years, but that the malady has never occurred among the Indians. The disease has always been limited to the spring months, the first cases usually appearing in March, shortly after the first warm days. All clinical experience goes to show that the disease is not contagious or infectious, but is undoubtedly a protozoan disease, as an intracorpuscular parasite has been found constantly present in the blood of each case examined this year. The organism resembles very closely Theobald Smith's Texas cattle-fever organism, and it is very possible, from the knowledge at hand, that this disease is introduced into man in the same way as the Texas fever organism is introduced into cattle, viz., by the tick.

During the past spring the Montana State Board of Health secured the services of Drs. Wilson and Chownning of the University of Minnesota to go to Missoula and make exhaustive investigations into the matter. Thus far the experimental work of these bacteriologists has clearly demonstrated that an entirely new disease has been encountered, and one that has never before been described.

Their investigations prove that the disease is confined to the Bitter Root and Lolo valleys, covering an area of about twenty miles in width and forty miles in length.

After having found an intra-corpuscular organism in the blood of their cases, their object was to find the host. Every patient gave a history or showed evidence of being bitten by the tick, but as hundreds of persons are bitten by ticks throughout this portion of the State, and as a great many are bitten by ticks from this infected locality and comparatively few contract the disease, it was fair to presume that all ticks did not harbor the parasite. This naturally led them to infer that the host was not the tick, but some animal infested by ticks.

It was discovered that the gopher or ground-squirrel, which is peculiar to the Bitter Root and Lolo valleys was infested with ticks, and further research has tended to confirm the presumption that these animals are the carriers of the disease. A full account of the investigations in detail will be issued shortly by Drs. Wilson and Chownning.

Clinically, says Surgeon Cobb, the disease is very old. Besides the bluish spotting of the skin—which has given the affection its name—the conjunctivæ are markedly injected, the tongue is moist and slightly coated, and the face and extremities are puffy and bloated, but the skin does not pit on pressure.

The disease is of an extremely deadly nature, all cases which have occurred this year have terminated fatally, and only two bad cases, with well-marked eruptive lesions, have been known to end in recovery.

Leprosy in Canton.

In *Public Health Reports* for August 8 is a report prepared by Dr. John M. Swan, surgeon in charge of the Canton hospital, concerning the experiments in leprosy cases at Canton by Dr. Adolph Razlag of Vienna.

It appears from this report that Dr. Adolph Razlag applied to those in charge of the Medical Missionary Society's Hospital for advice and aid as to the best means of obtaining unrestricted conditions for the treatment of patients suffering from leprosy. It was decided to render all possible aid to Dr. Razlag, and accommodations, quite isolated from the resident portion of the hospital, were provided for him, and four leper patients were admitted and placed under strict quarantine. Two of these cases were far advanced and about the worst that could be found in the leper refuge of 1,000 inmates. The following outline shows the general course of treatment:

1. Local. General cold baths, followed by bath medicated with potassium permangate, or double-strength solution of calcium sulphide each bath being followed by friction of the indurated surfaces—no massage or subcutaneous injections were used. Abraded or broken surfaces were treated with peroxide of hydrogen, sozoiodol, Fowler's solution, solution of zinc chloride, ichthyol ointment mercurial ointment, or chrysarobin, the strength and application of these remedies varying according to the symptoms present.

2. Internal or constitutional. Excretory organs kept active, special attention paid to digestive disturbances, administration of arsenic and ichthyol in pill form, ammoniocitrate of iron and strychnine, sodium iodide, and sodium salicylate, the remedies being pushed to their full physiological effect.

It is claimed for this treatment that its effects were obviously beneficial, and that after six months' course of this routine the patients were better in every respect.

Dr. Swan, who is himself an authority on Oriental diseases, says: "As a result of repeated observation of Dr. Razlag's work on behalf of these patients, we may conclude that lepra is unquestionably largely amenable to treatment. Treatment is practically symptomatic, and should generally be continued for five or six months. Success depends on method, strength, and effective application of the remedies used. Each case must be studied and symptoms met in proper order. Sudden changes in the weather affect course and progress of disease. Closure of wounds increases the eruption temporarily." It would thus appear that leprosy may not be the absolutely hopeless disease which it has been so long considered. No radical cure is claimed for Dr. Razlag's treatment, but it is asserted that the worst case may be cured to such an extent as will allow perfect liberty of the patients. If this can be done, a great advance will have been made, and the final results of Dr. Razlag's treatment will be awaited with much interest.

The Hearing of School Children.

The health of school children is rightly now considered to be of paramount importance. Most civilized countries have a more or less efficient system of school inspection by medical men. New York and certain other cities of the United States are in the van in this movement. Of all the complaints, perhaps, to which the young are subject, none are more serious or more frequent than ear affections. Defective hearing is far more common than is generally supposed, and less attention is usually paid to it than its gravity demands.

According to the *Medical Times and Hospital Gazette*, at a special meeting of the Otological Society of the United Kingdom, held on April 14, of this year, the report of Mr. Arthur Cheatle on the examination of the ears of a thousand school children was read. Out of this number the ears were normal in only 432—or under 50 per cent. Middle ear disease was that with which the majority were affected, the numbers being—external ear, 49; middle-ear, 518, and internal ear, 1. The test used by Mr. Cheatle was the whispered voice at eighteen feet, and the hearing was found to be more or less deficient in 520. Eighty-seven children were found to be suffering from chronic middle-ear suppuration. Of these children 71 had adenoids. The number of cases of deafness from post-suppurative conditions was 247, and of these 171 had adenoids. There were 166 cases of non-suppurative middle-ear deafness; of these 141 had adenoids. Adenoids were present in 434 children, and of these aural trouble was present in 394. Only 40 had normal ears.

This is a seriously alarming state of affairs, and as the writer in the *Medical Times* remarks, it is by no means creditable that the two greatest countries of the world—Great Britain and America—should have so little thought for the aural well-being of their children. The remedy suggested is that otological specialists should be attached to all large general hospitals, and that aural surgery should be included in the curriculum of the medical student.

Christian Science a Business Not a Religion.

In refusing to grant a charter to the First Church of Christ, Scientist, at Philadelphia, Judge Arnold, of the Court of Common Pleas gave as a reason the fact that one of the duties of members of the so-called church is the circulation and sale of the books of Mary Baker G. Eddy, and that it is, therefore, a corporation for profit. This is not the first time that the First Church of Christ, Scientist, has been refused a charter in the city of Philadelphia. Five years ago such action was taken by Judge Pennypacker, on the ground that Christian Science is a violation of the law of 1874 as comprising the practice of medicine without due legal authorization. Ex-Judge Beeber, to whom the present application was referred as master, recommended refusal, for the reason that the congregation teaches the doctrine that disease does not exist really, and this teaching is contrary to public policy, as shown in the laws of the State, which recognize not only the existence of disease, but also its infectious and contagious character. Judge Willson, who sat with Judge Arnold during the argument upon the application, held that Christian Science doctrine, as teaching that it is unnecessary and inadvisable to employ approved methods recognized by medical practitioners, is pernicious.

News of the Week.

Col. Smart Ordered to Manila.—Col. Charles L. Smart of the Medical Department of the Army has been ordered to Manila as Chief Surgeon of the Department of the Philippines. Since the return of Gen. O'Reilly, now the Surgeon-General of the Army, there has been no chief surgeon of the military force in the Philippine Islands, the duties of that officer having been performed up to a recent time by Col. Maus.

Retirement of Dr. Lippitt.—Assistant Surgeon Thomas McCormick Lippitt of the navy has been placed on the retired list on account of disability incident to the active service. Dr. Lippitt was the surgeon of the marines sent to Pekin in 1900 to guard the United States legation. Dr. Lippitt was wounded then, and never fully recovered from the injury and subsequent illness caused by the privations and hard work of that trying time. For gallantry displayed during the siege Dr. Lippitt was advanced, numerically, in his grade. He was born in Virginia and entered the naval service from that State in June, 1898.

Virchow's Successor.—Dr. Johannes Orth, Professor of Pathological Anatomy at the University of Göttingen, succeeds the late Prof. Virchow in the chair of Pathological Anatomy at the University of Berlin. Prof. Orth was for many years Prof. Virchow's assistant.

Vaccination of College Students.—A freshman who had just entered Syracuse University was taken wih smallpox. He was removed at once to hospital, but the chancellor has ordered that every one of the two thousand students submit to vaccination.

Provocation to Hydrophobia.—The question of the etiology of rabies is likely to be made the subject of a judicial inquiry, if the suit of a Niagara Falls man against a chemical company ever comes to trial. A man of that town has brought suit against the Acker Process Company to recover $25,000 damages for the death of a son by hydrophobia. The plaintiff alleges that the dog that bit his son went mad because it ran through a pool of waste chemicals thrown out by the defendant company, which is a manufacturer of caustic soda. The company throws its waste material on unoccupied lands. The rains spread the waste, and it has been said that a number of dogs have been burned severely by running through it. This, no doubt, makes the dogs "mad," but is hardly sufficient of itself to drive them rabid.

Report of the Yellow-Fever Commission.—The commission which has been studying yellow fever in Vera Cruz has confirmed in every respect the findings of the medical officers of the U. S. Army in Havana. The commission attributed the prevalence of yellow fever in Vera Cruz to the custom of the Mexicans in gathering rain water for drinking purposes in which the yellow-fever mosquitos were bred in great numbers. The sanitary commission appointed by the Mexican Commission to coöperate with the United States Public Health and Marine Hospital service had been convinced on this point, and a war on the water barrels had reduced yellow fever 50 per cent. As a consequence of the discoveries made, Vera Cruz will adopt a new system of water supply, which will abolish the water barrels altogether, and thus get rid of the mosquito and the yellow fever.

An Argument for the Army Canteen.—Brig-Gen. Funston, in his annual report of the Department of the Colorado, declares that the anti-canteen legislation of Congress has lowered the discipline of the army, ruined scores of good soldiers, and enriched saloon-keepers, gamblers, and dissolute women. His report announces a deplorable increase in offenses, particularly desertion, which he attributes partly to the abolition of the canteen and partly to garrison life restrictions of men returning from field service. Concerning the former, he says that "since this action was taken saloons of the lowest type have been established just outside the boundaries of the various reservations. Their proprietors are in almost every case unprincipled scoundrels, who leave nothing undone to debauch the soldiers and obtain their money. Being in all cases outside the limits of any city, the proprietors of these resorts are subject to no municipal police regulations, and sell liquor regardless of hours and whether the buyer is already intoxicated or not. Gambling is universal in these 'dives', and they are frequented by dissolute women. The soldier, whose desire for a drink would ordinarily be satisfied by a few glasses of beer in the canteen of the post exchange, goes to one of these resorts and does well if he escapes before he has spent or gambled away all his money, overstayed his leave, or engaged in an altercation. As a rule, the local authorities regard the existence of these places with indifference or approval, as it causes the soldier to spend his money in the community. The efficiency of the army or the ruin of a good soldier is nothing to them. There can be no reasonable doubt that most of the trials by general court-martial and summary courts, at least so far as this department is concerned, are directly traceable to this cause." This is the statement, by one who knows, of a condition which has been brought about by the impractical striving after ideals of well-meaning but ignorant enthusiasts. Similar testimony is presented by Gen. George M. Randall, commanding the Department of the Columbia. In his annual report to the adjutant general of the army, he says that "there was a considerable increase over the preceding year in the ratio of trials by court-martial to the average of enlisted strength. It is believed to be due in part to the large number of recruits, but in part also to the abolition of the sale of beer at post exchanges."

Sick Immigrants Barred from the Health Board's Hospitals.—Health Commissioner Lederle has served notice on the Commissioners of Immigration at this port that the Health Department intends to terminate the contract by which it agreed to treat in the city hospitals all immigrants arriving at New York and found suffering from contagious diseases. The reasons given for the cessation of the contract are overcrowding in the municipal hospitals, the danger of infection in transit from Ellis Island to the foot of East Sixteenth street, difficulty of treatment, owing to the immigrants' ignorance of the English language, the annoyance to other patients because of the unclean personal habits of most of the immigrants, and the injustice to the city in raising its percentage of infectious-disease patients. The records of the Health Department from January 1, 1898, to September 10, 1902, show that the department received from the Commissioner of Immigration at the port of New York 1,405 cases of contagious disease, and these patients were accompanied by nearly 1,000 persons who had been more or less exposed to the various diseases. By virtue of the contract with the U. S. Government the Department of Health receives from each patient or accompanying person $2 per day, and so has been receiving in the aggregate, in recent years, from

$20,000 to $30,000 per annum for performing this work.

Specific Treatment of Scarlet Fever. At the German Congress for Internal Medicine, which met at Carlsbad last week, Dr. Moser of Vienna read a paper, in which he reported the results of treatment of some four hundred cases of scarlatina with an antitoxic serum. He claimed to have had a mortality of only a little more than 8 per cent., whereas the average hospital mortality from scarlet fever during the two years that he was conducting his experiments was about 17 per cent. The Viennese health authorities have approved of the serum, and will supply it gratuitously for the treatment of the children of the poor.

Dismissed for Striking a Patient.—One of the internes of the Emergency Hospital, Washington, had recently to treat a young man brought to the hospital suffering from acute arsenical poisoning. The doctor pumped him out as quickly as he could, and was trying to insert the pump again to complete the work when the patient, still unconscious, shut down on his finger and bit it fiercely. In great pain, he struck the patient a hard blow with his left hand in order to cause him to open his mouth and release the finger. The man recovered and left the hospital none the worse for his blow and making no complaint. When it became known that he had struck a patient, the young physician was dismissed on the charge of having broken a hospital rule in so doing. If the facts are as reported, it would seem that the interne was rather severely punished for what was probably a reflex act of self-preservation.

The Stillman Infirmary, a hospital for Harvard students erected by Mr. James Stillman of this city, was opened in Cambridge on Thursday of last week. The appointments of the infirmary are thoroughly modern, in both medical and surgical departments. Each student patient will have the privilege of being attended by his own physician. The hospital is not endowed, and the question of its support is not yet answered, but it is thought that a sort of sickness insurance fund will be created by the payment of a certain yearly sum by each student. This payment will secure free hospital treatment in case of sickness. The assessment will not be compulsory, but one who does not pay it will be charged for care and treatment in case he is ever obliged to enter the infirmary.

Medical Society of the State of Pennsylvania.—At the annual meeting, held at Allentown, September 16, 17, and 18, the following officers were elected for the ensuing year: *President*, Dr. William M. Welch, Philadelphia; *Vice-Presidents*, Drs. H. H. Herbst, Allentown; G. F. Bell, Lycoming; G. W. McNeal, Allegheny; S. P. Heilman, Lebanon; *Secretary*, Dr. C. L. Stevens, Athens; *Assistant Secretary*, Dr. J. B. Appel, Lancaster; *Treasurer*, Dr. G. W. Wagoner, Cambria; *Trustees*, Drs. T. D. Davis, Allegheny; H. G. McCormick, Lycoming; J. M. Livingston, Lancaster Dr. Wagoner having been nominated for Treasurer, resigned as a member of the Board of Trustees, and Dr. L. B. Kline of Columbia was chosen in his place. York was selected as the next meeting place, and the time the fourth Tuesday in September, 1903.

The Alpha Omega Alpha Society. There has recently been established in the senior class of the College of Physicians and Surgeons of Chicago what the organizers believe to be the first honorary society in a medical school in this country. The object of this fraternity is to maintain a high standard of thought and action in medical schools and in the profession, and to encourage the high ideals supported by earnest students and practitioners everywhere. Not more than thirty names are to be considered for election from any one class of over two hundred students, and the proportion can never exceed one-sixth of the class. The constitution will allow chapters in other medical colleges of the highest standing only, and honorary members may be admitted who shall, in every case, be men or women eminent in the profession. The badge is a key to be worn as a watch charm, designed after the manubrium sterni, upon which are engraved the three Greek letters, Alpha, Omega, Alpha. The Charter members are Messrs. W. W. Root, E. S. Moore, B. Thomas, C. L. Williams, G. H. Howard, W. H. Moore, W. M. Wochos, J. E. Haskell and M. W. Hall.

The President's Injury. At the time President Roosevelt met with the trolley accident in Massachusetts, he received a number of bruises in various parts of the body. All of them healed without suppuration, but one over the tibia gave him more or less trouble and finally showed evidences of a fluid accumulation. This was aspirated while the President was in Indianapolis and a quantity of fluid was evacuated, which, when examined, appeared to be serous, without any purulent admixture. The inflammatory symptoms persisted, however, and there seemed to be a reaccumulation of fluid. Four days after the first operation a consultation was held in Washington, Dr. Shaffer of New York having been called to advise with the other surgeons. A statement given to the press on Sunday by Secretary Cortelyou was that "the increase in local symptoms and a rise in temperature rendered it necessary to make an incision into the small cavity, exposing the bone, which was found to be slightly affected. Thorough drainage is now established and the physicians feel confident that recovery will be uninterrupted. The operation was performed by Surgeon-General Rixey, assisted by Dr. Lung, and in consultation with Surgeon-General O'Reilley and Drs. Shaffer, Urie, and Stitt." Judging from this and other statements of the President's injury which have been published from time to time, it is probable that there was a subperiosteal effusion at the time of the injury. This was not absorbed, but formed a serous collection lifting the periosteum from the bone over a small area.

Cholera in Egypt.—During the week ending September 27, there were 4,421 new cases of cholera and 3,902 deaths reported in Egypt. The epidemic is believed to be declining, and no apprehension is felt that the Egyptian Medical Congress, to be held in Cairo in December, will have to be postponed on account of the cholera.

Obituary Notes.—Dr. Edward Miller Cameron died at his home in this city on September 28, at the age of seventy-three years. He was a graduate of the College of Physicians and Surgeons in the class of 1853, and was consulting physician to Trinity Hospital.

Prof. Willard Humphreys, the head of the Department of German at Princeton University, died on September 26, from an overdose of chloral, taken to quiet an aching tooth. He was born in Brooklyn in 1867, and was graduated in medicine from Columbia University in 1888. He did not practice medicine.

Dr Edmund K. Perrine died at Philadelphia on September 18, at the age of forty years. He was graduated from Jefferson Medical College in 1883 and continued his studies abroad

Dr. B. J. Stokvis, Professor of Pharmacology and General Pathology at the University of Amsterdam, died on September 29, at the age of sixty-eight years.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ELECTION—PROFESSIONAL INCOMES—PROSPECTS OF STUDENTS—HOSPITALS AND NURSING HOMES—SCIENTIFIC AND SANITARY CONGRESSES.

London, September 12.

After all, we are in for a contested election for the General Medical Council. Just as I sat down to write to you my voting-paper arrived, and it has to be returned on or before this day week.

Mr. Joseph Smith is, of course, within his right in contesting the seat, but I feel inclined to join in the regrets generally expressed that he should take the step on this occasion. Sir Victor Horsley has worked with such zeal on the Council that to oppose his re-election seems factious on the part of a professed reformer, and it would certainly be ungrateful for the constituency to reject his further services. I do not approve of all his views, and may sometimes question the wisdom of his method of enforcing them. But his zeal for reform is beyond dispute, and he has put fresh vigor into the Council. Mr. Smith claims as principles a couple of rather inconsequent assertions. He says the seat ought to be filled by a general practitioner, and that the late Sir A. Clark thought so. The act does not give it to a general practitioner, but to a registered practitioner, and to be on the register is the only legal qualification. How a man practises has nothing to do with it. Sir A. Clark's dictum was only an opinion. Mr. Smith's other principle is "topographical representation," by which he means the division of the country into three electoral districts. Londoners will occupy two seats if a countryman be elected, as, he holds, should be the case, but, as he lives only in the suburbs, his election would scarcely further the "principle."

The winter session is close upon us, and teachers are hoping for large entries. The so-called students' numbers of the journals have appeared professedly as helps to decide on the choice of a school, though it is doubtful if students or parents consult them. They usually give some vague advice, and tell students that it is a noble profession, and so on. This year the *British Medical Journal* ventured an estimate of the average income that might be expected by the general practitioner, and put it at £400 to £500. The estimate was copied into several daily papers, and has produced a large crop of correspondence, teeming with ridicule and indignation. The general practitioners, who ought to know, declare that only a small proportion of their number earn so much even after years of arduous work. The competition brought about by the overcrowded state of the profession is, they declare, so great that it is a cruelty to induce men, by inflated estimates, to enter it. Disillusion must follow, and bitter will be the disappointment of those who have been induced by such misstatements to spend their best years in unremunerative labor.

One correspondent, after forty years' work, says, let who will enter the profession, but let their eyes be open. There are, he says, two courses: "(1) The golden rule; the good samaritan—poverty the reward. (2) Self-seeking, a thick skin, indifference to others—ease and comfort the reward." This is by no means the most severe estimate.

Other correspondents have turned their attention to the causes of the poverty in the profession. Of these, hospital abuse is the first, and it is well that this question should be discussed by the public. So far no very important suggestions have been made, and certainly no novel ones. Inquiry into the circumstances of applicants is strongly recommended by some, while others say that committees and managers often resent the proposal, and certainly the candidates for relief do not admire it.

Complaints have been made that well-to-do patients will go to hospitals to undergo operations. Various writers have accounted for this by declaring they could not meet the operator's fees, and the heavy cost of nursing homes. The question is asked who is well-to-do? Is a family man well-to-do with £300 or £400 a year? He can pay his doctor in an ordinary way, and does so. But when it comes to a serious operation, a year's income may have to be sunk. One correspondent relates that he was advised to go into a nursing home. As a favor, he was received at seven guineas a week, paid the surgeon one hundred guineas for operating, besides fees for assistant surgeon, anæsthetist, and for subsequent attention. The home also charged numerous extras, such as drugs, dressings. Altogether his relief cost him nearly £200, besides which he was advised to take a month in the country. How could he do this on an income of £300? Only by incurring a debt which he is now struggling to pay off. So far as the nursing homes go, I can corroborate his statement. Most of them charge from six guineas a week upward. In fact, though nominally established to meet the middle-class sufferers, they are generally as expensive as first-class hotels, and the question arises whether a patient of this class would not do better in his own home—the expense of which is, of course, going on all the time. While writing this I have been interrupted by a patient who has just come out of a "home," and says he was quite satisfied. The cost averaged thirteen guineas a week. He could afford it. It is sometimes suggested that less prosperous patients might be admitted to our large hospitals at a moderate charge for board and lodging. That would be better for the hospital than empty wards. Surgeons in constant attendance at the hospital, as many juniors are, would be able to take such a patient at a lower fee, as entailing less trouble. Against this it is urged that too many already are admitted without pay, and that it would open the door to wider abuse. That may be doubted, but it is also urged, and truly enough, that the public go on subscribing without caring how the funds are spent, or whether the sufferers are deserving or not.

One writer gibes at the clergy as fond of posing as almoners with other men's money, and relates that when asked by such a one to give his services to a charity replied that he could not afford to do so, but would willingly contribute to a charity for marrying people without paying the clergyman.

The British Association for the Advancement of Science was opened on Tuesday. The presidential address of this peripatetic society—the mother of the British Medical and other associations—is always looked forward to as an interesting event. Belfast was the meeting place this year, as it was twenty-eight years ago, when the late Professor Tyndall presided and defended Darwin in an address abounding in rhetoric. This year Professor Dewar is president, and in his address, besides a statement of recent researches on cold, and the attempt to reach an absolute zero, he brought before his audience the inadequate equipment of this country in chemical science, comparing the antiquated adherence to rule of thumb of our chemical manufacturers with the enterprise of Germany. He estimated that German chemical works employ 4,500 trained chemists, 74 per cent. of whom are university men, while British works do not employ more than 1,500, of whom only 31 per cent. are scientifically trained. This accounts for a transference to Germany of trade worth £10,000,000 a year—most of it founded on the discoveries of English chemists, which have not been appreciated here. In the same way our former monopoly of the manufacture of fine glass for optical purposes has passed over to Germany. Other examples might be given which show that these industries depend on science, and that, while Germany spends large sums on encouraging and endowing scientific work, our government ignores it. Professor Dewar appealed to the King, who has displayed much interest in medical research, to exert the influence of the crown in favor of science, and remarked that forty-three years ago His Majesty's father, who had studied the growth of practical science in Germany, foresaw what would be the result, and warned the association that the commercial future of the country depended on the recognition of science.

On Wednesday the sections began work, and anthropology was to the fore, Dr. Cunningham discoursing on giants, who, he said, were feeble in mind and body, and died early—their average life being only a fraction over twenty years.

Another sanitary congress was opened on Tuesday. It was the nineteenth annual meeting of the Sanitary Institute, and was held at Manchester. Earl Egerton of Tatton presided, and over 300 sanitary authorities throughout the kingdom were represented, as well as a number of societies—the total number attending exceeding 2,000. Lord Egerton, in his inaugural address, referred to the condition of town populations as degenerated in size and physical power from the ancestors, who were attracted from the country districts by high wages. The percentage of army rejections for physical disabilities shows that this process is still going on. The evidence of the Royal Commission on physical training led to the hope that its recommendations would be adopted, and thus contribute to the sources of national strength. The training of children and instruction in hygiene were considered by Lord Egerton, who referred to the deaths from typhoid in South Africa, and to the importance of a knowledge of the value of boiling water as a preventive. But, whatever our ignorance of sanitary matters, his lordship said we were far in advance of other European nations, and that even the improvements in continental hotels have been borrowed from us in order to satisfy the requirements of English visitors. He hoped the deliberations of the congress might pave the way to greatly improved sanitary conditions, and to the greater vigor and regeneration of our fellow countrymen. The Health Exhibition of the Congress was opened in the afternoon by the Lord Mayor of Manchester.

Book Reviews.

Death and Sudden Death. By P. Brouardel, Professor of Medical Jurisprudence, Dean of Medical Faculty, Paris, and F. Lucas Benham, M.D., B.S. (Lond.), M.D. (Adelaide). Second edition. New York: William Wood & Co., 1902.

The first edition of this book appeared in 1894, and the present one is much amplified by the addition of new matter by Dr. Benham. The body of the work is so essentially the production of Professor Brouardel that Dr. Benham appears more as an annotator than a co-author. The additions are, however, of much value, and are plentifully described through the text, preserving its continuity and bringing it abreast with later observations on the subjects treated. For the most part they are corroborative of the author's original views, and add especially to the interest of the book in a statistical and demonstrative way. It is fair to say that in its present shape the work is the most exhaustive of its kind, and contains an amount of material which cannot fail to be of value to the student of pathology in search of strange and interesting facts, and to the medico-jurist who is anxious to explain the many problems connected with all the varied forms of sudden death under suspicious circumstances. A remarkable feature of the book is the great number of facts collected bearing upon all forms of unexpected death. But best of all are the lucid pathological explanations for the different phenomena. In the discussion of the latter the reader cannot fail to be instructed and edified, as he will be surprised to learn that certain theories which he has believed to be entirely tenable are without foundation, and certain facts, which he had accepted unqualifiedly, are without substantiation. He will discover that sudden death cannot always be accounted for by post-mortem lesions, and that the exact moment of dissolution may often be a matter of grave doubt. The first chapter deals with this subject, and is a fitting introduction for what is to follow. "We cannot admit in forensic medicine," says the author, "that stoppage of the heart is a certain sign of death," and then follows the argument to prove his position. Exception is also taken to the term "death by syncope," the author adopting the view of Brown-Sequard that life becomes extinct by inhibition of one or other of the primary nerve-centers. The illustrations in point are fatal blows upon the epigastrium, larynx, nostrils, and genital organs. The author is not willing to admit that any single sign of death is absolute under all circumstances, but prefers to take into account a series of phenomena as cumulative proof. It is comforting to learn, however, that there is no real danger of premature burial when a physician can be obtained to certify to the death of the individual. The cases given of apparent death are extremely interesting, and dispose very effectually of some of the pretensions of those fakirs who have so long deceived the believers in miracles. The enumeration of the usual causes of sudden death occupy the major part of the treatise, and are grouped under lesions of the heart, circulatory, cerebrospinal, respiratory, digestive, and genitourinary systems, and those occurring in fevers, hæmophilia, diabetes, uræmia, and alcoholism. The description of these varied pathological conditions is in the highest degree satisfactory, giving the student and practitioner a mass of practical information which we do not remember having seen collected in such form in any work on morbid anatomy. Not the least interesting part of the book is that which follows the body from the moment of death until final dissolution, describing all the different phases of decomposition from the commencement of cadaveric rigidity until "dust to dust" ends the lesson of mortality.

Alleged Cure of Leprosy.—A report from St. Louis states that Dong Gong, a Chinese leper patient at the Quarantine Hospital in that city, has been recommended for discharge as cured by Dr. M. C. Woodruff, superintendent of the hospital. The man was sent to quarantine on November 6, 1901, with clearly-defined leprosy. Dr. Woodruff took charge of the patient, and began a method of treatment which a few months ago caused the patient to show such improvement that the physician said that he believed that the leper would be permanently cured, and he now recommends his discharge. A medical commission has been appointed to examine the patient, and if its report sustains that of Dr. Woodruff, Dong Gong will be released.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Sept 25, 1902

The Iliopsoas Bursa.—F B Lund considers that this bursa has received too little attention in the past, yet it may be involved in osteoarthritis, gonorrhœal infection, or suppurative arthritis of the joint Incision of the bursa affords an easy method for reaching and draining the joint The bursa is best reached by a vertical incision just below Poupart's ligament, between the anterior crural nerve and the femoral artery. When the bursa is connected with the joint a ready diagnosis of the condition of the head of the femur and acetabulum may be made by passing the finger through the opening in the bottom of the bursa. Iliopsoas bursitis should be more often considered in the differential diagnosis of obscure tumors in the groin, and such a diagnosis should be possible in cases in which a hip-joint is known to be diseased, and a tumor suddenly appears in front of the joint, under the anterior crural nerve and femoral vessels, which is very painful and tender, and, perhaps, gives to the palpating finger a sensation of deep fluctuation.

Operative Treatment of Varicose Veins.—J. B Blake holds that the multiple ligature is distinctly less effective than other methods, and that we are left with the choice of an extensive dissection, or a local excision in the thigh, or a combination. Trendelenburg's operation is the type of the last-named class. It consists simply in the ligation of the internal saphenous vein in two places, five or six centimeters apart, in the upper third of the thigh, and the excision of the short intervening portion. It has one object—to interrupt the blood column. It is indicated only in those cases in which, the limb being raised and made free from blood, the saphenous vein being compressed, and the leg lowered, the blood is seen to rush in a wave down into the empty vein the moment the pressure is removed. Trendelenburg's operation does not contemplate the removal of local varix—of veins which have become thrombosed—nor of those which threaten to rupture. While foreign operators have reported excellent results, the writer has not been able to find any printed report of series of cases treated in this country by the Trendelenburg method.

Journal of the American Medical Association, Sept. 27, 1902.

The Inoperable Nature of the Pulmonary Tuberculous Lesion.—H. J. Whitacre calls attention to the excision of pulmonary tuberculous disease, the drainage of tuberculous cavities, the nitrogen-compression method, devised by Murphy, and the treatment of tuberculosis by extensive thoracoplasty. He presents the following conclusions: (1) The excision of the pulmonary lesion is, in the vast majority of cases, both impossible and irrational. (2) The incision and drainage of tuberculous cavities in the lung does not seem to be a justifiable operation. (3) The nitrogen-compression method is a rational procedure in a limited number of selected cases; its application is safe, the effect on the tuberculous lungs seems favorable, and the results reported are encouraging. (4) Thoracoplasty, while based on the same sound principles that give value to the nitrogen method, is an extensive operation, involving great risk to life, and furnishes slight promise of improving the percentage of cures obtained by climatic treatment.

Repeated Small Hemorrhages as a Cause of Severe Anæmia.—J. B. Herrick gives the clinical histories of cases illustrating the fact mentioned in the title of his paper. Most of them were cases of hemorrhoids. He says that the practical lesson to be drawn from such clinical experience is that severe anæmia, threatening life and producing a pallor and weakness equal to that of the pernicious variety, or suggesting some hidden malignant disease, may at times be caused by repeated small hemorrhages, often from a condition as easily recognized and easily remedied as hemorrhoids. This form of anæmia may prove fatal; and cases of a transformation of the type into the pernicious are reported, especially by English writers; and Ehrlich inclines to the belief that the pernicious variety may have its origin in repeated hemorrhages. The careful blood examination, showing the chlorotic or secondary type of anæmia, should give encouragement for immediate measures looking toward a checking of the hemorrhage. The hemorrhage once stopped, recovery, though it may be slow, is generally complete.

Etiology and Treatment of Chronic Cystitis.—A C. Stokes says that the etiology of this affection is essentially a bacteriological problem The germs most frequently found are, in order of frequency, colon bacillus, streptococcus, staphylococcus in several species, typhoid bacillus gonococcus of Neisser, proteus vulgaris, and the tubercle bacillus. The fermentation of the urine has been shown by Melchior and Muller to be rather a result of infection than a cause of cystitis, certain germs producing ammonium carbonate from urea, thus converting the urine into an ammoniacal substance giving an alkaline reaction. The chief germs which do so are the micrococcus of urea, species of the pyogenic germs, and occasionally the colon bacillus and *Proteus vulgaris*. It will be found in a goodly number of cases—perhaps one-half—that the urine is acid, and we may still have the evidences of cystitis present. Treatment embraces the following: (*a*) internal medication; (*b*) washing bladder; (*c*) installation into bladder, (*d*) topical application; (*e*) stretching bladder; (*f*) operation. In the cystitis of gonorrhœa he instills into the bladder a 1 to 5,000 silver nitrate solution, about once in three days, using about 30 c.c., and increases the strength gradually, sometimes reaching 1 to 200. In infections from the colon and tubercle bacilli he has found mercuric chloride to be a very efficient remedy to instill into a bladder which has been washed out clean by some good antiseptic He uses about 30 c.c of a 1 to 20,000 solution, putting it into the bladder once in two or three days, as the irritation seems to allow, gradually increasing in strength. This should never be used in gonorrhœal cystitis, nor silver nitrate in the tuberculous form. In tuberculous cystitis he has often obtained good results from installation of about two drachms of a 10 per cent. solution of iodoform in glycerin, used in the same manner as above.

Medical News, September 27, 1902.

School Life and Insanity.—J. S. Lankford emphasizes the fact that the burden laid upon our children is far beyond the limits of safety. It is a powerful factor in the causation of insanity. The weight must be lightened, or else the children will suffer greatly, and posterity will reap degeneration from the seeds which we are sowing. In order to save our children from this fate, promote their proper mental development, and protect posterity, we must: Reduce the course of study. Develop the body co-equally with the mind. Institute a better classification of pupils, and study individual tendencies and requirements. Use object lessons rather than books · Introduce industrial training as rapidly as possible. The text-books must be abbreviated, or a number must be dropped from the course. Industrial training, perhaps, offers the best relief from the present system of oppression. The writer thinks that we should strive for a system of education which permits and promotes the natural evolution of the whole human creature without undue strain, and which utilizes the best of nature's gifts. Insanity, in many forms, will then materially decrease.

The Importance of Diagnosis in Skin Diseases Considered Generally and as Applied to Particular Diseases.—Isadore Dyer gives three cardinal points to be considered in the diagnosis of skin diseases: (1) The location of the disease is the first point of study; (2) The distribution on the particular region on which it occurs; (3) The arrangement of the component parts or lesions. The lesions themselves must be studied in detail, so as to classify the disease. The writer then sums up the following points in diagnosis, which are valuable as guides: (1) Eruptions which are bilaterally symmetrical are either constitutional in origin or are exposed to the identical local cause on both sides of the body. (2) Parasitic diseases are found on the flexors, preferably, or on the exposed parts of the body. (3) The more chronic diseases of the skin become, the deeper the color, on the other hand, the brighter and more vivid the color, the more acute the disease. Scales are the evidence of chronicity; likewise ulcers and scars. (4) Fluid lesions seldom itch; papular eruptions almost always itch. (5) Single ulcers are almost always syphilitic, trophic, traumatic, or malignant. (6) On the face ulcers are seldom due to other causes than cancer, syphilis, or tuberculosis. (7) The color of eruption on the Caucasian is always important in diagnosis Syphilis is pigmented brown or buff, as its eruptions fade or disappear. Leprosy is always shaded brown or purple. Lichen ruber is always violaceous or white Psoriasis is always pale red, covered with white scales. Seborrhœic eczema is always yellowish red with greasy scales. (8) The odor in skin diseases is important Syphilis, when ulcerating, smells rancid, favus smells mousy; varicose ulcers smell sweet; neurotic ulcers, or those of leprosy, are nauseous, foul and intense, rodent ulcer has a smell of rotting meat.

Bronchial Asthma and Allied Disorders; Their Summer Treatment. Beverley Robinson states that asthma is a symptom of many allied conditions, as a rule, it is explained by none solely The acute dyspnœa should be relieved as rapidly as possible provided always it is done rationally and without causing, immediately or subsequently, avoidable injury to the patient. In general, an injection of morphine and atropine will relieve many urgent cases But there are exceptions Again, inhalation of amyl nitrite often gives great relief. There are also exceptions to be noted here. The writer believes in the great efficacy of iodide of potash. Generally, when the suffering is acute or moderate, it should be combined with Hoffman's anodyne. As to the climate best suited to these cases, experiments must be made with each individual case until the place best suited to his trouble shall be found. If the patient cannot go to Europe, the writer advises sulphur springs in the United States, preferably Sharon or Richfield, or some region of the Adirondacks. As to other treatment, it should be pretty much as it is under the same conditions in the winter. Search should be made for any other trouble—for any sinning agent or organ; and this, when found, should be corrected. In chronic cases, the heart is nearly always affected. Digestive disturbances often accompany bronchial asthma. The food should be simple, wholesome, and well prepared. The drinking water should also be pure and potable. In cases in which there is an interdependence at times of eczema and other cutaneous disorders and asthma, arsenic is the most useful of all remedies, both for the dyspnœa and itching. The writer states that he is chary of both much medicine and much surgery. He believes decidedly in the daily use of all hygienic methods.

New York Medical Journal, September 27, 1902.

The Treatment of Yellow Fever.—J. H. Egbert says that, as soon as the diagnosis is established, we must seek to relax the peripheral capillaries, quicken the portal circulation, and stimulate the emunctories. Diaphoresis must be brought about by blankets, hot drinks, and hot pediluvia. An active cathartic should then be given, and during the continuance of the primary fever, he advises the use of aconite with sweet spirits of niter and acetate of ammonia Hot vapor baths are also of service. If, within a day, the initial fever has not yet subsided, he gives acetanilid and quinine. Opiates are always contraindicated, while nervous symptoms may be combated with bromides, cold compresses to the head, and hot ones to the feet. For remissions, the quinine should be continued, mineral acids given, and the liver and kidneys kept active. Strychnine is an excellent stimulant for depression and general debility. For the third stage, in which the tendency to collapse is so noticeable, we must use the cardiac stimulants, alcohol, sponge the surface of the body with water, and give copious enemas of warm water, to which a little salt may be advantageously added. The latter procedure also stimulates the kidneys. The author advises rigid quarantine of suspected persons He does not regard the mosquito as the only carrier of infection, but claims that the latter is certainly conveyed by fomites.

Placenta Prævia; Its Early Recognition and Treatment.—E. A. Ayres calls attention to the fact that the placental site is more vascular than the remainder of the uterine wall, and that it is also thicker and softer. With thin abdominal walls and lax uterine muscle, the placental edge may be palpated, while if it overlies a portion of the fetal body, palpation of the latter may be obscured, and the fetal heart sounds weakened. The "uterine souffle" is not a safe guide to the location of the placenta. There is also an increase in bulk at the placental site of the uterus. It is possible to palpate the uterus through the rectum, provided an anæsthetic be used. Direct vaginal palpation will generally locate a central implantation. In some cases a diagnosis may be made by the soft boggy or mushy character of the lower uterine segment, accompanied by a marked pulsation. As to treatment, Ayres thinks that in central or marginal implantation the eighth month of pregnancy is the ideal time for the induction of premature labor. Otherwise, in the majority of cases, we must be guided by circumstances, the safety of the mother being the paramount consideration. If the mother can be placed in a hospital and have a skilful physician and nurse constantly at hand, and the pregnancy is before the eighth month, and, particularly where a living child is especially desired, it is just and conservative to delay. Should a severe hemorrhage occur then, it may be better to place the patient in bed, to give morphine until equilibrium is restored and recovery from the immediate loss of blood and shock is secured, and then to proceed to induce labor. Cases of partial implantation seldom call for induced labor. Practically, such cases are rarely recognized before delivery, which is accompanied by a severe initial hemorrhage, which ceases as soon as the head engages.

Pain as a Symptom in Gynecological Disease.—S. M. Brickner says that pain under the conditions implied in the title of his paper may be spontaneous or invoked. It is spontaneous in all acute diseases, salpingitis, perimetritis, etc., and in some chronic affections, especially new growths. Such pain may affect the gait, and causes dyspareunia. Faults of the uterine suspensory apparatus cause pain in the standing position, while pain in the sitting position may be due to hemorrhoids, to affections of Douglas's pouch, or to hypertrophic elongation of the cervix. Pain may be evoked at the examination by the physician. Again pain may be intermittent or continuous, lancinating, or colicky. Its seat naturally varies with the disease. The frequent pain referred to the back is very often due to a tugging on the sacrouterine ligaments or to a laceration or neoplasm of the cervix. Pain in the abdomen, at the level of the pubes, may be ascribed to bladder or uterine disease; or if it is on one side of the abdomen, to some tubal affection. The latter is usually accompanied by radiating pains, due to compression of nerves, and this is very frequent in the region of the sciatic nerve. If there happens to be a descent of the uterus, we will find symptoms on the part of the bladder, dysuria, polyuria, or pollakiuria. If the uterus has fallen back into the cul-de-sac, we shall find symptoms on the part of the rectum, such as pain in defecation, constipation, or tenesmus and the same symptomatology holds true for affections which are localized in Douglas's pouch. The ovarian and tubal affections are eminently painful ones. Acute ophoritis and salpingitis easily occupy the first place. Ovarian neoplasms do not offer any characteristic evidences of pain. What discomfort there is, is due to the weight of the mass. When adhesions form, the picture is changed, and we often have excruciating pain. Prolapsed ovaries are, as a rule, painful. Tubal pregnancy, also, is a very painful affection. Tuberculous peritonitis also has characteristic pains, which differ from those of other affections.

American Medicine, September 27, 1902.

School Vaccinations.—William R. Fisher says that it is not to be supposed that all of the vaccinations which are annually done at the beginning of the school year are successful. There is good reason to believe that continuously a very considerable number of children are attending school who are unprotected by vaccination, although they have presented certificates of the same. In certain rural districts, too, there is no restriction upon admission to school, and the proportion of unvaccinated scholars is probably very high. It has been noticed that the number of primary vaccinations among the applicants for certificates is steadily increasing. Parents defer the vaccination of their children till they are of school age. Thus a large number of young children are left without protection at an age when susceptibility to smallpox is great, and the mortality is high. In the warm season, too, the course of vaccination in human beings is not as satisfactory as at other times of the year. Also, in hot weather, conditions necessary for the production of a high-grade vaccine virus cannot always be secured, nor can a thoroughly active virus be protected from injurious exposure to heat during transportation. So a good many failures in vaccination are met with in August and the beginning of September. Hot weather also favors the development of complications which arise from septic infection. If existing legislation is producing results which the enemies of vaccination can make use of, the sooner it is amended, the better. The power of issuing certificates of vaccination should be restricted to the health officers of the State, city, town, or borough where it properly belongs. They should determine the protection of each individual solely by the existence of the typical vaccination scar. This certain, well-defined sign cannot be forged.

Relaxation of the Synchondrosis of the Symphysis Pubis, Following Normal Labor, Treated by Resection and Wiring.—From a perusal of the literature, B. R. Schenck notes the following chief points concerning these cases which are comparatively rare: Separation of the pubic cartilages occurs much more frequently in multiparas than in primiparas, particularly in women who have borne more than three children. When occuring in primiparas, it is usually in those in the third or fourth decade of life. In a large percentage of cases the separation took place in difficult labors, generally during a tension or forceps delivery. A generally contracted pelvis has most frequently been found. When there is an actual rupture, this often takes place with a loud, cracking sound. When there is relaxation of the ligaments, allowing the bones to slip upon one another, the condition may not be discovered until after confinement, usually when the patient first moves herself in bed. The chief symptoms are pain over the pubic arch, pain while lying in any other position than on the back, and pain and difficulty in walking. Suppuration frequently occurs, destroying the articular cartilages. Duhrssen reports twenty-three cases in which this took place. Simple measures, such as strapping with adhesive plaster, or the application of a tight bandage over the hips usually suffices to keep the tissues in position, until union takes place. When there is no infection, this generally occurs in from four to six weeks. The writer then reports a case in which the loosening of the articulation took place about the fifth month of pregnancy. Dr. Kelly operated eight months after her confinement. He resected the synchondrosis of the symphysis pubis and wired the pubic bones with heavy silver wire. The silver sutures were twisted tightly, thus perfectly bringing together the pubic bones, and the wound was closed with catgut sutures. A retention catheter was placed in the urethra and the patient was strapped down to a Bradford frame. She was kept on the frame five weeks, and in bed two weeks longer, after which she was up and about improving each day. On leaving the hospital, she could walk with no discomfort. There was no callous and no tenderness.

Philadelphia Medical Journal, September 27, 1902.

Leucocytosis in Lead-Workers.—L. Napoleon of Boston gives the results of his study of twenty-four cases of this nature. The longest period any patient had worked before symptoms developed was twelve years, the shortest, six weeks. The variety of work appeared to exercise but little etiological influence, but in all cases in which special care had been taken to cleanse the hands thoroughly before taking food, symptoms developed late, but were always severe. Three of the cases gave a leucocyte count below 10,000, and the remainder gave counts varying between 10,000 and 25,500. The number of red cells and the percentage of hæmoglobin bore no constant relation to the number of leucocytes present. In this series of cases the average number of leucocytes was 12,600; the greatest number being 25,500, the smallest, 4,000. A moderate reduction in the number of erythrocytes to 3,500,000, is the rule, yet in severe cases they may fall below this number. The hæmoglobin fluctuated between 32 and 85 per cent. No constant ratio was found between the number of red cells and the percentage of hæmoglobin. A rather high grade of poikilocytosis was noted.

An Additional Case of Tumor of the Brain, Localized Clinically and by the Röntgen Rays.—Charles K. Mills, G. E. Pfahler, and J. B. Deaver were all interested in this case, which Mills reports. The patient was a woman twenty-one years old. Her symptoms began apparently three years before she presented herself to the writer. While going down stairs one day she felt her left leg give way. She was not unconscious, but the left half of her body was numb, and her speech was somewhat thick. This condition lasted about an hour. From this time on she had attacks of weakness and numbness in the left arm, leg, and trunk, and sometimes in the face and tongue. At the end of the first year she began to have very severe and almost continuous headaches. She gradually lost power in the left arm and leg. She finally lost the sight in both eyes. Her paternal grandmother died of cancer of the breast; her paternal aunt of cancer of the stomach, and her father's cousin probably of pyloric cancer. A skiagraph was taken of the patient's head, and a shadow was detected. This was definite, but not very marked. Its deepest portion corresponded to a point just in front of the central fissure. Operation was performed, and a large tumor removed, which proved to be a spindle-cell sarcoma, and was encapsulated. There were various points of interest about this case: Astereognosis, ataxia, and paresis were all present, but as the separate regions of stereognostic perception, the so-called muscular sense, and the representation of movements, were all involved, no conclusive inferences could be drawn. A point of physiological interest was the entire absence of impairment of cutaneous sensibility, although the postparietal region was distinctly involved. This may be accounted for either on the theory that the limbic lobe is the sole cortical seat of the representation of cutaneous sensibility, or that a lesion must be, in part at least, subcortical in order to cause persisting cutaneous anæsthesia, or, finally, that the lesion must be bilateral in the postparietal region in order to bring about its effect. The writer concludes from the study of this case that as soon as a brain tumor is clearly diagnosed, if presumably it is in an accessible area, operation should at once be performed. A Röntgen ray investigation should be added to the other methods of making a diagnosis. Large openings in the skull should always be made. The operation should be osteoplastic, in order not to leave a permanent opening in the skull and to add to the chances of maintaining the vitality of the bone flap. Preparation should always be made to perform a Crile operation for temporary clamping of the carotids as soon as hemorrhage becomes threatening. The operation in some cases should be done in two stages, the propriety of this procedure being determined by the circumstances attending the first operation.

The Lancet, September 20, 1902.

Death from the Bursting of a Tonsillar Abscess.—A. Lyons reports the case, his patient being a man of twenty-eight years. About half an hour after admission to the hospital he coughed and became cyanotic. Before aid could be summoned he was dead. Autopsy showed that a large abscess in the left tonsillar region had burst, and that considerable pus had gotten into the upper half of the larynx. The author knows of but one similar case.

Mucin and Malignancy; Facts and Theories.—W. Stuart-Low, having observed in a series of fifteen cases of malignant growths a deficiency of mucus, which condition he calls hypomyxia, was led to give mucin internally in several cases. He has obtained somewhat encouraging results, but as yet nothing positively definite. He has his patients abstain from the use of salt and tobacco, which two factors he regards as of importance in the etiology of malignant growths.

Persistent Hereditary Œdema of the Lower Limbs.—Two cases are reported by H. D. Rolleston of a brother and sister, aged thirteen and sixteen years, respectively. The œdema was permanent as long as they lived ordinarily, but became more marked after exercise or a bath, and disappeared after a rest of some days in bed. It was troublesome only from the size and weight of the legs, but caused no pain or other discomfort. The mother had the same condition, but five other children were free therefrom. The blood condition in both children was normal, except that there was in the differential count a diminution in the polymorphonuclears, and a corresponding increase in the lymphocytes and mononuclear forms. No treatment, except position, appeared to have the slightest effect. Such cases have generally been regarded as hereditary angioneurotic œdema, but the author denies that his own patients belong to this category. He rather considers them as presenting features suggesting Raynaud's disease and erythromelalgia, but differing from them in many particulars. He offers no theory for the underlying cause of the œdema.

Occlusion of the Lateral Sinus and Internal Jugular Vein an Essential Part of the Method Employed by Nature, and by the Surgeon in Imitation of Nature, for Arrest of Acute General Infection Having Its Origin within the Temporal Bone.—This paper is by C. A. Ballance, who has accompanied his suggestions with a profuseness of quotations from ancient and modern writers, medical and lay. He believes that the surgical treatment should be the same whether the disease has had its origin in an acute or in a chronic inflammation, and that the dealing with the inflamed sinus and the inflamed vein in a manner comparable to the proper surgical treatment of acute inflammation in other parts of the body by free incision or ablation is not only not dangerous but highly beneficial and curative. When it has been decided to deal with the vein before beginning to operate, the operation on the vein should precede that on the temporal bone, and when operation on the vein is first decided upon during the course of the temporal bone operation, it should be forthwith carried through without waiting for the completion of the operation on the sinus region. The vein when not thrombosed is exposed in the neck about the level of the cricoid cartilage, and the surgeon, tying its tributaries and dividing them between two ligatures, should remove it completely up to the bulb. Ablation of the vein is better than ligature. It involves ligature of the tributary veins, and as the line of incision involves the external jugular that vessel is also necessarily tied. In cases of thrombosis of the internal jugular, the ablation will begin at its junction with the subclavian, and it will be no difficult task in these circumstances to find on its inner side, lying on the scalenus anticus, the vertebral vein and to ligate and divide it also.

The Cancer Problem.—This question is discussed by W. V. Shaw, who starts with the thesis that malignant tumors are characterized by cell proliferation that in its biological relations enters into opposition with the physiological tissues from which they are derived. That the life-history of cancer cells is atypical cannot be doubted when the nuclear changes in these cells are studied. Abnormal mitotic figures are extremely common. Asymmetrical division of the nucleus is frequently observed. In certain forms of sarcoma giant cells are a prominent feature. Hyperplasia of the nucleus and hyperchromatosis of certain mitotic figures are also characteristic of these new growths. These facts point to changes in the life-history of the cells. Again, in carcinomata certain bodies have been observed in constant and close relation with the nucleus of the cancer cells. Some have considered these to be parasitic organisms causally connected with the changes referred to above. Others claim that these are degenerate portions of the nucleus or some endogenous structure formed from the nucleus. Assuming this latter explanation, these bodies give a further indication of the abnormal protoplasmic activity of the cell. How, then, do the above nuclear changes influence the life-history of the cell? To the nucleus alone is assigned the perpetuation of the type and characteristics of the cell from generation to generation, and when any alteration takes place in the nucleus there are corresponding changes in the cell. The nucleus plays an important and controlling part, not only in the process of cell-division, but in the functional activity of the cell. Recent experiments have shown that the stimulation of the ova of certain lowly-organized animals will cause the multiplication of cells and the ultimate development of free swimming larvæ from such ova without previous fertilization of the ova by spermatozoa. Adult organisms do not develop, but larvæ, capable of independent existence, can be produced. This result has been obtained by acting upon the ova with strychnine, and also by mechanical agitation of the ova. The multiplication of cells in these larvæ is comparable with the attempts at reproduction of tissue in partially damaged structures, of which the giant cells in tubercle and the vascular connective tissue of healing wounds are examples. The growth of cancer cells is then to be looked upon as an effort of reproduction in damaged tissue, the incidence of the damage falling upon the nuclear structures. This damage alters the nature of these structures so that the vegetative functions of the cell run riot, and the cells become parasitic toward the organism in which the growth is taking place. The nature of the changes in the cancer cells and their life-history thus becomes the important point from which the origin of the cancer process must be determined. What is the cause of this vegetative activity? Is it an initial damage to the cells, in response to which there is an over-active attempt at repair? The peculiar frequency of such disease in organs once active but now undergoing involution would suggest this explanation, and also the frequent origin of malignant growths in damaged tissue further supports this view. This is in accordance with Weigert's observations on the over-production of damaged parts in the process of repair. Hence, in considering the etiology of malignant growths, the causation of this vegetative activity must be investigated. It may be chemical, as in the experiments with strychnine referred to above, or it may be biological, as in the theories that have been advanced as to the microbic origin of cancer. The actual epithelial cells are the source of the infective process, as shown by the reproduction of the type of cells in secondary growths, and the penetration of the surrounding tissues by the epithelial cells.

British Medical Journal, September 20, 1902.

The Differential Diagnosis of Yellow Fever and Malignant Malaria.—George C. Low, after summing up the common symptoms of these two diseases, declares that it is fortunate that we possess an almost decisive method of at once determining between the two diseases—namely, the examination of the blood for the malarial parasite. Quinine must not have been administered before the blood examination is made. Therefore, it is of extreme importance to examine the blood carefully, especially at the commencement of an epidemic, when doubt may exist as to the nature of the disease. Post mortem, the diagnosis is simple. The presence of the characteristic malarial pigment and of parasites localized in the brain, spleen, or gastric mucosa, at once tells that the case is one of malaria, whereas in yellow fever these are absent, and the liver shows the typical fatty degeneration.

The Prophylaxis of Sunstroke.—Andrew Duncan gives an account of his personal experience with sunstroke in India. He had four attacks. After reading an article on this subject by another sufferer, he followed the advice contained therein, which was as follows: Since no one gets heatstroke from the great heat of furnaces in an arsenal, it is concluded that not the heat rays, but the actinic rays of the sun are the cause of sunstroke. Thus the body is treated as the photographer treats his plates, and is enveloped in orange-colored garments. Whenever the writer had a march to perform in hot weather, he wore an orange-yellow shirt, lined his helmet with orange-yellow flannel, and had a pad of the same color stitched into his coat down the back. He never again felt the effects of the sun. He adds that as a further precaution the helmet might be lined with a layer of tinfoil.

The Affiliations of Yellow Fever.—James Cantlie thinks that perhaps we have looked upon yellow fever too much as a disease wholly unaffiliated with diseases which present many clinical symptoms in common. The most notable of these ailments affiliated in symptoms and even in signs with yellow fever, are: (1) Weil's disease; it closely resembles a mild attack of yellow fever; jaundice is of constant occurrence, appearing about the same period of the illness as in yellow fever; the post-mortem signs are alike in many respects. (2) Acute yellow atrophy of the liver is pathologically allied, in some respects, to yellow fever, in this disease, as in yellow fever, the nature and cause of the poison is unknown; the jaundice, however, appears before the pyrexia, whilst the opposite obtains in yellow fever. (3) Bilious remittent fever presents many symptoms akin to yellow fever, and especially in the fact that the so-called jaundice in both diseases is due not to biliary diffusion, but to modified hæmoglobin, which, being free in the blood, is deposited in the skin, etc.; the former disease is especially prevalent in the area in which yellow fever exists. (4) Bilious typhoid is also a term which serves to confuse our nomenclature; it may well be asked whether the "typhus bilieux" is not allied with yellow fever. (5) Hæmoglobinuric fever presents some points of resemblance to yellow fever, though there are many features of differentiation; it is unfortunate that recent inquiry has not given us a bacterium as the etiological factor in yellow fever, for mere clinical evidence is wholly unsatisfactory.

Deutsche medicinische Wochenschrift, September 4, 1902.

Experimental Cancer Investigations.—E. V. Leyden and F. Blumenthal communicate the results of some preliminary work which they have conducted with respect to the etiology and treatment of carcinoma. All their attempts to transfer by inoculation human cancers to animals were unsuccessful. Cancerous rats and mice could not be kept alive for a sufficiently long time to enable experimentation upon these animals to prove satisfactory. Dogs were selected as the most suitable animals, and transference of carcinomas from one animal to another was easily effected. Carcinomatous dogs were treated in two ways: (1) By the inoculation of the serum of rabbits which had been previously injected with carcinomatous tissue of dogs. (2) By the inoculation of a fluid which had been obtained by extractions from carcinomatous tissue of dogs. Both of these methods of treatment were successful, in that the tumors were decreased in size, softened, and in some instances entirely broken down thereby. Microscopical examination showed that the tumors were undergoing a fatty degeneration, as the result of the inoculations. The principals of the latter method were applied to the treatment of human carcinoma. Three patients were inoculated with a fluid obtained by extraction from human carcinomas. All three were inoperable cases, and all but one were far advanced in age. All of the patients died. Upon autopsy no metastases were found, and the tumors were in a state of fatty degeneration. These experiments, while not in any way conclusive, give good reason to expect that much advance in the treatment of carcinoma will be obtained by further study along these lines.

Injurious Effects Produced by the Subcutaneous Injection of Tavel's Salt-Soda Solution.—Baisch is very outspoken concerning the injurious effects produced by the subcutaneous injection of Tavel's salt-soda solution. Baisch reports six cases in which it was used. In all of the cases extensive gangrene and necrosis was produced. One of the patients died as a direct result of the gangrene. Even under the most favorable circumstances the lesions caused by the necrosis showed little inclination to heal, and in several instances transplantation was necessary. In every instance rigid antiseptic precautions were used at the time of injection, and the fluid used was sterile, so that the unfavorable results could not be attributed to neglect in these matters. In order to ascertain to what the injurious effects were to be attributed, animal experimentation was undertaken. Guinea-pigs and rabbits were inoculated subcutaneously with physiological salt solution and with Tavel's solution under rigid antisepsis. The animals which were thus treated with the physiological salt solution never showed any ill effects therefrom, while those upon which Tavel's solution was used regularly showed a necrosis and gangrene. Other animals were subcutaneously injected with a $2\frac{1}{2}$ per cent. soda solution (calcinated soda was used). These animals likewise developed an extensive gangrene and necrosis whenever any considerable amount of the solution was used. Intravenous and intraperitoneal inoculations of Tavel's solution and the pure soda solution did not produce any unfavorable results. From these experiments it is seen that the ill effects produced by the subcutaneous injection of Tavel's solution are due to the soda which this contains, since this causes a destruction of the cells of the subcutaneous connective tissue.

Berliner klinische Wochenschrift, September 8, 1902.

Herpes Laryngis Menstrualis.—Bettman describes a form of herpes which affects the larynx and occurs chiefly in connection with the menstrual epoch. The patient described was suffering from secondary syphilis, and had suffered from herpetic eruptions at various times on other portions of the body. The laryngeal affection appeared suddenly during a menstrual period. It was not accompanied by any general symptoms. There was a temporary loss of voice and some swelling and redness of the throat. Several herpetic spots appeared upon the face simultaneously. An examination of the larynx showed the presence of several typical herpetic lesions. The acute laryngeal symptoms were only of a few hours' duration but the lesions did not entirely disappear for several days. The patient was under occasional observation for a period of about two years thereafter. No laryngeal trouble was ever again noticed, but herpetic eruptions in other regions were almost a constant accompaniment of menstruation. They were never observed at any other time. The case was undoubtedly one of herpes menstrualis, and the single attack in which the larynx was affected may be described as herpes laryngis menstrualis, a name which has not hitherto appeared in medical nomenclature.

Hæmatology of a Case of Severe Lead Anæmia.—Alfred Wolff reports observations which are interesting as throwing some light upon the question of a vicarious myeloid action of the spleen. The patient died from the effects of a severe lead anæmia. Before death an examination of the blood showed the usual characteristics of such an anæmia, and in addition a leucocytosis of about 25,000. This leucocytosis was polymorphonuclear neutrophilic in character, these cells being present in 86 per cent. No myelocytes or abnormal cells were present. Post-mortem examination of the bone marrow showed a marked preponderance of non-granulated over granulated cells. Most of the non-granulated cells were of the type described previously by the author as lymphoid cells, which it is claimed become transformed into granulated polymorphonuclear cells. The find of these cells in the bone marrow in excessive numbers in this case would seem to bear out this view. The examination of the spleen revealed the presence of many neutrophilic and eosinophilic myelocytes, together with many nucleated red-blood cells. Very few nucleated red-blood cells were found in the bone marrow. In this case, therefore, the bone marrow had largely lost its blood-forming properties, and the spleen had taken on a vicarious myeloid action. The observations in this case are thus confirmatory of recently reported by Hirschfeld, who has described a myeloid action of the spleen in many cases of the infectious diseases.

Development of Hydrophobia Seven Months after Treatment with Pasteur's Protective Inoculation.—Theodor Kasparek and Karl Tenner report the case of a child seven years of age who was bitten on the hand by a rabid dog in September, 1900. Thirteen days thereafter protective inoculations were begun at the Pasteur Institute in Vienna, and were continued for a period of fifteen days. The child remained perfectly well until May, 1901, when it was seized with symptoms of hydrophobia and died in six days, under the clinical picture of the raging form of this disease. The medulla oblongata was removed at autopsy, and portions of it inoculated into two rabbits. Both of these animals died of hydrophobia—one of the raging and the other of the paralytic variety. The chief interest in the case lies in the very lengthy period of incubation. Very few cases have been recorded in which the disease developed as late as seven months after infection. The records show that after the use of the Pasteur treatment an incubative period of even two months is rare. It is also interesting to note that in this case the bite was on the hand. It has always been supposed that in bites of the upper extremity the period of incubation was short, corresponding to the short distance which the toxin had to traverse through the nerves to reach the brain. This case shows, however, that such is not always the case, and that hydrophobia following bites of the upper extremity may show an exceedingly long incubative period.

Münchener medicinische Wochenschrift, September 9, 1902.

A Giant Lipoma.—H. Pfeiffer observed in an eighty-four-year-old female a lipoma which weighed from twenty-eight to thirty pounds, and was eighty-five centimeters in circumference at its largest portion. The tumor was located upon the back, its peduncle originating in the lower cervical and upper dorsal regions. The patient carried the tumor about in a sling-like bandage, similarly as a soldier would carry his knapsack. Its surface showed superficial ulceration in several places. The growth was of thirty years' standing.

Treatment of Dysentery with Ipecacuanha.—Julius Strasburger reports two cases of amœbic dysentery which were treated successfully with ipecac after numerous other remedies had been used in vain. Both patients had contracted the disease in tropical countries, and had suffered therefrom at intervals for several months previous to coming under observation. The daily dose given was from one to two grams of powdered ipecac. This was combined with 10 drops of laudanum. The improvement following this treatment was astonishingly rapid. Recurrent attacks were not, however, prevented. The results could not be ascribed to the tr. opii, since this had been given alone and without benefit previous to the administration of the ipecac. The author regards this drug as a specific for amœbic dysentery, but has had no experience with it in the bacillary form.

Action of Atropine upon the Intestine.—Paul Ostermaier extols the use of atropine in the treatment of incarcerated hernia. Six cases of inguinal hernia are reported in which this drug was used hypodermically. The dose given was from one to two milligrams of atropine sulphate. Spontaneous reduction occurred in all the cases. In four cases only one dose was given. In one two injections were required and in another three were necessary. In these cases the doses were repeated at two-hour intervals. In all of the cases relief from pain almost immediately followed the initial injection and the general condition rapidly improved. It is probable that the mode of action of the atropine in this condition is varied. In the first place, intestinal peristalsis is increased. Furthermore, the blood vessels involved in the incarceration are contracted. Lastly, it is probable that the muscular structures surrounding the opening in the abdominal wall are made more lax. The author believes that this treatment should always be substituted for taxis. It should not, however, be used where herniotomy is required, as in this class of cases no time is to be lost in relieving the incaceration.

Uterine Rupture in the Early Months of Pregnancy.—Karl Kober reports a case in which an abortion was attempted in the second month of pregnancy. The cervix was forcibly dilated and the uterine contents extracted by the means of a sharp curette. Immediately following there occurred an alarming uterine hemorrhage, which was only controlled by means of a tampon. At the end of twenty-four hours the tampon was removed and hemorrhage immediately began anew. A fresh tampon was applied, which was removed in twenty-four hours, followed by a second recurrence of the hemorrhage. A similar repetition occurred on each of the three following days. Operative measures were deemed necessary. Upon examination a large rent was found just above the internal os. Douglas's cul-de-sac contained a large clot. The uterus was at once removed per vagina and recovery rapidly followed. Upon examining the amputated organ, two rents were discovered, the one mentioned above near the internal os, which was undoubtedly caused by the forced dilatation, and another in the region of the fundus, which was produced by the sharp curette used in evacuating the uterus at the time of the abortion. The lessons from this case are obvious. (1) Never use forced dilatation in producing abortion in the early months of pregnancy. (2) Never use a sharp curette in evacuating a uterus in a like condition.

French Journals.

Importance of Hygiene in the Treatment of Exophthalmic Goiter.—Raoul Leroy and Lucien Veslin report the case of a woman of thirty-nine years who was suffering from a typical attack of exophthalmic goiter. An operation had been advised, and, in great fear, the patient presented herself to the writers for advice. They enjoined the strictest hygienic life, consisting of a mixed diet, absolute avoidance of all spirituous drinks, and of all excitement and emotion, the observance of exercise without fatigue, of perfectly regular hours for sleeping, rising, and eating. After the exercise followed hydrotherapeutic treatment. Under the influence of this severe method of life, improvement began to take place in two months. She regained an almost normal condition in less than a year. The cure was perfect, and has lasted now for eighteen months.—*La Presse Médicale*, September 6, 1902.

The Comparative Digestibility of Plain Milk and Skimmed Milk. Gilbert and Chassevant have studied, experimentally, the duration of stomach digestion for plain and for skimmed milk. They have determined that: (1) Boiled skimmed milk stays in the stomach a shorter time than plain boiled milk, contrary to the hypothesis of Marckwald and in conformity with clinical observations. (2) It takes more than four hours and a half and less than five hours for boiled skimmed milk to be expelled from the stomach, and more than six hours and a half and less than seven hours for plain boiled milk. (3) It is the fatty part that stays in the stomach the longest time. Some of it remains at the end of six hours and a half, when almost all of the nitrogenous material has disappeared. The fatty part retards the digestion of the nitrogenous material about two hours. Plain milk stays in the stomach longer than boiled milk.—*Le Bulletin Médical de Quebec*, August, 1902.

Transmission of Tuberculosis by Milk and Meat.—John J. Repp concludes that: (1) Tuberculosis can be transmitted from one animal to another: *a*, experimentally by the inoculation of meat or by the juice of infected meat; *b*, by the ingestion of these meats; *c*, by the ingestion of the milk of tuberculous cows. This milk could produce tuberculosis in healthy animals, even if the diseased cow did not present specific mammitis. (2) The Koch bacillus of cattle is pathogenic for man. (3) The use of the milk and meat of tuberculous animals can be dangerous to man. As to the meat, the flesh of animals used for food, and notably that of cattle is not good, if the animal is tainted with tuberculosis which is extensive; it will be proper for food if the animal is only slightly diseased, especially if the meat has been cooked after elimination of the lesions. As to the milk: the use of milk of a cow with tuberculous mammitis always exposes the subject to the infection, unless the milk has been carefully sterilized. The milk of a tuberculous animal without mammary lesions may be dangerous. As it is difficult to determine those cases in which it is dangerous, it is best not to use the milk of any tuberculous animal.—*Le Mouvement Hygiénique*, August, 1902.

Treatment of Hypertrophy of the Prostate by Light.—M. G. Gautier states that light gives curious results in the treatment of hypertrophy of the prostate. Negative phototherapy and positive phototherapy may be applied, the two associated, or not, with the Röntgen rays. In the spectrum, there exist the chemical rays, comprised in the blue, violet, and ultra-violet (negative), and the rays comprised in the red and infra-red (positive). The red calorific rays, thanks to the special lamps, of two amperes with 110 volts, directed on the perineum and inferior abdominal region, exercise a beneficial action on the retention of urine and the hypertrophy of the prostate. The same lamps, enveloped by a blue globe, cause anamelioration of the painful symptoms. The double benefit, diminution of the retention of urine, and amelioration of the spasmodic pain, added to the improvement of the general condition of the patient, is obtained in from four to eight seances. In three cases the application of the Röntgen rays alone to the perineum was very efficacious, but the results were less rapid. The advantages of the method for the cure of hypertrophy of the prostate are: Increase of vesical contractility; rapid disinfection of the bladder by an aseptic treatment; more abundant evacuations; amelioration of the pain of micturition. In the young patient it is a treatment worthy of attention. In the old patient it is a palliative method, but of incontestable value in every case in which there are no infections. This treatment must be used for a longer time before final conclusions can be drawn.—*Le Progrès Médical*, September 6, 1902.

University of Pennsylvania Medical Bulletin, August-September, 1902.

Epithelioma of the Axillary Glands. Presenting the Clinical Features of Tuberculosis.—I. Valentine Levi reports a case in which the history, the clinical symptoms, and examination all led to a diagnosis of tuberculous osteomyelitis of the humerus with glandular involvement. Operation was advised and performed. An examination of the tissues from the operation showed epithelioma, with no evidence of a tuberculous process.

Diagnosis by Means of the Serum of the Blood.—Joseph Sailer states that at present the following reactions appear to be definitely established: (1) Those between microorganisms producing infections and the serum of the infected animals. (2) Those between the red blood corpuscles of one species of animal and the serum of any other species of animal into which the former have been injected. (3) Those between bacterial cultures and red blood cells. (4) Between normal blood serum and bacteria. (5) Between normal or pathologically altered blood serum of certain animals and the blood corpuscles of the same or other species. (6) Between cells derived from various organs of one species of animal and the serum of an animal of another species into which an emulsion of these cells has been injected. (7) The reactions that take place in the body when active sera, either derived from inoculated animals or from normal animals of certain species, are injected into animals, experimentally.

The Influence of Alcoholic Intoxication upon Certain Factors Concerned in the Phenomenon of Hæmolysis.—A. C. Abbott and D. H. Bergey draw the following conclusions from the results of their experimentation: (1) The daily administration of alcohol per os to rabbits brings about a reaction in their circulating blood of the hæmolytic complement. (2) Slight alterations in the normal alkalinity of the blood serum have no demonstrable influence upon the hæmolytic complement of the blood of alcoholized rabbits. (3) The diminished reacting power of the blood of alcoholized rabbits is not due to the presence of small amounts of alcohol as such in the blood. (4) The administration of alcohol to rabbits induces not only a marked reduction in the complement content of their blood, but may cause, at the same time, a reduction in the specific hæmolytic receptor in the blood of rabbits artificially immunized against an alien blood (5) The diminished complement content of the blood of alcoholized rabbits renders the animal more susceptible to the toxic action by an alien blood.

The Present State of Our Kowledge of Diabetes Mellitus.—James Tyson says that there appears to be. (1) An alimentary glycosuria due to an imperfect assimilation of carbohydrates into fat and proteid in the intestinal villi, as a consequence of which it passes over into the portal circulation in larger quantity than can be converted into glycogen by the liver. (2) A glycosuria due to the overproduction of glucose out of hepatic glycogen. (3) A glycosuria due to the fact that through vasomotor influence the glucose passes through the liver too rapidly to permit its conversion into glycogen. (4) A glycosuria due to defective oxidation of glucose. (6) Glycosuria arising from the disruption of proteid, witn the liberation of glucose. The tendency of modern thought is toward defective oxidation as the cause of abnormal glycæmia and glycosuria. The author enters fully into the question of treatment of the condition and endorses Dr. Richardson's method of daily bathing with warm water, sun baths, soda baths twice a week, flannel clothing, and walking exercise, in spite of the lassitude and weakness which makes this mode of treatment particularly irksome.

American Journal of the Medical Sciences, September, 1902.

Entrance of Air into the Veins, and Its Treatment.—Malcolm Goodridge sums up his paper as follows: (1) Entrance of air into the veins, even in small amounts, is to be dreaded, as it may result in death. (2) Death is due to gaseous distention of the right heart or to air emboli in the coronary vessels, and not to primary respiratory paralysis. (3) We may expect combined treatment by aspiration and infusion to be followed by good results. He believes the statement "that large quantities of air may be introduced into the veins without unfavorable result" to be pernicious teaching and not supported by fact.

Post-Operative Non-Septic Leucocytosis and Other Blood Conditions.—Herbert Maxon King concludes that: (1) An increase of from 5,000 to 10,000 leucocytes per cubic millimeter following operation in from six to thirty-six or even forty-eight hours is a normal post-operative condition, provided it be not sustained. (2) Probably the maximum leucocytosis in the majority of cases occurs within the first twelve hours after operation, and is very transient. (3) The leucocytosis in the normal reparative process bears but slight relation to the pulse and temperature. (4) A post-operative leucocytosis of 10,000 or more above the individual normal sustained for more than a few hours may be looked upon with suspicion. (5) The apparent increase in number of erythrocytes following operation is not caused by an actual increase of red cells in the circulating blood.

Benign Cystic Epithelioma; Report of Two Cases Presenting Unusual Features.—M. B. Hartzell describes these cases. The first patient was a woman, aged about eighty years. She had a rounded, dollar-sized patch of nodules, made up of several smaller groups, arranged in an irregular circinate manner around scar-like areas, on the right-side of the forehead over the frontal eminence. The nodules were mostly confluent, of the size of a hempseed, firm, translucent, bluish-white, with a small blue-black dot in the center of each. Near the center of the patch was an oblong, superficial ulcer, covered with a thin crust. The lesion had lasted six or seven years. There were rather the addition of new nodules than the enlargement of the old ones, which remained stationary after reaching a certain size. There was no pain or marked subjective symptom of any kind. No similar lesion was in any other part of the body. The second patient was a woman of thirty eight years. She had six or seven dime- to half-dollar-sized oval and irregularly-shaped, sharply-limited patches, consisting of central areas of scar-tissue and atrophied skin, surrounded by a bead-like border of pinkish and yellowish large pin-head to split-pea-sized nodules, on the upper back and chest. The nodules were firm and slightly translucent The affection had lasted four or five years, and was not attended by any subjective symptoms The writer then gives a careful and detailed microscopical description of the lesions. He also gives a number of cases reported by different authorities, and states that he believes that they represent three affections presenting lesions which can only be differentiated under the microscope, but which are distinct in their nature and origin: Benign cystic epithelioma, in which the lesions are usually on the face, and have their origin in the basal layer of the epidermis and the external root-sheath of the hair, cyst-adenoma, in which the eruption occurs upon the trunk the tumors starting in the sweat-gland apparatus, hæmangio-endothelioma, which appears on the trunk, and originates in a proliferation of the endothelium of the blood vessels.

A Report of Ninety-two Cases of Thermic Fever Treated at the Pennsylvania Hospital in the Summer of 1901.—Morris J. Lewis and Frederick A. Packard base their report on ninety-two cases of thermic fever, which occurred in their service during the extremely hot weather of July, 1901. It includes all those cases showing a temperature of 100° F. and over, upon admission The time of day at which the greatest number were received was from eleven o'clock in the morning until five o'clock at night, the maximum being from three until five o'clock, showing the effects of fatigue and long exposure. Thirty-one of the cases were females and sixty were males. This is an unusually large proportion of women. The extremes of age were seven months and over 70 years. The average was about thirty-seven years. Six patients were negroes, showing the immunity of this race. The greater number were natives of the United States. Convulsions were noted in fourteen cases, and were generally severe Those patients with a temperature of 106° F. and over were generally unconscious when brought to the hospital. The previous habits of the patients seemed to have an important influence on the result. In the mild cases no alcoholic history was obtained. As to treatment, the writers do not advise bleeding as a routine measure. In certain cases in which the fall in temperature was not accompanied by a corresponding decrease in the other grave symptoms it proved beneficial. In some cases in which the other symptoms do not improve, as the temperature is reduced by rubbing with ice, bleeding from the median basilic vein causes the pulse, respiration, and color of the skin to improve. It seems difficult to estimate the value of the introduction of normal saline solution, but there was no evidence of any harmful action and usually the patient's condition was improved by either this or bleeding. As to the sequelæ, there was one case of jaundice coming on three days after onset. The writers believe that the introduction of normal saline solution in large quantities into the blood has a beneficial result.

Report of Three Cases of Creeping Larvæ in the Human Skin (Hyponomoderma, Kaposi).—Arthur Van Harlingen declares that the number and variety of animal parasites of the human skin are probably far greater than has been generally supposed. Thus, these cases are often wrongly diagnosed. The first case that he reports was a child of four years. It had had an eruption of the foot of three or four weeks' duration. The eruption had originated, according to the history, on the heel, in the form of a small water blister, which had gradually extended on one side, while healing on the other, following a serpiginous course, and terminating in a spiral in the skin over the inner malleolus. The lesion looked like a line of small vesicles, resembling, in a magnified degree, the furrow made by the itch insect. It was very itchy. The patient was ordered to have the skin well rubbed with an ointment of sapo viridis and tar along the line of the disease. At the end of four weeks not a trace remained. The second patient was a boy, aged five years. There was an eruption on the sole of the foot, consisting of a flat, red, narrow line, curving from one side of the foot to the other, and resembling the edge of a circinate erythema. There was considerable itching. Later the lesion appeared like a whip-cord under the skin, and it was painful. It was cut down upon, but no living organism could be found. But from that time the red line began to disappear and, finally, entirely faded away. Possibly the incision6exposed the parasite and it was washed away by the blood. The third case was that of an employee in the Custom House. The eruption in this case was on the hand, and followed a serpentine course. The writer cut down on the supposed worm at various points, but without finding it. He then prescribed asafœtida, after which the red cord faded away. There was a slight trace of irritation at the end of the lesion, but the patient felt sure that the parasite was dead. The writer has not seen him since. The writer believes these cases to be the first ones of the kind to be reported in this country.

Society Reports.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

The Fourteenth Annual Meeting, Held in Washington, D. C., September 16, 17, and 18, 1902.

The association met in the convention hall of the Raleigh Hotel, under the Presidency of Dr. Edwin Ricketts of Cincinnati, Ohio.

An address of welcome was delivered by Surgeon-General Geo. M. Sternberg (retired) of Washington, which was responded to by the President.

Pelvic Disease in the Young and Unmarried.—Dr. C. L. Bonifield of Cincinnati, Ohio, read a paper with this title. He dealt only with gynecological diseases which occurred in women not subjected to sexual intercourse. Physicians were now more frequently consulted about such troubles than formerly, but this was probably because the modern woman bore discomfort less well than her ancestors did, rather than that there was an increase in the number of patients suffering from such disorders. Disorders of menstruation, undeveloped uterus, tuberculous disease of appendages, and acute displacements were the most common pelvic affections in such patients. When menstruation did not make its appearance at the age it was to be expected, a thorough investigation of the general condition of the patient was indicated, and her health should be made as nearly perfect as possible. A local examination was not required unless there were severe local symptoms. The same was true of amenorrhea occurring after menstruation had been established. The possibility of pregnancy was always to be borne in mind. Dysmenorrhea might be of constitutional or local origin. Local treatment was not required in the first variety, and the endometritis which caused a majority of the latter cases could often be relieved by hygienic and medicinal treatment. Menorrhagia was often caused by a depraved state of the blood, or an interference with its circulation by disease of the heart, liver, or kidneys. The uterus, whose development had been arrested at the time of puberty, was the most important type of undeveloped uterus. It was generally sharply anteflexed, but occasionally retroflexed, and the cervix was long and narrow, the body dilated. Dysmenorrhea was a prominent symptom. Thorough dilatation, curettage and tight packing, repeated one or more times, if necessary, constituted the best treatment.

Tuberculosis of the pelvic peritoneum was often mistaken for typhoid fever or appendicitis. When tuberculous peritonitis began in the uterine appendages, these should be removed by abdominal section.

Acute prolapse or retroversion of the uterus was found as a result of a fall or heavy lifting in young women of lax fiber.

Young unmarried women were best examined under anæsthesia, and, when possible, the treatment of their local disease should be operative.

Removal of the Gall-bladder Through the Lumbar Incision.—Dr. Walter P. Manton of Detroit, Mich., read this paper. He reported a case of removal of the gall-bladder through the lumbar incision. The patient, aged thirty-eight years, the mother of five children, with two abortions, had never been robust, but was able to attend to her domestic duties. She had suffered from a number of gastric attacks, but there had been an entire absence of symptoms pointing to the disease of the biliary tract. Examination showed the left kidney to be loose, while the right kidney appeared to be double its normal size, displaced downward and inward, and with certain projections which led to the diagnosis of nephroptosis, with probably cystic metamorphosis of the kidney. At the operation, through the nephropexy incision, the fatty capsule of the kidney was found to be embedded in a mass of adhesions, which had given rise to the appearance of the enlargement. The kidney, which was normal in size and structure, was delivered onto the back and placed astride the wound. Below the kidney pouch a distended gall-bladder, containing fluid and nineteen gall-stones the size of hazel-nuts were found surrounded by adhesions. This was enucleated, tied off at the cystic-duct, and removed. The fluid contents of the sac contained a bacillus having the morphology and staining qualities of the colon bacillus, and a long, large rod, which stained violet by Gram's method, but no staphylococci or streptococci. The kidney capsule was split and peeled off to the lateral line, fixation sutures were introduced, and the organ was returned to its place. A strip of gauze for drainage was carried from the upper angle of the external wound to the stump of the cystic-duct. The patient made a good recovery.

It was impossible to state whether the condition was a congenital anomaly or the result of the walling off of the gall-bladder by adhesions. The operation was entirely extraperitoneal. This was the first recorded instance of extirpation of the gall-bladder through the lumbar incision. Manton believed that, on account of the anatomical position of the gall-bladder in uncomplicated disorders of the biliary tract, the anterior abdominal incision was the one of choice, but that when nephroptosis or a morbid condition of the kidney existed demanding operative treatment, together with enlargement of the gall-bladder from stones or fluid accumulation, the lumbar route offered certain advantages. He paid tribute to Edebohls as the pioneer whose work had opened up this previously uncultivated field of surgery.

Drainage in Abdominal and Pelvic Surgery. Dr. Joseph Price of Philadelphia, Pa., in a paper on this subject, stated that the more progressive and successful specialist doing painstaking operations in every detail, where filth and complications, or adhesions, were found to exist, practised most extensive sponge packing or drainage. The modern operator did the same by his gauze pack or the dry operation. A number of operators, doing fairly good work by the suprapubic route, condemned or partially rejected drainage. He said some of them never learned and never would learn how to handle drainage well. After abandoning the suprapubic route, these men were placed in the uncomfortable position of admitting that drainage did what they had refused to do by suprapubic surgery. Nothing had pleased the speaker more in the last few years than a knowledge of the fact that the young school of surgeons used drainage with great success and skill in spite of the fact that these young men had been under the instruction of men about the country and in the hospitals who condemned it. About all the reported operations were coming from operators opposing drainage or practising it only when they were compelled to do so.

The Vaginal Route for Operations upon the Uterus and Appendages.—Dr. J. H. Branham of Baltimore, Md., stated that the most common condition threatening the life of gynecological patients, caused by gonorrhœa, abortion, tuberculosis, and other conditions not always discernible, and often requiring prompt action to save life, was pelvic inflammation. Here the vaginal method of treatment made its best showing. He had operated on more than one hundred cases by this method, with but three deaths. He concludes that vaginal drainage was the natural method. It was far more effective and safer. Extensive pelvic inflammation, associated with pus formation, rapidly walled off the general peritoneum. This wall should not be broken through, and could not be interfered with without danger of general peritonitis. Opening through the vagina was associated with a minimum amount of shock and hemorrhage, and was thus indicated in extreme cases associated with severe toxic symptoms.

Ice Following Abdominal Section.—Dr. F. F. Simpson of Pittsburgh, Pa., advocated the local use of ice for the relief of pain, to prevent or control peritonitis, and to limit the morbid products following operation. These things, he thought, were due almost wholly to inflammation, which was very slight and purely traumatic, in the vast majority of cases, but might be bacterial in a few others and in unclean cases. This use of ice he began after observing its effects in several hundred cases of pelvic peritonitis of all grades prior to operation. In this connection he said: "After having seen many grave cases of this kind yield so favorably to this measure, and having seen a few of them die later from peritonitis following an abdominal section, which removed the bulk of filth, leaving but little behind in a fairly clean cavity, it seemed to me that with the same infecting organisms active in large numbers before operation, and in small numbers after operation, we might expect like results if the same treatment were employed in the two classes of cases. And, further, that by beginning the use of ice before peritonitis had actually developed, we might succeed in preventing that condition."

He further asserted that the use of ice after operation had been highly satisfactory in some hundreds of cases during the last four years.

Regarding theoretical objections, he said that they disappeared as physicians became familiar with the use of ice. In his experience, no injury to the skin had followed its use, the healing of wounds had not been retarded by it, and no depression of the general system had been noticed.

He attributed the beneficial effect of cold to its direct and deep penetration. This opinion was based upon the known effects of cold on surface inflammation; upon the satisfactory results he had gotten at the bedside; upon the observations of Boklikoff, who showed that cold actually penetrated deeply into the human cavities and tissues; and upon his own experiments on dogs, which showed that by the local use of ice there could be produced within the abdominal cavity and without detriment to life or tissue, such a degree of cold as would retard the growth of pathogenic bacteria and contract the blood lymph channels, thus depleting the hyperæmic areas and checking serous weeping into the peritoneal cavity.

He related several cases in substantiation of his views, and gave in detail his experiments on dogs.

Two Fatal Cases of Tetanus, Following Abdominal Section, Due to Infected Ligatures; with a Plea for the Angiotribe in Abdominal Surgery.—The author of this paper was Dr. Walter B. Dorsett of St. Louis, Mo. Both cases, which were detailed at length, were in women who had undergone ventrofixation of the uterus. The choice of the operation was made on account of adhesions of the uterus to the surrounding tissues, due to previous inflammatory conditions. The material used for fastening the uterus to the anterior abdominal wall was kangaroo tendon, a little above the average size.

Speaking of the angiotribe, he had used it successfully twenty-five times, as follows: abdominal hysterectomy, ten times; pus tubes, five times; hemorrhoids, once; extrauterine pregnancy, four times; dermoid cyst, once; ovariotomy, three times, and once in a case of vaginal hysterectomy.

His observations were that (1) patients upon whom it had been tried suffered less post-operative pain; (2) No adhesions to stumps had followed its application; (3) No secondary hemorrhage had followed its application; (4) It can be applied, when two instruments were used, alternately by the operator and the assistant without the fear that is incident to the slipping of a ligature knot, and in less time.

Some Problems in Exploratory Laparotomy.—Dr. Walter B. Chase of Brooklyn, N. Y., said that the diversities and uncertainties of physical signs and rational symptoms related to certain diseases of the contents of the peritoneal cavity, being insufficient for purposes of diagnosis, surgical intervention might be necessary to determine the exact state of affairs. Exploratory abdominal section for diagnostic purposes was of comparatively recent date. Its growth had been progressive, but the limitations as yet were not clearly formulated. Training and skill in diagnosis, judgment, having in it the planning of soberness and daring coupled with years of apprenticeship, would guide one to safe conclusions. In chronic cases there might be ample time for study and analysis, with comparison of the progress and fluctuation of symptoms, which would furnish valuable data for forming deliberate judgment. Surgical intervention was looked upon much more favorably by a discriminating public to-day than formerly, so that the suggestion by the surgeon that an operation was required found a more ready response by the patient or the patient's friends. The surgeon, however, owed a duty to the public which had in many instances been neglected, namely, to make it clear to the patient or the friends, and thus to the public, that there was such a limitation to our knowledge that we were perforce required to explore for causes. He believed that a frank confession of this truth would, with right-thinking people, strengthen the position of the operator. There was a widespread belief among the laity, not founded on fact, that deaths following laparotomies and other major operations were due to the operations *per se*, and not to the causes for which the operation was done. The sooner these false beliefs were eradicated the better it would be both for the profession and the public. The duty of correction of this erroneous statement lay with the medical profession.

Ruptured Pus Tubes.—Dr. Charles Greene Cumston of Boston, Mass., said there were two methods of dealing with pus tubes, one of which was posterior colpotomy, followed by incision and drainage of the sac, while the second was to remove the tube, and if the condition was bilateral to do a total hysterectomy. Naturally, the easiest and least dangerous method was drainage of the perforated pyosalpinx through the vagina. The vagina was incised, and then the pyosalpinx and the walls of the pus tube might be united to the vaginal wall by means of forceps, which were allowed to remain in place for one or two days until union had taken place. In doing this operation in two stages the vaginal walls were first incised, and the sac was united to the borders of the vaginal incision, and after union took place the pus tube was opened. In both instances the cavity should be thoroughly irrigated with salt solution and large drainage tubes employed. The proper treatment, however, for perforated pus tubes was abdominal incision, whether perforation had taken place in the general peritoneal cavity or into the intestine, bladder, or vagina. The extirpation of perforated pyosalpinx was particularly urgent in those cases in which drainage by posterior colpotomy had been unsuccessful, and also when one was dealing with a tuberculous lesion of the tubes. He did not favor vaginal hysterectomy in cases of perforated pus tubes, although he believed that when the sac had burst into the bladder the vaginal route might be indicated under certain circumstances.

Treatment of Pelvic Abscess.—Dr. Herman E. Hayd of Buffalo, N. Y., said there was a class of cases in which vaginal incision and drainage, supplemented by curettage, when indicated, should be first employed to get rid of the free pus, and then later an abdominal section should be done to relieve the patient of her suffering, when the danger and risks associated with such an undertaking were reduced to a minimum. A large collection of pus, low down in the pelvis, in a moribund woman should be evacuated through the vagina, and nothing more undertaken unless some grave complication set in. He had reference now to strong women who were suffering from acute active streptococcic infection, who had a high temperature, with great pain and tenderness, who were in splendid physical condition and, under ordinary circumstances, ready to submit to capital operations, and in whom there could be felt an acutely tender mass low down in the pelvis on one or both sides, and even filling up the cul-de-sac and in whom one was positive that there existed pus, which was easily determined by an aspirating needle passed through the vault of the vagina. In this class he strongly recommended early vaginal incision for the purpose of draining off all the free pus, and, if necessary, to extend the incision to one or both sides and evacuate tubal and ovarian abscesses, if easily reached. This procedure was without danger, and, instead of increasing the difficulties of future operations, they were very much simplified. The size of the mass would diminish; the immediate dangers of rupture into the bowel and bladder or peritoneum, were lessened; the pain and constitutional symptoms subsided, the pus organisms were lessened in their virulency, and the whole clinical picture of the case improved. Several interesting cases were cited in which the author had practised this method with success.

The Importance of an Apprenticeship in Operative Gynecology.—Dr. GURNEY WILLIAMS of Philadelphia, Pa., read a paper with this title, in which he said that the modern apprenticeship differed materially from that of a quarter of a century or more ago, when the specialty was being developed by men with large and varied professional and surgical experience. Again, the nature of the work in those days differed greatly from that of the present. Hospitals, now so common in every State and city, were not giving their resident physicians the practical education or using the vast amount of material at their command for that purpose. He spoke from experience in this matter, for, after serving in two large hospitals thirty-six months, it was necessary for him to go elsewhere for practical instruction and the apprenticeship desired. All hospitals, he contended, should be practical schools for the residents and the visiting medical and surgical staffs.

In considering the treatment of pus tubes, he said that dilatation, curettement, and prolonged drainage of the uterine canal were unsurgical procedures. He urged more radical operative measures, and said that vaginal incision and drainage was a temporary makeshift; that sooner or later 25 per cent. of the patients would return for a more radical operation; namely, abdominal section. So much had been said about the simplicity of puncture methods and drainage by the vaginal route, with speedy relief and recovery, that he wished to state that aside from the mortality, which was not small, the number of invalids leaving hospitals was very large. They returned to the same or other institutions for reincision or for abdominal section, and when one, who did such work, was thoroughly familiar with the postoperative conditions of both classes of cases, he was convinced by his every-day experience of the results and recoveries following the suprapubic method of clean extirpation. The mortality from this operative procedure was smaller, and the recoveries more pleasing than from any other measure, ancient or modern, now practised!

Technique of Bi-inguinal Cœliotomy for Complicated Aseptic Retroversions of the Uterus.—Dr. A. GOLDSPOHN of Chicago gave a résumé of the rationale and technique of Bi-inguinal cœliotomy for complicated aseptic retroversions of the uterus, and made a further report of its remote results. The argument he advanced was that (1) Surgical treatment could be consistently recommended for this disorder only if it was not merely innocent of harmful effects to subsequent gestation and labor, but if its good results were also not frustrated by subsequent childbirth. (2) Most of the operations in vogue did not meet this more ideal requirement, nor had most of their sponsors aimed so high. (3) The round ligaments of the uterus were the only truly serviceable structures to deal with to get such results, because they alone, as a part of the uterus, underwent both evolution and involution with it during and after gestation. (4) The route by which to gain their serviceability best was by the inguinal canals. (5) With a proper technique, the lateral inguinal rings provided ample access for the intrapelvic work in complicated but aseptic cases, without cutting and without hernia following. (6) A table showing later results of about thirty-five new examined cases, in addition to seventy-two cases previously reported, with no hernia in any of them. (7) In all known cases of subsequent childbirth, the women retained their uteri, etc., in pronounced anteversion and with good involution.

The Irrational Starvation Treatment of Appendicitis.—Dr. JOHN B. DEAVER of Philadelphia discussed this subject. The author's experience of ninety-eight cases for the past two and a half months had furnished a lesson from which objections to the rest or starvation treatment were drawn. The particulars of these cases were detailed. The lessons drawn were that an early operation, preferably in the stage of appendiceal colic, was the only rational procedure, and was the only treatment which would reduce the mortality in acute appendicitis to insignificant figures; that the so-called rest treatment of appendicitis failed to check peritoneal inflammation, and would, in the majority of cases, harm the patient. The statistics presented in the paper bore out the above statements to the letter. Cases brought to the operating table several days after the onset of the disease, where the starvation treatment had been carried out, and a local abscess or a mass of exudate and adhesions found, had by no means convinced him that those patients would not have been better off by early operation. To attempt to foretell what the intraperitoneal condition was, or what it would be a few days or weeks later, was assuming a graver responsibility than was justifiable. Such a prediction was never made by those whose experience with the disease would justify such a confidence. He was willing to grant that operation in the presence of an acutely inflamed general peritonitis was attended by great risk of life, and, therefore, it was often wise to defer operation in the hope that the inflammatory process would become localized. This was often his practice; but he denied that the starvation plan of treatment promised more in such cases than the mere common practice of abstaining absolutely from giving opium, keeping the bowels freely open by solid cathartics, or, as some physicians preferred, a hydragogue cathartic, which was both antiseptic and germicidal, giving nourishment by the rectum, when the stomach was tolerant, and using ice or heat locally in the shape of poultices or hot turpentine stupes.

Dr. JOSEPH PRICE of Philadelphia discussed the surgical relations which the appendix bore to pelvic suppuration and operative complications.

Our Shortcomings: Let Us Reason Together.—This was the title of the presidential address, which was delivered by Dr. EDWIN RICKETTS of Cincinnati, O. He called attention to the growth of the association, and spoke of the thirteen volumes of transactions which it had issued under its able secretary, also to more than one thousand pages of discussions, which stood as the result of thirteen years' work toward erecting a monument that was to be an honor of their unselfish efforts to true special work.

Speaking of the general practitioner, he said he was the backbone of medicine. It should not be otherwise. With just and coequal considerate relations the best interests of the physician and specialist were not to be severed. With changed relations toward the general practitioner complications were sure to arise. Abdominal surgery in the hands of general operators was accompanied with a higher mortality than was that done by special workers.

Reasons were advanced why the physician and all those engaged in the practice of specialties should enter the political arena. It would teach them what organization was, what and how power can be wielded for good. It would result in pronounced efforts for the organization of the medical profession, which, in due time, was to command respectful consideration from the national, State and county governments. Such would make a free and independent profession.

The true relationship of the neurologist as bearing on special work should be better appreciated. The neurologist should be called in consultation oftener, and he, in turn, should consult with the gynecic and abdominal surgeon before sending any of his patients to an institution for partial or permanent detention.

He urged the appointment of a national secretary of medicine, which, he believed, would put medicine on its highest and broadest plane. This would mean dignity, higher regard, influence, and an equitable financial remuneration.

Some Cases of Appendicitis and the Lessons They Teach.—Dr Miles F. Porter of Fort Wayne, Ind., reported the following cases:

Case I.—Chronic appendicitis of eleven years' duration. Operation; abscess behind the cæcum; small stump of appendix attached to the cæcum. Complete relief for six months, then return of symptoms, which were relieved by spontaneous opening of abscess. Return of symptoms, probably due to the distal end of the appendix or a fecal concretion left behind.

Case II.—Simple drainage operation done eleven months before, followed by frequent recurrences of pain, etc., relieved by spontaneous opening of sinus. Operation revealed a large fecal concretion and distal end of appendix free in center of abscess. Detached appendices or fecal concretions should be searched for in chronic cases, and drainage kept up for some time in case neither is found.

Case III.—The only tender point was discovered between the bladder and rectum by rectal examination, although prior to this symptoms were typical of appendicitis. Operation revealed a detached necrotic appendix enclosed in adhesions at this point. Microscope was necessary to determine the nature of the necrotic tissue.

Case IV.—Emphasized the remote dangers of delay in operating. First operation consisted of simple drainage of large pus cavity; two weeks later a second cavity in the left iliac region was drained; recovery well established, when bowel obstruction necessitated a third operation, and bowel had to be opened to allow replacement in abdomen. Five years later a fourth operation was necessary for bowel obstruction. Recovery; good health three years since last operation.

Case V.—Case of appendiceal colic due to seed of unknown kind. Tenderness circumscribed. Pain and tenderness out of proportion to the constitutional symptoms. Appendicectomy. Complete relief. Appendix not inflamed, but mucosa injured in several places by sharp corners of seed.

Case VI.—Complete occlusion of lumen of appendix. Some adhesions. No sign of present inflammation; but history of possible previous attacks. Appendicectomy incidental to diagnostic cœliotomy. Occlusion probably due to inflammation, but may have been lack of development.

Case VII.—Nothing unusual in this case, save that the tumor, composed of a mass of omentum enclosing inflamed appendix, was spherical and freely movable; could be pushed to left of middle line. Danger of mistaking similar case, if chronic, for tumor. Similar case thought at first to be one of malignant tumor related to writer by Dr. A. J. Ochsner.

Case VIII.—Girl, aged eleven years. Three previous attacks. Came on suddenly and disappeared in the same way. No tenderness after pain was gone. Small tumor, exquisitely tender, just above Poupart's ligament. Diagnosis, appendicitis. Operation proved case to be one of ovarian cyst with twisted pedicle and commencing gangrene.

Case IX.—Cancer of ileocæcal valve mistaken by several, including author, for appendicitis. Relative absence of tenderness, as compared with pain, together with anæmia and loss of flesh, which were out of proportion to the inflammatory symptoms, would lead in another case to a correct diagnosis.

Case X.—First attack; symptoms mild; appendicectomy. At the site of the appendix there was a small retention cyst of inflammatory origin with a very thick covering.

Case XI.—First attack; vomiting; tympany, etc., denoting severe and spreading infection. Operated on at the end of forty-eight hours, when first seen. Appendix perforated and gangrenous; free, muddy fluid in abdomen; recovery. What would have been the result of starvation treatment in this case? Can any method corral germs already widespread and pen them up securely within a small space? Will any medicinal treatment secure with certainty circumscribed abscesses in all suppurative cases? Can any one foretell the result in a given progressive case with certainty? He believed that the case would have ended fatally had operation been delayed. The sooner a case of appendicitis, which was growing progressively worse, was operated on the better. No man could tell until he saw the pathological changes that had obtained.

Four Cases Illustrating the Difficulties of Diagnosing Appendicitis.—Dr William Wotkyns Seymour of Troy, N. Y., read a paper with this title. Case 1 had previously been operated upon for appendicular abscess. He found a suppurating solid tumor of the ovary. Temperature at the time of operation was 107°; pulse 180. recovery. Case 2 was a woman with contracted pelvis delivered of a dead child. Twelve days later there were symptoms of inflammation in the right iliac fossa, appendicular or tubal, the result of infection. Operation revealed a suppurating gangrenous fibroid of the right anterior uterine wall, which was enucleated, followed by recovery of the patient. Later he did cæsarean section on this patient; mother and child well seven weeks after operation. In Case 3 he was summoned to a case of appendicitis some fourteen miles distant in the country. His diagnosis was ovarian cyst with twisted pedicle. The mass had increased twofold since his previous visit to the attendant. Removal of the cyst was followed by recovery of the patient. Case 4: woman, single, aged about twenty-two years; pains and intense tenderness in appendicular region; began with joint pains. Examination of lungs showed bronchial breathing at left base; the next day diffuse bronchial breathing over both lungs; appendicular symptoms less marked; toxæmia of some sort; no appendicitis.

Intrauterine Fibroids Complicating Pregnancy, and Retained Placenta Associated with Intrauterine Fibroids Complicating Pregnancy.—Dr. M. A. Tate of Cincinnati, O., had collected thirty-nine cases from the literature, and reported two which had occurred in his own practice. Analyzing these forty-one cases, the histories of which were not complete, he noted that in nine cases only were the names of reporters given, without any mention of history of the cases. In six cases the tumor became gangrenous; hemorrhage was a prominent symptom, in that it occurred in eighteen cases; three polyps were expelled spontaneously; seven polyps were removed; in three cases the polyp was not removed; in ten cases the labor was normal; in four cases labor was difficult, in two cases the child had to be destroyed; one was a case of turning, and the other a breech; in four cases the tumor was discovered before, in all of the rest after, labor; four cases were reported where labor set in before time; two were at the fifth, and two at the seventh, month.

The following were the complications reported: septicæmia, eight; measles, one; puerperal mania, one; retained placenta, four cases.

Treatment mentioned: cold applications, ergot, iodides, whiskey, vinegar cloths in the uterus, packing of uterus with gauze, and removal of tumor.

Causes of death: sepsis, three; hemorrhage, three; peritonitis, one; and collapse one, making in all eight cases. If all of the other cases, including the nine without histories, recovered, there would be thirty-three recoveries and eight deaths, a mortality of 19½ per cent.

Abdominal Section During Pregnancy.—Dr. J. Henry Carstens of Detroit, Mich., had had experience with the following complications of pregnancy: appendicitis, five cases; fibroids, four cases; hernia, one case; abdominal hysterectomy, one case; ovariotomy, three cases; vaginal hysterectomy, three cases; and miscellaneous three cases, or, altogether, twenty cases and five deaths, so that the mortality was 25 per cent. This included all his cases from many years back. He thought that to-day the mortality would be far less.

All acute diseases requiring prompt operation could be operated upon just as well as if pregnancy did not exist. Tumors that would interfere with labor should in all cases be operated upon, as there was far less danger attached to their removal during pregnancy than there was by nonintervention and letting the woman go to full term. He had seen most lamentable cases of the latter kind. Tumor above the brim of the pelvis, or which could be shoved above the brim of the pelvis, need not be interfered with; still, as a rule, all tumors took on a very rapid growth during pregnancy, and the increase in size might interfere with the various functions of life and then surgical intervention was required.

Deciduoma Malignum.—Dr. Lewis S. McMurtry of Louisville, Ky., read a paper on this subject and reported a case. Since Saenger, in 1888 and again in 1983, called attention to this form of malignant disease of the uterus, numerous cases had been reported in Europe and America. The diagnosis was not especially difficult, but great difficulty had obtained in establishing the exact pathogenesis and making a definite pathological classification of the disease. Saenger believed the growth originated in decidua cell and accordingly, gave it the name ever since in general use—deciduoma malignum. Gottschalk reported a case in 1894, and proposed the name "sarcoma chorio-cellulaire," believing the disease to be sarcoma springing from the stroma of the chorionic villi. In 1895 Marchand first published the result of his investigations of the disease, and supplemented this by additional researches published in 1898. His investigations were most thorough, and had done more to establish the true origin and pathology of the disease than those of any other investigator. He demonstrated the epithelial character of the growth, and asserted that it had its origin in the tissues composing the epithelial covering of the villi. According to Marchand's interpretation of the pathology, the tumor arises from the syncitium and Langhan's cells. Frankel and Gebhard had confirmed Marchand's observations, and his views had found general acceptance among German investigators This view of the pathology had also received general approval in Great Britain and America. It remained somewhat unsettled yet as to whether the tissues in which the growth originated were derived from fetal or maternal structures, or from both.

Clinically the disease presented a well-defined history. The disease appeared after abortion or labor, the tumor being situated upon the endometrium of the body of the uterus. Of 128 recorded cases, in forty per cent. the disease appeared after mole pregnancy. Hemorrhage was the first and most conspicuous symptom, and was not controlled by curettage. The discharge was usually offensive, especially in the advanced stage. The disease had a marked tendency to early metastasis; the lungs and vagina were the most common sites for metastatic deposits. The disease was so rapid in its course that the period from first symptoms until the death of the patient was only a few weeks or months. The only successful treatment was the early and complete extirpation of the uterus.

In the author's case the disease appeared in a woman of thirty-five immediately after abortion. Persistent hemorrhage and fetid discharge from the uterus prompted operative intervention. The uterus and its appendages were removed by abdominal hysterectomy, and the patient made a prompt recovery.

Perforating Ulcer of the Duodenum.—Dr. John B. Murphy of Chicago read this paper. He reviewed the salient points in the etiology, pathology, and diagnosis of duodenal ulcers, and considered especially the surgical treatment of perforations. He had collected from the literature nineteen additional cases, including one of his own, in which operations were performed for this complication. An analysis of these cases showed: Average age in the thirteen cases in which age was stated was thirty-five years. Of the nineteen cases, five were females and fourteen males. Of the twelve cases in which it was stated whether or not there were symptoms present previous to to perforation, in nine they were present previous to perforation; in three there were no prevous symptoms; in only five cases did the symptoms point to the stomach or duodenum; in six cases it was stated that the perforations were sutured; of these two died, three recovered. In one the result was not stated. In eight cases drainage only was used; of these seven died, and one recovered

Conclusions.—The diagnosis of perforating ulcer was difficult, or, better, practically impossible without an exploratory laparotomy. In many cases there was no evidence of duodenal disease previous to the perforation.

The most important physical sign, in addition to those of perforative peritonitis from perforations in other portions of the intestinal tract, was the flatness of the superficial piano percussion note in the right hypochondrium.

The leucocytosis in one case, the only one in which it was seen, was pronounced, showing an inflammatory condition, in contradistinction to the usual absence of it in intestinal obstruction and fat necrosis of the pancreas. Leucocytosis, however, was not a necessary manifestation of perforation or of inflammation. It was a manifestation of the reaction of blood to infections, biotic or toxic. It was often entirely absent in typhoid perforations.

Collapse was absent in duodenal perforation except when associated with severe hemorrhage. Collapse in intestinal perforation was the manifestation of the absorption of the product of infection, and not a manifestation of the perforation *per se.* Collapse was always secondary to abrasion or denudation of the endothelial covering of the peritoneum, which abrasion permitted of rapid absorption.

In all cases of perforative peritonitis, to which duodenal perforations were no exception, operation should be done at the earliest possible moment after perforation had taken place, and experience showed that the mortality was in direct ratio to the length of time that elapsed between the occurrence of perforation and the operation. In perforation the longer the escaping material was in contact with the peritoneum, the greater the danger of destruction of its endothelial covering, and thus the greater the danger of absorption. Of thirteen cases operated upon more than thirty hours after perforation, all terminated fatally, while in twelve cases, where less than thirty hours had elapsed, 66⅔ per cent. recovered. The operation must be complete—that is, it must be pursued to an effective suture of the perforation. Drainage was insufficient, as of eighteen cases treated by drainage alone all died. The suture of the opening can be easily inserted, as in 98 per cent. of the perforating ulcers into the peritoneum the opening was in the first portion of the duodenum, its most accessible portion. Where duodenal perforation was suspected, the incision should be through the right rectus muscle. It could then be carried upward to the costal arch, or downward to the symphysis pubis without dividing any of the transverse muscles. The incision through the rectus muscle was the one which he commonly made in operating for appendicitis. It could be enlarged upward or downward without interfering with the muscle fibers.

Drainage or no drainage was a matter of personal election, influenced, more or less, by the pathological condition present at the time of the operation.

The after-treatment was that commonly followed after abdominal section, except that the patient was kept elevated in bed at an angle of 35° for the first forty-eight hours after the operation.

The prognosis depended, first, upon the virulence of the peritonitis produced; second, the time the material had been allowed to remain in the peritoneum; third, on the presence or absence of blistering or abrasion of the peritoneum at the time of operation.

Peritoneal Tuberculosis.—The author, Dr. Rufus B. Hall of Cincinnati, Ohio, reported a few cases of operation for peritoneal tuberculosis, and made some remarks as to operating in this disease. He contended that tuberculosis of the peritoneum in women was not a rare affection. It occurred often enough to make it necessary to consider it in the differential diagnosis of all obscure diseases in the pelvis and abdomen. In a large majority of cases coming under his observation there were no appreciable manifestations of the disease in other parts of the body. The symptoms of this disease simulated several other conditions in the pelvis and abdomen, and it required patient and careful study to differentiate one from the other. The diseases most likely to be confounded with this affection were the recurrent attacks of appendicitis of the catarrhal form, small fibroid tumors, with old tubo-ovarian disease, and recurrent attacks of pelvic inflammation. An ovarian cyst of moderate size might be confounded with encysted dropsy. But he insisted that if the case was one of tuberculosis the temperature chart would suggest this disease if the temperature was taken every four hours for a period of ten to fifteen days. In no other condition was there the exact regularity in the afternoon rise of temperature as in tuberculosis. All cases of peritoneal tuberculosis in which there was encysted dropsy, or an accumulation of pus or serum, should be operated upon; after the necessary surgical repair the abdomen should be drained. He advocated vaginal drainage in women. First, because it gave perfect drainage; and, second, it prevented ventral hernia, which so often followed on account of the fact that the drainage tube must be kept in for so many days.

Of 110 patients operated upon by the author for peritoneal tuberculosis, twelve were for supposed appendicitis, four males and eight females. For other conditions he operated ninety-eight times on the female. Of this number two deaths were directly due to the operation. One died of meningitis on the seventeenth day; one died from general dissemination of the disease six weeks after operation; one died from general dissemination in ten weeks. These five cases all died in the hospital; one recovered in four weeks, left the hospital convalescent, and died two weeks afterward of meningitis after three days' illness. One recovered and left the hospital in the fourth week, and died in thirteen weeks after the operation from general dissemination. Eight died from tuberculosis in various forms in from fourteen months to four and a half years after the operation. Two cases were suffering from pulmonary tuberculosis and would probably die within a year. The remaining ninety were systematically well. A few of these cases had been operated on so recently that no conclusion could be drawn. Taking the cases as a whole, the results were gratifying beyond expectation. A large per cent. of the cases were enjoying the best of health, and from their appearance one would never suspect that they had had tuberculosis.

Surgical Treatment of Perforated Gastric Ulcer with General Infection of the Peritoneal Cavity.—Dr H Howitt of Guelph, Ont., stated that acute perforation with general infection of the abdomen was caused usually by the acute, round ulcer, but might occasionally take place in the course of the chronic ulcer, especially when it was situated on the ever-moving anterior wall. All the phenomena of acute perforation might result in either form of ulcer in a more indirect manner by the formation of a localized abscess, which afterward ruptured internally. The initial symptoms of acute perforation were described.

Treatment.- In a case of perforation with general infection of the abdomen medicinal remedies were useless as regards effecting a cure. Nothing short of early, bold, and thorough surgery could save the patient. A large irrigating tank, capable of throwing a stream almost an inch in diameter, expedited matters All sutures should be threaded beforehand, ready for instant use. When patient was anæsthetized an incision from ensiform cartilage to pubis should at once be made, bowels eviscerated and protected. Then the stomach was examined and the perforated part brought as far as possible out of the wound and the field guarded by sponges. The ulcer perforation might be excised, if considered advisable, but it was generally merely closed with two or more rows of silk sutures. Now, every pouch and corner in the abdomen was thoroughly inspected by sight and flushed clean. Three rubber drainage tubes were used, not one of which was placed in the wound, but through stabs, one at the back in each flank depression below the kidney, and one in the lower abdomen to the right or left of the incision for the pelvis. After the intestines were replaced and omentum was spread over them and fastened below the lower end of the wound with a suture or two, the incision was closed as quickly as possible and dressed. In a desperate condition of the patient, a pint of peptonized milk or other suitable liquid food was injected into the jejunum during operation.

After-Treatment.—Suitable measures to combat shock. Patient was supported for first week by rectal enemata and nothing by the mouth but sips of hot water. No morphine should be given unless it was evident that death was inevitable The bowels were to be regulated by injections of magnesia sulphate in solution.

In the paper reference was made to his first case, in which the operation was performed on February 20, 1900, and in which, owing to stenosis of the pylorus, gastroenterostomy was done. The patient, a farmer, enjoyed excellent health until the third of the present month, when he was suddenly ceased with intense pain in the abdomen near the umbilicus, which gave rise to well-pronounced shock. At the operation the proximal arm of the bowel close to the site of anastomosis was found perforated by a round, peptic ulcer. The patient was now practically well again, and had not had a single bad symptom. It was noticed at the last operation that the gastroenterostomy by dragging of the bowel had caused the stomach to become triangular in outline, the lower angle of which was close to the left side of the umbilicus.

It was claimed that this was the first time that an operation for a perforated ulcer of the jejunum, as a result of gastroenterostomy, had been reported in America.

His second case of acute gastric perforation occurred in a young woman, aged twenty-one years, who had never had any serious illness. The attack came on suddenly without a previous symptom of gastric ulceration. In this case the situation of intense pain at the onset was in the epigastrium, and two hours later in the lower abdomen. A large perforation was found in the posterior wall of the stomach close to the lesser curvature. It was very difficult to close the perforation, owing to the situation. The lesser peritoneal pouch, the depression in both flanks, and the pelvic cavity were filled with pus, which contained pieces of partially-organized lymph. Patient made an uneventful recovery, and had never since had any illness, nor even gastric distress.

In conclusion, the essayist stated that he was aware that many surgeons strongly objected to evisceration in abdominal work, but maintained that in the conditions under discussion it was impossible by any other known method to make certain that the toilet of the peritoneum had been done thoroughly, and said that imperfect toilet was followed by more shock, and was vastly more dangerous than hours of properly-managed evisceration.

Carcinoma of the Cervix Uteri.—Dr. L. H. DUNNING of Indianapolis, Ind., read a paper on this subject, in which he presented a summary of his sixty-two cases operated upon by hysterectomy. These cases showed on applying the accepted test of time—five years—that the author had had an encouraging number of cures; they also showed the desirability of early operative procedure. The operative methods employed were indicated, and the author's views of the same were discussed. He reported five cases of carcinoma of the cervix uteri in which the women were alive five years after hysterectomy.

CASE I.—Mrs. A., referred to him in January, 1892. The patient was sixty-three years of age, and had reached the menopause ten years previously. For several months she had had profuse uterine hemorrhages. Dr. Terrill had removed small growths from the cervix uteri several times, but new ones had quickly sprung from the site of the former ones. At the time of his (Dunning's) examination, there was a small cauliflower growth springing from the cervix and protruding into the vagina. A portion of it was examined by Dr. Ferguson and pronounced carcinoma. Vaginal hysterectomy, with extirpation of the appendages, was done January 4, 1892. The patient recovered.

CASE II.—Mrs. B., married, and aged thirty years. She was emaciated, as a result of uterine pain and hemorrhage. A neoplasm was found, involving the cervix uteri. A portion of the growth was examined and pronounced carcinoma. A total extirpation of the uterus and appendages was done January 30, 1896. The patient recovered.

CASE III.—Mrs. C., aged forty-five years; examined by him December 2, 1896; she gave a history of frequent and profuse hemorrhages, and now had a thin fetid discharge. Examination disclosed a small papillomatous mass upon the posterior lip of the cervix. A piece was snipped out, examined microscopically, and pronounced carcinoma. Vaginal hysterectomy was done December 3, 1896. The uterine appendages were also removed. Recovered.

CASE IV.—Mrs. D., forty-eight years of age, mother of four children, youngest seventeen years old. Upon examination, a neoplasm, involving one-half of the circumference of the cervix uteri, was found. Microscopic examination showed it to be a squamous-celled carcinoma. Hysterectomy was done April 16, 1896. Patient made an excellent recovery.

CASE V.—Mrs. E., aged forty years; married and mother of two children. Microscopical examination of cervical neoplasm was made by Dr. Hodges, who pronounced it carcinoma. A vaginal hysterectomy was done October, 1895. Patient was in ill health for some months following the operation, but has recovered. The essayist examined patient in July of this year and found a clean vagina, with no signs of recurrence.

Officers.—The following officers were elected for the ensuing year: *President*, Dr. L. H. Dunning, Indianapolis, Ind.; *First Vice-President*, Dr. Marcus Rosenwasser, Cleveland, O.; *Second Vice-President*, Dr. Herman E. Hayd, Buffalo, N. Y.; *Secretary*, Dr. William Warren Potter, Buffalo, N. Y.; *Treasurer*, Dr. X. O. Werder, Pittsburg, Pa. Chicago, Ill., was selected as the place for holding the next meeting; time, September, 1903.

The Value of Electrolysis in the Eustachian Tube.—N. H. Pierce offers the following conclusions: (1) In otosclerotic disease, electrolysis is useless; (2) In the great majority of cases of catarrhal disease, it has no advantages over other methods of treatment; (3) In a certain few cases where there is probably a soft exudate near the isthmus, it may be regarded as of some value.—*Archives of Otology.*

Books Received.

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Points on the Malaria of Southern Italy.—F. Martirano describes an epidemic of malaria in Cetraro, in which the part played by the anopheles seemed to be very small, indeed. He calls attention to the fact that the mosquito is not the only agent in malaria, a part only, and that part, the shortest of the life of the parasite, being spent within that insect. The longest part, and the least well known to scientists, is that spent in man. It is probable that the vitality of the parasite is much greater than has hitherto been supposed, and that during the malarial season not only do the anopheles become infected with the gametes of malarial relapses, and propagate the disease from the infected to the previously healthy, but that there is a renewed activity in the multiplication of the parasites within the organism of patients who have been previously affected with the disease. The human equation in malaria deserves further research.—*La Riforma Medica.*

Medical Items.

Contagious Diseases Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 27, 1902:

	Cases	Deaths
Measles	37	.
Diphtheria and croup	199	25
Scarlet fever	84	4
Smallpox	5	1
Varicella	14	..
Tuberculosis	237	141
Typhoid fever	..	23
Cerebrospinal meningitis	.	1

The Dangers of the Menopause.—Sara E. Greenfield says that the climacteric, or cessation of menstrual life is nature's first warning of old age. In order of frequency, the nervous manifestations stand first. The patient becomes irritable and easily fretted by little things. She is troubled with indigestion, insomnia, hot flashes, cold feet, palpitation of the heart, etc. If she is at all of a melancholy turn of mind, she will develop all kinds of phobias. It is best for the physician to take her into his confidence and explain to her why all these disturbances exist. Sodium bromide is an excellent nerve sedative, which produces no harmful after effects even when it is used for a long time. Iron and other blood builders are indicated. Rest is of the greatest importance. If the patient cannot be sent away from home, then she should take a few hours of rest every day, even though she cannot sleep at this time. Next in frequency to the nervous systems, and often accompanying them, is an increased menstrual flow. The physiological process of the menopause is atropic, and there should never be an increased menstruation. The most common causes of menorrhagia are: Metritis and endometritis, uterine fibroids, relaxation of the uterine tissues, and carcinoma. In these four conditions, increased menstruation is practically a constant symptom. In the majority of cases the problem of differential diagnosis is limited to the aforesaid diseases. Metritis is the most common cause of menorrhagia. In chronic cases, and in long-standing hyperplasia, there should be a thorough curettage. Surgeons should think twice before performing the radical operation for a uterine fibroid. In cases of prolonged or increased flow, with no other symptoms, the writer gives a combination of ergot, viburnum, and aromatic sulphuric acid with excellent results. Lastly, she considers cancer. There is little to expect, now, in the way of improved surgical technique, and hope lies in the earliest possible diagnosis. From a clinical standpoint, we find probably very little of anything besides the irregular menstruation in an early case of carcinoma of the cervix. The writer has no faith in a diagnosis made from uterine scrapings. It is necessary to remove a small wedge of tissue, put it into a bottle of 60 per cent. alcohol and send it to some one who does reliable microscopic work. Delay at this time is fatal. The disease has always extended farther than is apparent to the naked eye. The lymphatics are quickly invaded, and the disease becomes systemic oftentimes before the physician has made up his mind to act or before the patient has given her consent.—*The Woman's Medical Journal.*

The Customary Therapy of Kidney Diseases. Carl v. Noorden first discusses acute nephritis. He believes that it may be said that in practice the administration of an exclusive milk diet occupies so important a place in the treatment of acute nephritis that it has replaced all other systems. For the sub-chronic form of nephritis with œdema, essentially the same dietetic treatment has been introduced and maintained. But in th[illegible] a pure milk diet cannot be administered [illegible] as it can in the acute forms. Occasionally, the disease runs a favorable course in patients living on a pure milk diet. As a rule, patients who cannot bear the milk [illegible] allowed to eat small quantities of meat, preferably [illegible] one or two eggs a day, and, besides, some vegetables, fruit, cereals, butter, and sugar. Strong condiments, alcohol, and stimulating drinks of all kinds should be prohibited. The dietetic régime in chronic nephritis varies considerably, but here also there are enthusiastic adherents of the exclusive milk diet. Most authors admit that it is best not to exclude meat and eggs from the diet of patients suffering from atrophic nephritis, although restrictions must be imposed, as to both the quantity of meat and eggs allowed and the form in which they are to be given. Raw eggs are usually forbidden; the white part of meat alone is permitted (chicken, veal, pork, hare, fish), or at least recommended. Raw and stewed fruits, cereals, legumes, and fats are generally allowed without restriction; most vegetables, except radishes and those containing irritating oils, are allowed; asparagus is generally forbidden. All strong spices are bad, and so is vinegar. Lemon juice may be used instead of the latter. The principle of treatment is to save the diseased organs as much as possible. In order to know what diet really does spare the kidneys, we must, in the first place, study the results of general clinical experience. A second important criterion is the degree of albuminuria. The absolute quantity of albumin voided in the urine in twenty-four hours should be estimated. A third point is the excretory power of the kidneys. The only way to determine the power of elimination of the kidneys in regard to normal excretory products, is to test the elimination of these products themselves. Only in a small number of cases do the elimination of drugs and of natural matabolic products go hand in hand.—*International Medical Magazine*

The Johannesburg Bread Supply.—Dr. Charles Porter, says the *Medical Magazine*, has just issued a report on the above subject and has laid bare a most unsatisfactory state of matters. His inquiry revealed the fact that about 85 per cent. of the bread sold was under weight, and that over 65 per cent. was of bad quality, either containing alum, or an excess of acid, or being sour or badly baked. With the exception of the water supply, and in some cases the ventilation, the sanitary condition of the bake-houses did not call for much improvement. But the first-named requisite, water supply, was faulty, in many instances being from shallow wells open to pollution. Dr. Porter advised that a public supply should be laid on to the defaulting bake-houses, and that in the mean time all water used should be boiled.

Resuscitation of the Stillborn.—Rhythmical traction of the tongue has been highly lauded as a substitute for artificial respiration in attempting the resuscitation of apparently still-born infants, but this procedure, though of unquestionable utility, has the drawback of being somewhat difficult of application in these cases on account of the difficulty of obtaining and retaining a firm grip on the little tongue. As an alternative it is pointed out that rythmical pressure on the base of the tongue by the finger introduced through the mouth answers the same purpose, and at the same time it has the advantage of freeing the upper air passages from any accidental cause of obstruction.—*Medical Press.*

A Javanese Anæsthetic. Mr. L. Steiner, writing in a recent number of the *Semaine Médicale* asserts that it is sometimes customary for healers in that country to place their patients in a profound anæsthetic sleep, by compressing the carotid arteries. The practice, according to the writer, is much resorted to in the east of Java, where the treatment is known as *tarik urat tidor*, that is, "compression of the soporific vessel." Mr. Steiner declares that he himself successfully induced deep anæsthesia by this method, so much so that in one case he was able to lance an inguinal abscess without the knowledge of the patient.

Diseases of the Ear in Hysterical Subjects.—The views of Prof. Voss are summarized in the following propositions: (1) The objective picture of an acute otitis media may appear as a symptom of hysteria. (2) Pure functional neuroses of the ear should be treated, not by an otologist, but by a neurologist. (3) In these cases an absolute contraindication exists against too much treatment, especially of the nose and pharynx. (4) The generally well-known craving of hysterical subjects for operations may also center upon the ear (and, probably, also upon the nose). (5) Opening the mastoid process to relieve the mastalgia of hysterical patients is absolutely contraindicated. (6) Our present method of after-treatment of radical operations with prolonged tamponing is not at all suitable for children or nervous and hysterical patients. After the fifth day the tampon is entirely superfluous and should be replaced by a simple outer dressing.

Pulmonary Embolism.—George S. Mathews says that the present status of thrombosis may be briefly summed up in the statement that blood platelets begin the formation of a thrombus. They accumulate in a viscid mass, and with a slowing of the blood stream leucocytes are enmeshed, fibrin ferment is produced, erythrocytes are entangled, and we have a complete picture of a thrombus. Four cases of pulmonary embolism are reported by the author, in three of which phlebitis was the origin of the thrombosis. Given an impoverished condition of the blood, added to an endophlebitis, and we have the conditions favorable to the formation of a thrombus. One of the cases reported is of thrombosis in chlorosis.—*The Providence Medical Journal.*

The Formation of Phenolsulphuric Acid in the Organism.—L. Laudi concludes from his researches: (1) That when phenol is given by the mouth, phenolsulphuric acid is formed by the biochemical activity of the cells of the digestive tract, and it is, therefore, probable that the acid derived from the digestion of the food is produced in the same way. (2) The liver has an analogous action, excepting when a part of the phenol reaches it in an unaltered condition, in which case the organ acts (secondarily, as it were) on the defensive. (3) When phenol is injected hypodermically, the acid is formed without the intervention of the intestines, probably in the liver, and, possibly, in some other organ also. (4) Phenol may pass unaltered in the urine, but only in very small doses.—*Il Policlinico.*

Suicide in Germany.—The total number of suicides in the German Empire recorded in 1900 was 11,393. Of these 8,987 were male and 2,606 female, a proportion of 100 of the former to 26.8 of the latter. Among the 108,404 persons who committed suicide in the German Empire during the past decade, the proportion of males to females was 100 to 26.3. The statistics of suicide for 1900 show a proportion of 20.3 suicides to 100,000 inhabitants. For males alone the proportion was 32.6; for females 8.8.—*British Medical Journal.*

Professions and Lunacy.—A French investigator has come to the conclusion that the brains of naval and military men give out most quickly. He states that out of every 100,000 men of the army or naval professions 100 are hopelessly lunatics. Of the liberal professions, artists are the first to succumb to the brain strain, next the lawyers, followed, at some distance, by doctors, clergy, literary men and civil servants. Striking an average of this group, 177 go mad to each 100,000.

Brooklyn School Inspection.—Healthy children only are to be admitted to the Brooklyn schools. A special corps of physicians will visit each classroom and will exclude from attendance in classes all children that exhibit evidences of contagious disease, such as acute catarrhal conditions of the eyes, nose and throat, and parasitic diseases of the skin and scalp.—*Public Opinion.*

Rheumatism in Nyassaland.—Rheumatic fever is reported by Dr. Kerr Cross to be very common in North Nyassaland. That it differs somewhat in its results from the English type of the disease may be inferred from his additional statement that many of the joints are permanently affected by this disease.—*London Polyclinic.*

Braithwaite's Retrospect of Medicine.—Braithwaite's Retrospect of Medicine has come to the end of its useful career. The first volume was issued in 1840, and the publication continued to appear regularly till last year. The 123rd volume, dealing with the year ending June, 1901 was the last of the series.

University of Moscow.—The total number of students already entered on the books of the University of Moscow for the academic year 1902–'3 is 968. Of these 214 belong to the Faculty of Medicine.

The Gouty Constitution.—Arbuthnot says that a gouty constitution is attended with great acuteness of parts, the nervous fibres of the brain and the other extremities being delicate.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Public Health and Marine Hospital Service, during the week ended Sept. 27, 1902:

		CASES.	DEATHS.
SMALLPOX—UNITED STATES.			
California, Los Angeles	Sept. 6–13	7	
San Francisco	Sept. 7–14	5	
Illinois, Chicago	Sept. 13–20	1	
Indiana, Indianapolis	Sept. 6–13	1	
Kansas, Wichita	Sept. 6–13	1	
Kentucky, Covington	Sept. 6–13	2	
Louisiana, Shreveport	Sept. 13–20	1	
Maryland, Baltimore	Sept. 13–20	1	
Massachusetts, Boston	Sept. 13–20	18	1
Michigan, Detroit	Sept. 13–20	8	
Missouri, St. Louis	Sept. 14–21	1	
New Hampshire, Nashua	Sept. 13–20	5	
New Jersey, Camden	Sept. 13–20	2	
Newark	Sept. 13–20	2	
Plainfield	Sept. 13–20		1
New York, New York	Sept. 13–20	3	1
Ohio, Cincinnati	Sept. 12–19	1	
Cleveland	Sept. 13–20	86	7
Toledo	Sept. 6–13	8	
Youngstown	Sept. 6–13	1	1
Pennsylvania, Altoona	Sept. 13–20	3	
Johnstown	Sept. 13–20	17	3
McKeesport	Sept. 13–20	3	
Pittsburg	Sept. 13–20	20	6
Philadelphia	Sept. 13–20	4	
Reading	Sept. 15–22	1	
South Carolina, Charleston	Sept. 13–20	1	
Tennessee, Nashville	Sept. 13–20	1	
SMALLPOX—FOREIGN.			
Austria, Prague	Aug. 23–30	3	
Belgium, Antwerp	Aug. 30–Sept. 6	1	
Brussels	Aug. 30–Sept. 6		1
Ghent	Aug. 30–Sept. 6		1
Ecuador, Guayaquil	Aug. 23–30		3
France, Paris	Aug. 16–23		1
Great Britain, Dundee	Aug. 30–Sept. 6	1	
Liverpool	Sept. 6–13	3	
London	Aug. 30–Sept 6	12	2
India, Bombay	Aug. 19–26		3
Calcutta	Aug. 8–23		2
Madras	Aug. 9–15		2
Italy, Palermo	Aug. 23–30	2	
Russia, Moscow	Aug. 16–30	3	2
Odessa	Aug. 30–Sept. 6	1	
St. Petersburg	Aug. 16–30	39	6
Warsaw	Aug. 8–23		5
YELLOW FEVER.			
Colombia, Panama	Sept. 8–15	3	1
Mexico, Coatzacoalcos	Sept. 6–13	3	1
CHOLERA—INSULAR.			
Philippine Islands, Manila	May 10–Aug. 2	622	410
Provinces	July 19 to Aug. 2	2,141	1,664
CHOLERA—FOREIGN.			
China, Amoy	July 26–Aug. 2	40 cases, est.	
Hongkong	Aug. 2–9	12	11
New Chwang	Aug. 2–16	160	142
Egypt, Alexandria	Aug. 16–30	13	7
India, Bombay	Aug. 19–26		2
Calcutta	Aug. 8–23		16
Karachi	Aug. 10–24	1	1
Madras	Aug. 9–15		1
Straits Settlements, Singapore	July 26–Aug. 2		5
PLAGUE—FOREIGN.			
China, Hongkong	Aug. 2–9	14	13
Egypt, Alexandria	Aug. 16–30	7	4
India, Bombay	Aug. 19–26		35
Calcutta	Aug. 8–23		10
Karachi	Aug. 10–24	20	17
Madras	Aug. 9–15		2

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Original Articles.

THE PROMINENT EYE.

ITS MEANING AND CLINICAL ASSOCIATIONS.

BY A. HAIG, M.D., F.R.C.P.,
LONDON, ENG.

WE all know the prominent eye of exophthalmic goiter, or Graves' disease, and the prominent eye of which I speak in this paper is but a minor condition of the same thing.

But while the full picture of Graves' disease is somewhat rare, the prominent eye or some degree of this condition is rather common, especially among the uric-acid feeding upper classes, and is to be seen, perhaps, in one or two out of almost any ten people we meet.

The underlying cause common to Graves' disease and minor conditions of prominent eye is high blood pressure, and in this paper I am treating of the prominent eye as a valuable and readily-observed symptom of high blood pressure, which again, as I have elsewhere shown, is due to the presence of uric acid in the blood.

With the exception of certain alterations in the eyeball itself, such as those of myopia, which can easily be identified, or certain new growths or tumors in either the eye or neighboring structures, blood pressure is the chief determining factor in the prominence or retraction of the eyes.

To take extreme cases, we have the prominent eye of Graves' disease with blood pressure—say, 150 mm. of mercury or above—on the one hand, and on the other the sunken eye of the young child dying of diarrhœa and collapse, with blood pressure probably 50 mm. of mercury and below, and here we have also the cold extremities, the shrunken skin, and, perhaps, the deeply concave fontanelle to tell the same tale of diminished blood pressure. Between these great extremes we get all varieties of intermediate conditions, so that, in clinical medicine, the position of the eye is a ready guide to the vascular condition of the patient, and its value is increased by measuring even roughly the extent of the prominence, or retraction, and noting the other signs of the vascular conditions to be seen in the face with each position of the eyeball. As I have elsewhere pointed out,* Graves' disease may, if taken in time, be relieved or even cured by removal of the high pressure, or its cause—uric acid collæmia. The symptoms of Graves' disease are too well known to need description, but I will merely mention in passing that of its three cardinal symptoms the prominent eye is met with very frequently in the high-blood-pressure headache (migraine or uric-acid headache), that enlargement of the thyroid occurs in most women during menstruation when the blood pressure is raised, and when those of them who suffer from migraine or epilepsy have their attacks, and that the quick pulse is met with in all similar high-blood-pressure conditions, as the heart begins to fail before the high pressure. Graves' disease is, in a word, as I have already suggested, but an exaggeration of some of the common signs of high-blood pressure.

Thus I know several sufferers from uric-acid headache who have attacks with each menstrual period, and with each of these attacks the neck enlarges so that for a day or two their ordinary clothing cannot be used; and no doubt it is this monthly fluctuation in collæmia and its resultant blood pressure that accounts for the fact that exophthalmic goiter is chiefly seen in women, and that those who are weak, or nearing the period of life at which the heart tends to fail, may have more or less palpitation and quick pulse with each such periodical attack; and in my work on "Uric Acid," fifth edition, p. 139, I have recorded a case in which a man who suffered from migraine presented a similar cycle of events, according as his heart failed under strain or recovered with rest and tonics. When his heart was strong he had headaches and prominent eyes and enlargement of the thyroid; when his heart failed he lost his headaches, and the prominence of his eyes and of the thyroid diminished.

I will merely add that in all these conditions of Graves' disease, or developing or partial Graves' disease, in which the prominence of the eyes is well marked, blood pressures of 150 mm. of mercury and above are the rule.

Now, if a normal eye is closed and a card is held vertically over its center its edge will rest firmly over the supraorbital ridge above and the malar and superior maxillary bones below; but it will touch the eyeball so lightly as to cause no discomfort.

On removing the card a pale line is seen where it has pressed the blood out of the skin over the bones; but it has hardly affected the skin of the eyelid at all. And this is no doubt the natural position of the human eye, for the bony boundaries of the orbit now afford it efficient protection from pressure and injury, and this is its position when the blood pressure is normal.

When, however, the card is applied in the same way to an eye which is too prominent, it rests on the front of the ball and rocks up and down over it, only touching one of the edges of the orbit. It makes a pale mark on the eyelid and causes painful pressure on the eyeball without touching both the upper and lower borders of the orbit at the same time.

Then when one looks at a face in which the eyes are markedly prominent one sees the whole side of the face forming a cone, of which the apex is the front of the eyeball.

In a normal face there is an upward and forward slope to the lower margin of the orbit; then there is a crateriform depression, and the ball of the eye projects more or less from the center of this. But in the face with the very prominent eye the depression above the margin of the orbit is done away with, and the cone is continued up without a break to its apex at the front of the eyeball. The eye is so prominent that the lids stretch forward over it, obliterating the normal depression at the margin of the orbit.

And there is here, I think, a point of difference between the eye of exophthalmic goiter and the prominent eye I am now seeking to describe; for the eye in Graves' disease becomes prominent more

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*Uric Acid Ed. V., p. 140, *et. seq.*

less suddenly, so that the eyeball leaves the lids behind, so to speak, and they fail to cover it, to anything like the normal extent; but in the prominent eye of chronic high blood pressure there has been more time, the change and increase of prominence has been gradual over years, and the lids have been able to follow the eyeball and cover it to a greater extent than in Graves' disease.

Among concomitant signs of the prominent eye the most important is a distended condition of the skin, whether it be with fat, blood, or serum, or all three more or less mingled; the wrinkles tend to disappear or get smoothed out, and the whole skin of the face gives the idea of distention and puffiness.

This is well seen in a woman of, say forty-five years; the stout body gives an idea of distension, the skin of the face is puffy and tense, the eyes stand out, and the sides of the face slope up to them with hardly any indication of the whereabouts of the orbital margin; with such signs at such an age it is pretty safe to say that the blood pressure is not below 150 mm. of mercury.

Some minor conditions which may be seen with some stages of the prominent eye are a distended condition of capillary vessels, giving a dark streaking of color, very different from the delicate flush of health, in which no vessels are visible.

Then, as time goes on, the tense skin and prominent eye gradually give place to a more wrinkled skin, and an eye which, though still prominent shows now the margin of the orbit surrounded by more or less large folds of eyelids, as the previous stretching is relaxed, and this probably comes at an age when the hair is becoming markedly gray or even white.

Later still we get an eye, hardly prominent at all, with a skin still puffy, but in wrinkles and folds, and the color in the distended skin vessels becomes dusky and irregular, almost blotchy, as heart weakness and venous congestion increase. And at last, near the final stages of heart failure, of which the above are intermediate stages, we see the face becoming pale, and the blood even falling out of the distended and degenerate vessels, which gave the face for so many years what was often thought by the man in the street to be its hue of ruddy health; but which was in reality the stamp of vascular degeneration and decay.

With wrinkled and still puffy skin, a sunken eye, an orbital margin surrounded by loose folds, with a paling surface and a shrunken appearance, we get a quick, irregular, or intermittent pulse, and a blood pressure but little over 100 mm. of mercury.

Thus a woman in front of us has eyes that are distinctly prominent, a skin which is puffy, a face and figure which are decidedly stout and give an idea of distention. An older woman with gray hair, who sits beside her probably her mother, has a somewhat puffy skin, but her eyes are retracted rather than prominent, and her pale face, wrinkled skin, and wasting figure, tell a tale of heart failure and falling blood pressure. A single glance at these two tells us which has the lower blood pressure and why.

Or, again, one sees a woman who is obviously too excitable, and in her face the eyes are somewhat prominent, and the skin puffy, but round and below the eyes are large, loose folds of skin, and here we can see the whole history of cause and effect. Her blood pressure is high, and it has been high for a long time, and has been higher also than it is now. As her hair has grown gray, her heart has failed, the eye has become less prominent and surrounded by large loose folds of skin, and we already know that heart failure with its accompanying fall of blood pressure is a cause of mental excitement, even of mania.

Or, still again, one sees a man with exactly the above facial signs, and he tells us that for years he has suffered from periodical headaches, but that of late he has had less headache but some palpitation; his face tells us what his palpitation tells us, that his heart is failing, and that, blood pressure not being maintained, headaches due to it are not so severe.

Prominent eye is most common and most marked at about forty-five and fifty years of age, for then the heart attains its greatest hypertrophy; but it may be seen in early age, and I recently had among my out-patients a child of nine or ten years with this sign fairly marked, and its mother had it still more developed, for both were sufferers from high-blood-pressure headaches.

Thus those who have high blood pressure tend to have prominent eyes from the time they are full grown, from the time, that is, when the heart attains its full power, and here we have no doubt one reason why the headaches and epilepsy of high blood pressure start into prominence at puberty.

This continues onward through life. The eyes attain their greatest prominence in middle life, just when the heart is strongest, and gradually become less and less prominent as the heart fails with advancing years.

Then if in two cases the obstruction to the circulation is equal, the eyes will be most prominent in that which has the stronger heart; and, indeed, I believe it is in many cases possible to gauge approximately the thickness of the left ventricle simply by the greater or lesser prominence of the eye.

Then, naturally, conditions which hinder the circulation through the lungs, such as bronchitis, asthma, and emphysema, will make the prominent eye still more prominent, for such conditions not only directly obstruct the circulation, but defective oxygenation of the blood is a cause of collæmia, and it is also a cause, both direct and indirect, of obesity.

In the same way coughing, straining, and heavy exertion, as lifting, raise the blood pressure and increase the prominence of the eye. On the other hand, deep breathing lowers the blood pressure and diminishes the prominence of the eye; hence breathing exercises frequently practised when unrestrained by clothing are good for all those who suffer from high blood pressure and obesity; while those who suffer from obesity and insist on keeping their clothing tight are only increasing their trouble.

Mental excitement also raises blood pressure, and will therefore increase the prominence of the eyes.

On the other hand, absence of the above troubles and the presence of good respiratory powers may, to some extent, mask the effect of blood pressure on the eye and render it less prominent than it otherwise might be; but good respiratory power also tends to prevent very high blood pressure, and to diminish the tendency to obesity.

Then a tendency to stoutness will no doubt increase the prominence of the eye and the distention of the whole face and body; but high blood pressure is a wonderfully constant concomitant of obesity, so that I have long regarded obesity as a sign of high blood pressure, or rather as one of the results of the defective circulation which causes the high blood pressure; hence we so often find obesity accompanied by glycosuria or albuminuria. These are all merely forms of defective combustion due to defective capillary circulation, and they tend to occur together because they are results of one common cause, and the prominent eye is the facial sign of the first effect of this cause—high blood pressure.

Then, in estimating the actual prominence of an eye, we must remember that folds of puffy skin round the orbital margins may make it appear less prominent than it really is, and in such cases we must take care to feel the margin of the orbit and gauge the position of the eyeball in reference to this; but, allowing for these things and for differences of face and form and of size and prominence of bony ridges, there is no doubt that the position of the eye is often a most valuable guide to the blood pressure of its possessor. As I have already for some years been pointing out, the one cause of defective capillary circulation and high blood pressure is collæmia or excess of uric acid in the blood, therefore this is the cause of all the conditions we have here been considering, and the prominent eye, with some of its associated facial conditions, is a very constant sign of this collæmic circulation, and far more contsant than some of its better known results.

It is not everyone who has high blood pressure from collæmia that suffers from headache; it is only those who have a certain size and arrangement of vessels at the base of the brain; and again in those who do suffer there are all variations as to the height of blood pressure at which they begin to suffer. Thus some suffer at anything over 130 mm. of mercury, others only at 160, and others again will have little or no headache even with the highest blood pressures we know of.

Again not everyone that has collæmic high blood pressure will suffer from asthma, or glycosuria, or albuminuria. These may be present only when some concomitant condition precipitates the chief stress of the altered circulation on the lungs and bronchi, the liver, or the skin, respectively; but the one underlying condition common to all is collæmia and the high blood pressure it produces, and more or less prominence of the eye is a wonderfully good and constant index of this condition.

The prominent eye not only tells us whether there is high blood pressure, but it will often tell us also how long it has been there, and whether the heart has slowly and steadily hypertrophied under it, or has failed early, before much hypertrophy was possible, or only later, after it had for years kept up a very high blood pressure.

And when we observe not only the prominent eye but the condition of the skin round it, whether it is tense and smooth over an organ almost starting from its socket, or hanging in folds round a less prominent organ, or again wrinkled and atrophied, but still unduly lax over an eye scarcely prominent at all, I think we can often read in the patient's face not merely high blood pressure or low blood pressure, more or less, but no unimportant part of the life history of his vascular system.

Inflammation of the Diaphragm Complicating Pneumonia.—C W. G. Rohrer holds that inflammation of the diaphragm is a common complication of pneumonia. In most of those cases in which it is not found post mortem it will be observed that the specimen was obtained from a part of the diaphragm remote from the inflamed lung. Extension of the inflammatory process from the pneumonic lung to the diaphragm takes place (*a*) by direct extension, (*b*) by the lymphatics, (*c*) by the blood-vascular system. (2) The inflammation of the diaphragm is due, in large part, the so-called "pleuritic stitch-pain," also a pain in the abdomen often complained of, especially by children. The dyspnœa of frequency, always present in pneumonia, is due, in large part, to the patient's efforts to restrict the movements of the diaphragm. (3) The inflammation especially involves the muscular substance of the diaphragm, and may be mild or intense, in keeping with the grade and extent of the pneumonic condition. It is of bacterial origin, the usual microorganism being the pneumococcus.—*Maryland Medical Journal.*

RESECTION OF NEARLY EIGHT FEET OF GANGRENOUS INTESTINE—RECOVERY.*

By GEORGE R HARRIS, M.D.,
NORWICH, CONN.

The removal of large portions of the intestines, with recovery of the patient, is becoming much more common than in former years, and when there is an abundance of time in which to prepare the patient, with plenty of assistance and good light, this operation is robbed of many of its difficulties; but when, on the other hand, the operation is performed in an emergency, after the patient has been brought a long distance in an ambulance, he being more or less exhausted, with a violent peritonitis in progress, it is an entirely different thing.

These circumstances, together with the extreme length of the intestine removed, and the apparent complete recovery of the patient, are my reasons for reporting this case. The history is as follows:

On September 11, 1901, I was called by Dr. Ashley of Colchester to Salem, Conn., about twelve miles from Norwich, to see a man who was said to be suffering with an obstruction of the bowels, possibly intussusception. The patient was Mr. B. L. P., aged thirty-three, U. S., married, sculptor; a man weighing about 140 pounds, dark complexion, black hair, smooth face, fairly nourished, with little fat, and very muscular. His family history was negative. He had had the usual diseases of childhood, and typhoid fever eight years ago, but had been perfectly well ever since, except that for several years he had had, at times, attacks of severe pain in the abdomen.

In 1897, in Paris, he had an attack which lasted about fifteen minutes and was relieved by massage. Two years later, in the middle of the night, he had a similar attack, which was again relieved by massage. Nearly a year later he had another attack which did not last long, and which passed away on his keeping quiet in a reclining position. Last summer he had an attack which was relieved by Jamaica ginger and massage, but lasted about half an hour. When these attacks have occurred they have been sudden in their onset, and immediately before and after them he has been apparently in perfect health.

On September 10 he played a hard game of golf in Norwich and then drove twelve miles to his home; retired that night feeling perfectly well, arose the next morning and prepared to go hunting. In a little while he was taken with an exceedingly severe pain, which centered in the umbilical region. He took some brandy, returned to bed, and massaged his abdomen thoroughly, and in a short time was entirely free from pain, and slept about an hour. On arising, his pain commenced again, even more severe than before. Massage was of no avail. He had a large movement, but the pain was not diminished. Dr. E. F. Ashley of Colchester was called at 9 A.M. and administered one-quarter grain of morphine sulphate, hypodermically, and repeated the dose at 9.30. Mr. P. gave the history of having eaten a number of half-ripe peaches the night before.

Upon examination of the abdomen the doctor found an area of extreme tenderness about the size of the palm of the hand, to the left and above the umbilicus. No tumor was evident. The patient had vomited, but the vomited matter consisted only of fluid with mucus. Large enemata of hot water were given with no result, the fluid returning clear with the exception of some small particles of fecal matter and some mucus spotted with blood. Hot applications were made to the abdomen, but the

*Read before the Connecticut State Medical Association, 1902.

pains still continued. At 11 A.M. his temperature was 97.4° and his pulse normal.

Upon my arrival, at about 3.30 P.M., I found the abdomen fairly soft and with no special tender spots, except that on pressure in the neighborhood of the umbilicus the patient said there was some increased pain. On percussion I could get nothing decisive, except that over this tender area there seemed to be tympanitic resonance of high-pitched metallic quality. The patient's pain, which was considerable, was referred to the umbilicus. He was given several large enemata of hot water, but with absolutely no result, the water returning perfectly clear. It was now decided to do an exploratory operation, and there being no conveniences for such an operation at hand, he was sent to the Backus Hospital at Norwich, where he arrived about 1.30 A.M.

On his arrival at the hospital the patient said that his pain was not nearly as severe as when I saw him last at 5 P.M., and he also said that what pain he did have was in a new place, being to the right of median line and in the region of the appendix. He complained greatly of a severe pain in his right shoulder, for which he could account in no way except that in coming to the city he had lain on his right side in the ambulance all the way, about twelve miles, and the road was very rough. His pulse, however, was considerably quicker and weaker, being 120°, and his temperature had gone up to 100.6°. His face had a dark flush, his eyes were very bright and sunken, and he was very nervous and thirsty.

He was put on the table and his abdomen was examined. It was now very hard and tense, with no specially tender points. I could get nothing definite on palpation or percussion, although there did seem to be some slight dulness in the extreme right upper iliac region. The tympanites had disappeared. The abdomen was thoroughly cleansed and, being influenced by the patient's statement as to the location of the pain, together with the slight dulness found there, I made a small incision, sufficiently large to admit the index finger, over the appendix.

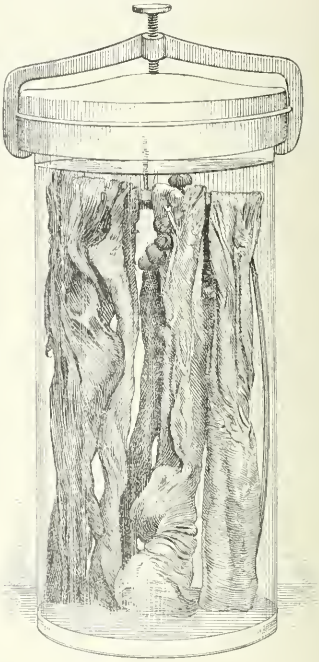
As soon as the abdomen was opened there was a tremendous gush of blood-stained serum, the stream rising fully ten inches from the surface of the wound and continuing for several seconds. A very large amount of fluid escaped; the fluid was serum, containing a large amount of blood and lymph, showing that an acute peritonitis was in progress.

On exploration with the index finger, I found a large mass of intestines, which were bound down in the right iliac region, and something entirely different from appendicitis; so the wound was closed and the abdomen was reopened in the median line when a very large mass of black and gangrenous intestines appeared. These, as stated above, were bound down in the right iliac fossa close to the cæcum, which was drawn toward the median line. This mass was about seven inches in the transverse diameter, and the coils of which it was composed, ran for the most part transversely; a few, however, were parallel with the long diameter of the abdomen. The point of constriction was close to the posterior abdominal wall and to the cæcum.

Some time was lost trying to uncoil the intestines, but this being found impossible, the constricting band, which was dense and heavy and about the size of a lead pencil, was divided and the intestines were spread out in hot towels and allowed to remain for over twenty minutes. The band, in the meantime, was examined. It could be enrolled and stretched out and appeared to be mesentery, with the inner border quite thickened and firm, and the rest of it membranous.

The intestine was now examined and found to be the ileum. The color was not improved; the gangrenous portion commencing at the cæcum and extending for a long distance up the ileum. The mesentery in many places was sloughing and entirely gone. There was one spot in the intestine where a perforation had taken place, but I do not think there was much extravasation.

The intestines were covered with lymph, and some slight adhesions had taken place between the coils. The ileum, having been previously clamped, was divided close to the cæcum, the remaining vessels of the mesentery were tied and trimmed away close to the spine; and above, the ileum was divided one inch from the upper limit of the gangrene an assistant holding the upper end.



INTESTINAL SEGMENT REMOVED; TOTAL LENGTH, SEVEN FEET TEN INCHES.

The whole mass of gangrenous intestines, with adherent strips of mesentery, was now removed from the abdomen. The abdomen was thoroughly flushed out with hot salt solution, and preparations were made for joining the intestines. The opening in cæcum was closed, the edges being inverted and closed with a double row of Lembert sutures, one-half of a Murphy button being first put into the cæcum. This button was then pushed against the wall on the other side of the cæcum beside the appendix, and, an opening being made, the button was brought through and held by an assistant. The end of the ileum was inverted and closed by a double row of Lembert sutures, the second half of the button having been previously placed in the bowel. This was brought through in the same way as the other, and the intestine was joined to the cæcum by a lateral anastomosis. No additional sutures were required, except a row in the mesentery.

The abdomen was now again thoroughly flushed out and closed, the different layers being united separately, and the wound was dressed with wet bichloride dressing. The portion of intestine removed measured seven feet ten inches. The time of operation was about one hour. Only two assistants, Dr. L. H. Bremmerman, House Surgeon, and Dr. N. P. Smith, who accompanied me to Salem and saw the patient there, besides myself, touched the abdominal cavity.

The patient stood the operation very well, considering the large amount of intestine removed. At one time his pulse became weak, and he was given a hypodermic of 1-30 gr. strychnine sulphate, and also a hypodermoclysis of salt solution beneath the breasts. He was placed in bed and surrounded by hot water bottles, and a saline enema was given and ordered to be repeated every two hours. Pulse was 154, respiration 22, temperature 100°. He was very restless on coming out from under the ether and very weak. He vomited frequently throughout the night small quantities of dark-brown fluid. The temperature ranged from 100° to 101.6° and back to 99.2°; the pulse varied between 128 and 154, and the respiration from 14 to 42.

He vomited continually the same brownish green fluid. Enemata were expelled clear; no gas. Strychnine was continued, and heroin, gr. one-twelfth every three hours, was tried to quiet him and control vomiting, but with no effect. Ingluvin gr. x and bismuth subnit. gr. xx every hour were also tried with the same negative result. The following day the same medication was continued, and, in addition, the stomach was washed out with saline solution, washing being continued until the return flow was perfectly clear. He was also given two nutritive enemata during the day, consisting of the whites of two eggs, brandy one ounce, peptonized milk eight ounces, and these were retained. The highest temperature was 100.8°, the lowest 99°.

The lavage seemed to exercise a very favorable influence over the vomiting; the patient often going over an hour without vomiting. Peptonized milk was put into the stomach by the tube after lavage, and was retained for an hour, when vomiting commenced again. The man slept one hour during the day, but previous to this time had not slept at all. He passed considerable gas per rectum and had two small stools, dark green in color and containing small quantities of fecal matter.

Third day: Hypodermic injections were given of digitalin, gr. 1-100 every four hours, alternating with strychnine; lavage was continued. Peptonized milk, eight ounces, was given by tube. The patient did not vomit for two hours after lavage. The temperature varied between 99° and 100.4°.

On the eighth day, during the absence of the nurse, the patient attempted to sit up and reach a table near the bed. He did not reach the table, but was very much exhausted by his effort, and his pulse which had been between 98 and 100 went to 116 with marked irregularity, and it was a week before it got back to its former condition.

The patient complained considerably of peptonized milk, saying that it made him sick and caused him to vomit. This was treated with sodium bicarbonate, but with very little improvement. He was then ordered malted milk and had no further trouble, and with this was able to take raw eggs daily. The patient was very fond of this, and drank large quantities of it, together with milk and cream, and never seemed to have any further trouble. For several weeks it and its combinations constituted the principal part of his food.

From this time on the patient may be said to have made an uneventful recovery. The Murphy button was found in the rectum on the twenty-fourth day and removed.

During convalescence the patient had days when he would have attacks of sharp pain like colic; these were always relieved by enemata.

His return to solid food was gradual, but when he left the hospital he was eating almost anything he wished.

He had two large abscesses in the abdominal wound during convalescence. One at my first incision and the other at the opening in the median line. They were both large, and evidently due to contact with the gangrenous intestines, which is an illustration of how much more readily sepsis is taken care of by the peritoneum than by other structures; for these abdominal wounds were thoroughly cleansed, and the abscesses were not due to stitches.

The wounds finally closed and the patient left the hospital in first-rate condition. He gained weight steadily after the first three weeks, and when he left the hospital weighed more than when he entered.

He has a slight tendency to diarrhea, having ordinarily one movement a day. His diet is general, but says he avoids eating "too much of green vegetables," thinking they may cause loosening of the bowels. He played golf within two weeks of the time that he left the hospital and now feels as strong as ever. Dr. W. T. Bull of New York saw this case in consultation the second day after the operation, and I am much indebted to him for his advice concerning the after-treatment of the case.

In closing I will give a list of cases, most of which have been published several times: Dr. Charles H. Peck's case, however, has not been reported as yet, but he has kindly allowed me to mention it in my list:

1. Hahn.—32 inches ileum, 8 inches colon, male, thirty-eight years; recovery without disturbance or nutrition.

2. Canthorn (*New York Medical Journal*, 1895) resected 43 inches of small intestines from a man aged forty-nine for sarcoma of mesentery; ends united by Murphy's button. Patient recovered from operation, but died four months later from obstruction brought about by Murphy's button.

3. R. Budberg-Boeninghausen and W. Koch.—Male, sixty-eight years, very robust; 43½ inches; death on third day from peritonitis, which existed at time of operation.

4. R. Budberg-Boeninghausen and W. Koch.—Male; thirty-three years; 43½ inches ileum, for gangrene after incarceration; femoral hernia; recovery.

5. Trombetta.—In 1884 resected 43½ inches of small intestines in a woman aged forty; recovery (quoted by Luggi).

6. Budberg-Boeninghausen and W. Koch.—Male; forty-two years; 44 inches; flexure; gangrene after twisting; recovery.

7. Maston resected 44 inches for sarcoma of mesentery; death five months afterward from perforation due to Murphy's button.

8. Billroth.—Female; fifty-two years; 45 inches small intestines on account of fixation by the extirpation of a fibroma the size of a child's head; death from collapse.

9. Troje.—46 inches; female, twenty-five years; for four ring-like tuberculous strictures; result fistula.

10. Elliott (*Annals of Surgery*, January, 1895) resected 4 feet ⅜ inch small intestines in a man aged twenty-five, for infarction due to thrombosis of superior mesenteric veins; patient was in good health two years afterward.

11. Roux (Sem. Med., 1893) resected 4 feet 1 inch of intestines for a lipoma; recovery.

12. Budberg-Boeninghausen and W. Koch.—

4 feet 1 inch flexure; death from already existing peritonitis on the same day.

13. Budberg-Boeninghausen and W. Koch.—4 feet 1 inch ileum; death on day of operation from already existing peritonitis.

14. Obalinski.—4 feet 2 inches ileum for gangrene; death in twenty-four hours.

15. Studsgard.—4 feet 3 inches jejunum for invagination; death five days after from peritonitis.

16. Schlange.—4 feet 6 inches ileum; gangrene; recovery without disturbance.

17. Braun.—4 feet 7 inches small intestines on account of circumscribed peritonitis; death four months after operation.

18.—Kosinski.—4 feet 9 inches ileum; gangrene from hernia; death from collapse.

19. Muller.—Twelve-year-old boy; 5 feet ileum; cæcum and colon for invagination; death in seven days.

20. Kocher.—5 feet 4 inches ileum; gangrene; recovery without disturbance.

21. Budberg-Boeninghausen and W. Koch.—5 feet 10 inches ileum; cæcum with appendix and ascending colon; artificial anus formed; closed two and a half months afterward; recovery without disturbance.

22. Wullstein.—5 feet 10 inches ileum for strangulation; recovery without disturbance.

23. Schwalbach. —6 feet 1 inch ileum; recovery.

24. Hinterstoisser.—6 feet 4 inches ileum and part of jejunum for incarceration; recovery without disturbance.

25. Schlatter resected, in a man, 6 feet 4 inches ileum for gangrene; recovery with some slight disturbance of digestion.

26. Keoberle.—6 feet 10 inches small intestines for stricture; artificial anus closed after six weeks; recovery without disturbance.

27. Kocher.—6 feet 11 inches for tearing of small intestines; recovery, but subject to diarrhœa if not careful of diet.

28. Dressman.—7 feet 2 inches ileum for gangrene; recovery but slight diarrhœa.

29. Shepherd.—Man, aged twenty-eight; 7 feet 9 inches ileum; after operation thin stools, but increased forty pounds.

30. Harris.—7 feet 10 inches gangrene of intestines, and peritonitis following internal strangulation with perforation; complete recovery.

31. Hayes.—8 feet 4½ inches ileum for laceration of mesentery with crush of intestines; diarrhœa, etc., followed; developed chorea.

32. Peck.—8 feet 5½ inches; rupture of uterus, escape of intestines into pelvis; recovery.

33. Fantino.—Woman aged sixty; 10 feet 4 inches ileum for gangrene from incarceration; recovery.

34. Ruggi.—11 feet; operation for old stricture of intestines; in relieving adhesions mesentery was torn from long length of intestines and resection was necessary.

35. Obalinski.—12 feet 2 inches (practically the entire); death in twenty-two hours.

Another Fire in a Chicago Hospital.—Four hundred patients in the Chicago Home for Incurables were thrown into a panic early in the morning, some days ago, by a blaze that started in the cellar and filled the building with smoke. The nurses and attendants succeeded, however, in quieting the patients, and the firemen quickly extinguished the flames.

MAKING AND CLOSING THE MEDIAN CŒLIOTOMY WOUND.

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There are two chief results to be desired when a median abdominal incision becomes necessary; first, the avoidance of an unsightly scar; and, second, a strong line of union to preclude the possibility of subsequent hernia.

If the incision is made through the linea alba between the recti muscles, as is the custom, it is not always possible to secure firm, unyielding union of the parts approximated, because of the absence of firm muscular structure in that location. If deep through-and-through sutures are used, including all the structures of the abdominal wall, perfect approximation of the different layers is not secured, and these sutures, by constricting the tissues, cut off the circulation and nutrition (poor, at best, in this location) which is so essential to the healing process. An additional objection to these deep sutures is the occurrence of stitch abscesses, which are not infrequent when they are employed. The buried layer sutures, applied so as to approximate the different layers separately, are much to be preferred, and are objectionable only when they are applied so that space is left between the different layers where blood may collect and interfere with union.

Any form of suture which penetrates the skin is objectionable, because of the cross scarring from cutting of the suture loop, as well as on account of the liability to produce stitch abscesses. The subcuticular suture is the only one free from these objections, but the time required for inserting it properly is a drawback, particularly when the operation has been a lengthy one.

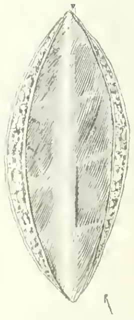

Fig. 1.

Showing incision through the skin and fat down to the linea alba with the margins separated, exposing the recti muscles. The line to the right of the linea alba marks the beginning of the incision of the sheath of the rectus muscle to one side of the median line.

To obviate the foregoing objection, and to secure a firm line of union with the least possible scar, I have adopted the following method of making and closing the median cœliotomy incision, and have employed it with much satisfaction for some time:

The skin and fat are divided in the median line down to the fascia covering the muscles of the abdominal wall; then one side of the wound (right or left, as may be selected for convenience of the work to be done within the abdomen) is retracted, and the fascia covering the rectus muscle, about a third of an inch from the median line, is nicked with the knife and split up and down with the scissors to the limit of the incision in the skin above and below (see Fig. 1). The muscle is then seprated with the fingers in the direction of its fibers down to the subperitoneal fat, which, with the peritoneum, is opened in the usual manner. The advantage thus gained is that in closing the wound muscle is approximated to muscle to one side of the incision in the skin, and a firmer line of union is secured.

In closing the wound, a continuous suture of No. 1 chromicized catgut is applied throughout, and this is tied only at the start and at the finish. The first layer includes the peritoneum, subperitoneal fascia, and the lower border of the muscle on each side, beginning at the upper angle of the wound and continuing to the lower angle (see Fig. 2). By including the lower border of the muscle with the peritoneum in this suture, the leaving of a dead space between the peritoneum and muscle is avoided. Continuing with the same suture from below upward, the fascia is united, and this layer of sutures is made to include the upper part of the muscle with the fascia. Thus, again, a dead space between the muscle and fascia is avoided. The suture is tied off at the upper angle of the wound. Unless the fat is unusually thick, no suture will be required above the fascia. When necessary, it is drawn together by a continuous suture, applied from above downward, the insertions from side to side being made in the direction of the incision and not transversely to it.

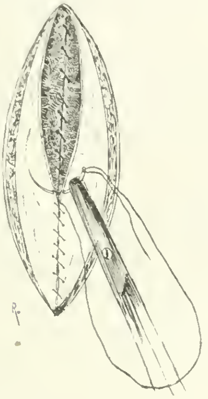

FIG. 2.

Showing the peritoneum and lower margin of the muscle already united by the deeper layer of sutures, and the fascia, with upper margin of the muscle, being closed over it by the second layer of suture.

The margins of the skin may be approximated either by a subcuticular suture or by application of aseptic, adhesive strips, one-quarter inch wide, applied with space between them, to permit drainage into the dressing applied over them. After adjusting loose gauze directly over the strips, a thick pad of absorbent cotton, covered with gauze, is applied over it, and this is held down firmly by means of broad adhesive strips across the abdomen from side to side, securing firm pressure upon the wound.

It is essential that all bleeding shall be arrested before the integument is approximated, and all bleeding points that have been caught with hæmostatic forceps should be ligated with No. 1 plain catgut. Unless this is done, bleeding after the wound is closed may be sufficient to separate the margins of the skin and prevent primary union. This is particularly necessary when the skin is approximated by adhesive strips. Simple oozing is usually arrested by sponging with hot salt solution.

When a second cœliotomy becomes necessary, if the cicatrix is a good, firm one, and [illegible] [illegible] so as to be unsightly, it is not disturbed, but the incision is made a third of an inch to one side through the skin, and so on down through the rectus muscle. If the cicatrix is disfiguring but firm beneath, the skin cicatrix is dissected out, and the abdomen is opened to one side, as has been described above.

In view of the not infrequent occurrence of hernia and disfigurement of the abdomen so frequently encountered as a result of abdominal section, this contribution appears timely.

2030 BROADWAY.

SENSATION AND VOLITION.

By HERMAN GASSER, M.D.,
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THE function of the nervous system is divided into two main divisions—an ingoing, or sensory, and an outgoing, or motor function. In this way all the ingoing or peripheral functions of the body are carried by the sensory nerves centrally, or to the brain, where they are adjusted, compared, and equilibrated, and then sent out as organized volitions of life and feeling, in the form of motor nervous energy. This we call the central or motor function of the nervous system. It is only an artificial distinction, however, that has no real existence in fact, for we cannot tell where the sensory side ends, and the motor side begins centrally as well as peripherally; the one shades into the other in the continued circuit of their function.

It is a curious and interesting fact in physiology and psychology that all our sensations are attributed to the sensory or peripheral function of the nervous system, and that we know a great deal about it; while of the motor, active, living, feeling, and ideal side we know very little, comparatively. This is one of the greatest mistakes to which we are all subject. The truth is that the incoming or sensory nervous energy has no psychical existence in fact, until it becomes adjusted into the related unity of life and feeling in the function of the brain, and, when it has reached this stage of its equilibration, is an organized unity of motor expression or volition; and so, in reality, we only know our sensations in our volitions. But the elucidation of the one is a demonstration of the other, for they are parts of the same continued circuit of function.

By the peripheral or terminal function of the nervous system we mean all those reactions that come in immediate contact with the forces of its environment, within and without, that react upon it, and the sensory nerves transmit centrally. The central nervous system is that ganglionic system, of which the brain is its most pure and complete example, the function of which is sensori-motor. It takes up all the multitudinous sensations carried into it, assimilates them into a related unity, and expends its energy in the volitions of life and feeling, which is as continuous in function as the incoming functional energy. And as we cannot have a continuity of function without a physical organization through which it functionates, and no continuity of life or feeling without continuity of a regular and systematic physical organization of the body that binds it into this systematic and related unity, we are forced to the conclusion that the nervous system is not only a physiological but an anatomical circuit in exactly the same sense as the circulation of the blood. Here let us take up the problem of nervous function in detail.

In the muscles, as well as all the internal and external organs of the body, these terminal nerves—centrally and peripherally—spread out in nerve plexuses much as the terminal arteries into the capillaries, are continued on, taken up and connected with the nerves that continue the circuit of the functional nervous energy. It is sensory on the ingoing side and motor on the outgoing, but peripherally, as well as centrally, it is continuous in system. The outgoing or motor nervous energy is elaborated and organized centrally to adjust the local bodily functions into their related unity of life just as the arterial blood carries energy to maintain it, and the surplus is transmitted through these nervous plexuses, plus the local reaction they have caused, and transmitted by the sensory nerves again to the central ganglion in a continued circuit of activity.

We might elaborate this idea with probably greater clearness and accuracy by an analysis of some of the more common special sensory functions, as hearing, taste, smell, or the feelings of pressure, heat and cold because we are more familiar with their physiology and anatomy. They are more common physical entities, and we can follow them with greater ease; but we will take up the physics or physiology of sight, as it is the most involved, specialized, and complex of all the senses with which we are acquainted, for once having even a crude and not wholly complete conception of its function the others will fall into an easy and ready solution.

The optic nerve is really a bundle of about one million nerve fibers, and as it spreads out upon the back and inner side of the eye-ball into what we call the retina, each nerve-fibril terminates in a nerve-cell, and each of the million cells in the retina is intimately connected by the fibrillary plexuses with the others, so that the retina may be conceived as a ganglionic center. As the optic nerve passes inward or toward the brain, each fiber again terminates in a nerve cell in the visual centers, "a place of relay in the optic path," but do not end here, for each of these cells is, anatomically and physiologically, connected with other nerve-cells by these plexuses, forming not only a ganglionic local and special plexelary function, but again to be transmitted to other and more distant parts of the brain, and so on and on, thereby coming into even more intimate relation with all the functions of the body, thus organizing and assimilating them into the related unity of life and feeling with its variations of expression With this anatomical conception, which we must admit is not fully demonstrated, and hence partly schematic, let us follow the physics or physiology of the function of the eye.

If the nerve-cells are really intimately united and connected with one another by these plexuses, then it is probably not so much the cell body proper that reacts upon the forces around them, but that the plexuses perform the true metabolism; that the cell body is, in fact, but a miniature storehouse and special organizer of the plexelary function centrally and peripherally.

This, again, suggests the thought that each nerve cell is an anatomic and physiologic unit, with its special division of labor, and all connected into the general and continued circuit of function, because it is always in a definite direction. This is not the neuron theory, although we have here many points of convergence. The distinction consists of this: the nerve-cells with their dendrites, in our conception are anatomically and physiologically, connected by the plexuses with a regular and continued circuit of function, which the neuron theory denies. Neither of these theories has been demonstrated anatomically, but the evidence from psychology, general physiology, and even anatomy is, to me, so overwhelmingly in favor of the continued circuit and against the intermittent, that I have been forced to believe it to be true.

According to this anatomic-physiological conception of the optic nerve and retina, the particular kind of light or color sensation would depend upon the wave length of the incident light which the specialized cells with their plexuses are specifically organized to react upon and change into nervous energy. This is transmitted along the optic nerve fibers to the brain, where it becomes adjusted or equilibrated, and gives rise to the various color sensations.

It is not the stimulation of the retinal cells and plexuses by the waves of light that causes vision and color sensations, but their reaction upon and assimilation of its energy by transforming it into nervous energy. Simply a feeding of the sense of sight as we feed all the other senses.

While this is not exactly the Young-Helmholtz theory of color sensation, neither that of Hering, though it is more like it than the former, yet it is in harmony with and assimilates the facts in both. It is only a modified interpretation in the light of this idea.

The optic nerve is believed to be exclusively sensory in function, while our idea is that it is motor on one side of the plexuses and sensory on the other side, with a continued circuit of function. This is the most extreme and special test for it, as here the facts and general experience stand in solid breast against it. But if it is true, this special test can be no exception; it must explain or crumble. This makes the problem difficult, indeed, but not necessarily insoluble, and while, for the present, we must relegate it to the realm of not proven—or disproven—as an anatomical and physiological fact, nevertheless our ideal physical conception that the optic nerve is motor as well as sensory in function causes us to believe that it is true here as everywhere else in the organism, and that the future will demonstrate this fact.

The question up for solution is: The optic nerve is motor in function as well as sensory. What is the evidence that causes us to formulate this conclusion? Briefly answered, our general principles of experience, and which here it is possible to portray only in a fragmentary form, as many of the explanations need an explanation for which we have not here the space, neither is it the place.

Physically, or physiologically, it is difficult to conceive how the kind and amount of work performed by the optic nerve and retina can be maintained by the blood alone. The blood nourishes the cells and plexuses, and they react upon it in their characteristic way to maintain their local functional vitality like all the cells of the body generally, but their specific function is to react upon the waves of light and transmit it as nervous energy to the brain, where it becomes known to us as vision, and whereby we may adjust ourselves to a wider range in the unity of nature. When these cells and plexuses are stimulated to increased function, there must be an increased supply of blood to repair the loss of their local functional activity as in all the other organs of the body. The stimulus of the waves of light, like that of the food in the stomach, or the air in the lungs, would cause to be sent increased amounts of motor energy, the prime purpose of which is to stimulate all the locally related physiological functions, of which the blood supply is a part, and so nourish the local functional life. As in the stomach and lungs, so in the eye, there are periods of rest and unconscious activity, but the circuit of their sensory and motor nervous function is continuous; it is only a difference of degree of function. The motor nervous energy sent to an organ stimulates its local vital functional activity which the plexuses react upon, assimilate, and transmit by the sensory nerves centrally, where it becomes known to us as sensation. Hunger is a sensation, the result of denutrition of the body, the whole of which appeals centrally, thus causing its diffuse state of feeling, and thereby stimulating the volitions generally to procure food. Having secured the dinner, the volitions are at once directed to eating it, the reaction of which, in its mastication and digestion, stimulates these special sensations, the local functions of which cause an increased amount of motor energy to be sent to them to maintain the local activity of function in a related equilibrium. It is always an organized and related unity of function, the prime motive of which is the physical economy in continuity.

This is another illustration that it is the plexuses of the nervous system that really perform or adjust and regulate the metabolism of the body, and, as this is continuous, so must also be the function of the nervous system. Here we glean another important lesson, a physiological fact, the value of which has not been generally appreciated: It is not the food in the stomach, the air in the lungs, or the waves of light on the retina that cause the special sensations, but the physicochemical reaction which is taken up by the plexuses and transmitted as nervous energy and sent back as organized motor function. What a wonderful physical parallelism we observe here between the circulation of the blood and the nervous system. The nervous plexuses play the same metabolic and physiological relation and connection to the nervous system as the capillaries to the circulation of the blood. The fact is here also remarkable that the circulation in the blood was demonstrated for a half century before the capillaries were discovered, while in the nervous system the sensory and motor sides of its function have long been known, and even the plexuses demonstrated, and yet no one believes in the circulation in the nervous system. Indeed, in this respect our views are as primitive and confused as they were in the seventeenth century, when Borelli and Willis believed it to be a "nervous fluid, possessed of peculiar properties, a kind of foreshadowing of an electric fluid." Foster. That which circulates in the nervous system is not a fluid, neither is it electricity, but a specific and specialized form of nervous energy, the result of the biochemical functions of the body. This is also why it is not in all its parts alike, and we have "the specific energies of the nervous system" of Johannes Mueller. Nervous energy, like light, heat, and electricity, is a form of force, and hence the last and ultimate reduction of its phenomena. It is here we find the delusion and snare of the "new physiology" in its endeavors to build up an electro-dynamic theory of life.

If the waves of light reacted upon the retina generally and diffusely, we would have a very diffuse idea of the relation of things with one another of the outside world. There would be no clear, distinct, and specific entities, because light travels in a straight direction. But we have lenses and media through which the waves of light of the outside world pass, and so converge them as miniature facsimiles upon it, thus giving the special object a definite and well-defined existence, a clear and distinct image of the related outside world. It is not the photographic miniature image of the outside that we really see, or that passes into the brain, but its reaction upon the retina as related waves or forces of nervous energy as they are adjusted or equilibrated in the unity of related function in our feeling. Indeed, it is not with the eyes we see but through them by assimilating their special physicochemical reactions into the related unit of life with its variations, the measure of which is interpreted in our feelings.

It is fully as important physically, that the anatomical and physiological activity of the cornea, lens and humors be intact, as the retina and optic nerve. While we think we fully understand the physics of optics, yet the physiology of these simple lenses is equally as wonderful. Indeed, as a fact of organized and adjusted physics in the constructive unity of nature, it is so transcendent that we are overwhelmed by it. In the physical architecture of the eye alone is written large that nature is an idea; a constructive, creative development; an evolution of which we are a related part.

Here we are confronted by another physiopsychologic fact. Why then do we not have pain when the optic nerve is cut, the same as we have in nearly every other organ of the body? In biology, as in chemistry, there is a system of organized and related affinity, and if it departs too much from it there is no reaction. The function of the optic nerve and retina is purely confined to react upon waves of light, and if diseased or injured can only be stimulated by them, and so cause pain. It does no react functionally or physicochemically upon the forces like cutting and trauma, and hence cannot transmit it centrally. But destruction of any of its parts in continuity means a loss of sight, and so indirectly causes a painful state of feeling, for it is, anatomically and physiologically, connected with the entire unity of function.

But why pain, then, in all the parts of the body when their nerves and plexuses are cut or injured? Here the trauma is also a part of the organ, upon which they react and around which they still continue to functionate with increased activity, and hence painful. Those organs, when removed completely under anæsthesia, cease to functionate, and are not painful when consciousness returns, but the nerves and plexuses around them are felt because still intact. This explains all the phenomena we observe after an operation.

We may shave away the cortical portion of the brain without pain, and have a living automaton without painful or conscious feeling of any kind, and yet this automaton still feels, reacts upon, and responds to, special sensory stimuli regularly and systematically, but it is the organized, instructive, and established feeling that is unconscious, because no longer interpreted into a related unity of the whole in the cortical brain.

With this idea of the physiological function of the nervous system, we are justified in stating that the brain is a related, systematic, anatomical, and physiological ganglion, composed of fibers and cells, with a definite circuit of function, although a large part of its more intricate and delicate connections still remain obscure. The brain is more complex and involved in its constructive architecture, because it is organized and developed to adjust or assimilate all the variations of functions or sensations that come into it. These may be conscious and unconscious; the difference is one of degree or tensity of activity. To illustrate:

Sharp and distinct vibrations of air impinge upon my auditory nerves, are carried to the brain, and from experience I know it is an alarm of fire. In an instant they have traveled the entire circuit of nervous functions and caused a definite and specific reaction. Sharp and distinct vibrations impinge upon my ear and are adjusted in the brain, but I do not hear them; it is the tick of the clock. The clock ticks, the fire-bell rings, it rains, the wind blows, and yet you do not know it; your sleep is too deep, the stimuli do not react with sufficient intensity to cause them to rise into states of consciousness. In all these instances it is an organized reaction in continuity of function, the prime purpose of which is its economy of adjustment to the environment—the law of self-preservation. It is purely a matter of organic physics along the lines of least resistance, or organized continuity of function.

The living body is a constructive machine that is continually adjusting itself to the forces of nature. It is not only constantly assimilating energy, but, volitionally, giving it off to maintain its relation in it. The terminal plexuses are the receivers—in other words, they react upon the forces of nature, which the sensory nerves carry centrally, where this varied form of nervous energy becomes not only adjusted, but which nutrition builds up and organizes to systematically expend by volitions. The incoming energy is the raw material, the central ganglionic plexuses, the factory and the volitions, the finished product, but all related parts of the organized unity and continuity of life.

Let us illustrate this idea of organic physics by examples of inorganic physics with which we are familiar, for if nature is a unity, subject to the same laws, there must be an intimate relation between them. Lately I had the pleasure, with many others, of being entertained by a phonograph. It caused great pleasure, merriment, and applause. The feelings were stirred into ideal states. On examination of the instrument we could find only a hard rubber cylinder with fine and irregular streaks, but nothing like a song or speech, and yet the energy put into the instrument by winding the spring caused their production. This, surely, is purely physical. No one doubts that the song, or speech, was transmitted to it by some human being; but in the machine it is pure physics. This, we know, is the result of vibrations of air on the wax cylinders as they are impressed upon it with their variations of relation systematically, and reproduced by unfolding them in the same way that they were received.

Waves of light, as well as air, may also be definitely and accurately recorded, so that one can not only hear the opera, but see the actors upon the stage going through the performance. It is a purely physical phenomenon. The telegrapher strikes the the key at one end, the energy is transmitted by the wire to the other, and reproduced. In the telephone, instead of striking with the fingers, we strike with modulated waves of air, in the form of words, which are transmitted along the wire in their varying wave lengths and reproduced again in speech. It is all mechanical physics, yet behind it, after all, is the organized genius of man, who builds and creates these machines. But this is possible only because he is also a machine, governed and controlled by the same physical laws. Long before we had such demonstrative evidence of the mechanism of nature, the great and immortal French philosopher, Descartes, clearly elucidated the idea that man is a machine, and which these modern experiences only make more systematic and complete.

From this series of experimental physical facts, the thought suggests itself that the organism is not only a receiver and constructive organizer, but transmitter of the forces or energy of nature; and that the great problem is: how are these functions performed? General experience demonstrates that we do not have a picture of the man, house, or tree in us, but a related system of their forces in function, as they react upon us and are adjusted into the unity of life and feeling. Man being a machine in the machine, the thought again suggests itself that it is the plexuses—peripheral and central—that perform the real work of equilibration and adjustments; that the physical forces react upon the peripheral plexuses, the energy of which is transmitted by the sensory nerves to the central plexuses, where it is again reproduced, adjusted, and organized by nutrition as a memory, and expended in the form of volitions. In this way the specialized central plexuses in the brain become organized along definite lines by continued repetition as physical functional memories, as in the cylinder of the phonograph, and may be repeated, or reproduced in the form of words, a song, or an oration along the organized system of their experience or physical memory, but always as a related unity of its organized and constructive existence.

While we have compared the function of the nervous system and brain with a phonograph, physically, yet the distinction between them is as infinity to one. The latter is only a simple machine, in which a few vibrations of air have been systematically recorded, while into the brain there are poured millions of sensations constantly and continually, and all assimilated and equilibrated with the countless millions that have gone before into a related unity of life, mind, or feeling that is continuous, although it has its ebbs and flows, as sleep at night, and ideal conscious feelings during the day. It is only a difference of degree.

While the wax cylinder takes up the impressions of the song or speech with the accuracy and system poured upon it, the brain cells are much more plastic and impressionable—indeed, so delicate, that if vibrations could be transmitted to them with the intensity and volume with which they are poured into the phonograph, it would cause immediate disintegrations and death. The special forces or sensations that we hear and see, and feel, are so attenuated and modified in volume and intensity, as measured by the energy that gave them being, that they are only an atom, taken up out of the energy of nature, and yet an accurate measure of the whole. This is why man is a finite, creative unity, woven out of the Infinite Creative Unity. A finite idea of the Infinite Idea.

This is the physics, the science, the harp that weaves the varied sensations into ideas; not their psychology, much less their philosophy; but as they are interdependent and related problems of the same unity of nature, an elucidation of the former will have a directive, purposive, and systematic effect upon the latter, thus building them into increasing splendor and beauty. It should always be remembered, and never forgotten, that system is not solution.

A French Veterinarian on the Koch-Garnault War.—M. Nocard of the Alfort Veterinary School said recently, in an interview in the *Figaro*, that Garnault's experiment of inoculating himself with bovine tuberculosis was useless and unconvincing, since Koch's contention had to do with the transmission of tuberculosis by the ingestion of infected meat and milk and not by inoculation. Garnault, he said, should have confined himself to drinking the milk and eating the flesh of tuberculous animals. He expressed himself, however, as wholly opposed to Koch, for he believed the disease was practically the same whether in man or bovis. Speaking of Koch's sensational paper, read before the London Congress, Nocard pointed out that statements had been of great use to the German Government in the agrarian question, and he wondered whether Koch had not been subjected to influence from high quarters.

THE GLYCEROPHOSPHATES;

PARTICULARLY THE GLYCEROPHOSPHATE OF SODIUM.[*]

By P. W. STREET, M.D.,
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In 1894 Dr. Albert Robin presented to the Academy of Medicine of Paris a report upon the results of his employment of the glycerophosphates of calcium, potassium, and sodium, which he had been using in his practice, at that time, for six years. Noted as an observer, his conclusion that these are valuable agents in the treatment of nervous debility from various causes attracted wide attention. Soon afterward, both in France and America, other physicians of prominence began to utilize the information he at that time imparted, and, later, with striking unanimity, corroborated his results.

An investigation of the subject reveals an absolute lack of information at the usual sources, and the information as yet obtainable is found only in contributions to medical periodicals.

Known to exist, and regarded as likely to possess important therapeutic value, the glycerophosphates were not put to therapeutic uses for many years because of the inability to produce them upon an industrial scale.

Derivation.—They are products of the action of glycerophosphoric acid upon various bases. Glycerophosphoric, or glycerinophosphoric, or phosphoglycerinic acid ($H_2 PO_4 C_3 H_5 (OH)_2 + aq$), is said to be a yellowish, oily, odorless liquid, soluble in water or alcohol, and obtained from glycerin and phosphoric acid. It is also a product formed in the human body during digestion.

The glycerophosphate of calcium, at first most extensively employed, is a white crystalline powder, soluble in 20 parts cold water, sparingly soluble in hot water or alcohol. Dose 10 to 20 grs., given in capsule, powder, syrup, or watery solution.

The glycerophosphates of iron, lithium, and magnesium, as sold, are fine white powders, soluble in water. They are given in doses of 3 to 20 grs. t. i. d.

The glycerophosphate of quinine, also a white powder, is bitter in taste, and sparingly soluble in water, but more soluble in alcohol. It contains 68 per cent. quinine. Dose 3 to 6 grs.

The glycerophosphates of sodium, and of potassium, are each very hygroscopic, and are sold only in a 75 per cent. solution in water. In this form they are saline in taste, jelly-like in appearance, and affected in their consistency by changes in temperature. Dose, 10 to 30 grs. t. i. d. in syrup, or watery solution, when taken by the mouth, and 5 to 10 grs. when given hypodermically.

The glycerophosphate of sodium is the salt which has latterly received the most attention. It is used in this country, according to the statement of the manufacturers, twice as extensively as the calcium salt, which is next in importance.

Physiological Action.—The glycerophosphates supply phosphorus to the tissues in an easily assimilable form, an organic phosphorus. And, since phosphorus is a most important constituent of those cells which comprise the brain and nerve substance, their utility as a nerve food or tonic is naturally suggested. Lecithin, the phosphorus-bearing substance found in all the cells, and especially the nerve-cells, is itself the glycerophosphate of neurin.

The action of mineral phosphorus is thought to be exerted by it, causing molecular irritation. This results in temporary stimulation, but tends toward waste, and impoverishment, rather than increased nutrition, of the cells.

The hypophosphites, so often prescribed in debilitated nervous conditions, are said by Hare to have no advantage over phosphorus, except in case of administration; and Ringer states that their mode of action resembles that of phosphorus.

The comparative value of a remedy which simply and directly promotes the nutrition of the cells is obvious.

Taken by the mouth the glycerophosphate of sodium is perfectly tolerated by even the most delicate stomach. It has no immediate effect that is noticeable; but when its administration has been sufficiently prolonged, the appetite improves, assimilation and absorption are promoted, the liver is stimulated, the flow of bile is increased, nitrogenous exchange is hastened, and phosphatic waste restrained.

Acting upon the nervous system existing reflex nervous phenomena usually diminish and finally disappear; sleep, if disturbed, becomes more quiet and restful; and insomnia often disappears without other aid. Large doses (30 to 60 grs.), however, may cause wakefulness.

The various organs and tissues of the body all show improved functional activity. The eyes grow brighter and clearer, and the complexion more healthy. Thin and nervous subjects gain flesh, and flabby flesh becomes more firm.

It is noticeable that there is no reaction after the withdrawal of the drug, either after short or prolonged administration. The patient continues much as before, retaining the improvement made. And the progress of improvement is resumed, upon a return to its use. These effects are also largely true of the action of the calcium and potassium salts.

Therapeutic Uses.—As I remarked before, there is great unanimity in the verdict of those who have given the glycerophosphates an extended trial, as to their effect and therapeutic value. In the employment of sodium glycerophosphate, hypodermically and by the mouth, in twenty-five successive cases, I distinctly observed the following facts which, upon research, I found substantiated the statements made generally by contributors upon the subject:

The glycerophosphates are indicated, and most useful, in all cases of nervous impairment due to overwork, or excesses of any kind. Also in asthenic nervous maladies, mental depression, and whenever it is desired to increase the nutrition of the nerve-cells, and stimulate their activity.

In neurasthenic conditions characterized by vertigo, occipital headache, unsteadiness of gait, or inability for physical or mental effort, great improvement attends their use. In the premature advance of age, and in senility, attended by general debility, the benefits from their protracted use are striking. They greatly relieve hysteria, and also the many morbid feelings of nervous patients. Their value is considerable in chronic neuralgia, in sciatica (by hypodermic injection along the nerve), and in convalescence from la grippe, and acute infectious diseases.

In diabetes, Magnin of Paris asserts that he has personally seen, repeatedly, the sugar markedly diminished by them. And they are said to be useful in Addison's disease.

Contraindications.—Their use is contraindicated in albuminuria; in diseases characterized by an organic oxidation in excess, as acute gout, or acute rheumatism; and especially in nervous states characterized by acute excitability.

Incompatibles.—The glycerophosphates are liable to undergo decomposition when brought into contact with lead salts, phosphates, or carbonates.

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[*] Read before the Connecticut State Medical Society, in May, 1902.

Administration.—The effects of the glycerophosphates are most quickly secured, and most pronounced when administered by hypodermic injection. The solution usually employed consists of

℞	Glycerophosphate of sodium	12 grs.
	Sodium chloride	½ gr.
	Distilled water	1 drachm.

M Sig.: 15 to 30 minims injected once daily (with antiseptic precautions).

As watery solutions are a good culture medium, they should be kept sterile, or freshly prepared, when for hypodermic use. The best site for the injections is the back. The injection is apt to be followed by stinging pain of moderate severity, persisting for several minutes; also soreness, and redness lasting several days.

I regard the incidental discomfort of the hypodermic method so objectionable, in many cases, as to render the use of it but seldom desirable, or to be employed but for a short time at the outset of the treatment, as in a case where it is necessary to secure an immediate response. Sufficient doses given by the mouth are equally satisfactory.

The glycerophosphate of sodium is taken agreeably in either the syrup of orange or the compound syrup of sarsaparilla, 10 to 30 grs. to the drachm. It should be administered three times daily, either before or after meals.

The following also is an effective formula:

℞	Glycerophosphate of Sodium	7½ grs.
	Glycerophosphate of Quinine.......	1 gr.
	Glycerophosphate of Iron..........	2 grs.
	Glycerin	1 drachm.

Citric acid q. s. (to complete solubility).

M. Sig.: To be taken in water before each meal.

To secure the best results, it is usually necessary to administer the glycerophosphates for from three to six months, and sometimes longer. Occasional interruptions of several weeks in the course of very prolonged administration are beneficial. In such cases, too, the giving of strychnine and appropriate hygiene are desirable auxiliary measures of treatment. While excesses of any kind, and the use of tea, coffee, tobacco, and alcoholic liquors are to be avoided. It is also well to vary the vehicle, that the patient may not tire from the monotony of the treatment.

The Treatment of Enuresis.—Karl Walko considers that the ordinary enuresis of children is, in most cases, a neurosis, depending on the psychical inhibition of a normal organ, and does not involve either faulty development or muscular weakness The instances in which the condition is symptomatic of other lesions are fewer than is generally supposed, and the success that often follows the employment of such measures as the removal of adenoids from the pharynx is to be ascribed purely to the influence of suggestion, as are also the good results of blistering the nape of the neck cauterizing the lumbar region, etc. Internal medication for this affection is falling more and more into disrepute, and in his hands the most efficacious plan of treatment has been massage, or vibratory, rectal, or the combined rectal massage as recommended by Thure-Brandt for the bladder. This is carried out as follows: The patient is placed in the dorsal or knee-elbow positions, and one hand just over the symphysis is pressed against the forefinger of the other one in the rectum. With the latter the neck of the bladder is subjected to gentle circular or transverse massage movements for periods of from four to five minutes. Functional enuresis was permanently cured in this way in, on the average, three to five sessions, and even symptomatic cases were frequently benefited —*Zeitschrift fur diätetische und physikalische Therapie.*

MALARIAL INFECTION A POTENT FACTOR IN ASTHENOPIC CONDITIONS.*

By J. LAWTON HIERS, M.D.,
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Since the publication of my paper on "Malaria as an Etiological Factor in Asthenopia," in 1898, medical literature has not been appreciably enriched by contributions of similar import. Innumerable subjects within the province of the ophthalmologist have been aired and ventilated before distinguished gatherings; and yet virtually little has been said concerning an infection which must needs of necessity have attracted the attention of not a few of our most astute thinkers and clinicians. It is in the hope, therefore, of elucidating the relationship between malaria and asthenopia that the author has presumed to revise his article read, two years ago, under a kindred caption.

It is, furthermore, his purpose to discuss a few practical points connected with this trouble, in which, through the instrumentality of the microscope, malarial plasmodia have been demonstrated in abundance, and on account of which an anti-malarial treatment has invariably proven beneficial.

The term "asthenopia," like many other medical words, is convenient and decidedly ambiguous. From a diagnostic standpoint it is incomplete, and signifies practically nothing. It must be coupled with an adjective to qualify or convey its meaning; for existing alone no true conception can be formed as to the pathology of the affection of which a patient may complain.

Lexicographers define the word as "weakness of sight, accompanied by fatigue, strain, indistinctness, dread of light," etc., and most writers have recognized an anatomical or physiological abnormality as the chief etiological factor, hence the symptomatic designations—accommodative, muscular, intraocular, or nervous asthenopia. Of the several groups, the first comprises the greatest number of cases—for the alleviation of which condition, in most instances, nothing is required save the proper adjustment of glasses. The second classification, while comparatively rarer than the first, includes many of the most intractable cases of asthenopia; and these, in the event that prisms have proven of no avail, should be subjected to surgical interference. Concerning the third and fourth subdivisions there is much that can and should be said, for some writers attribute all cases of weakened vision to ametropia or heterophoria; and it is especially in opposition to this view that this article has been prepared.

In intraocular or nervous asthenopia let us consider malarial infection as a potent factor. The microscope will substantiate this position, and while it is not my desire to be classed with those physicians who hold malaria culpable for every ailment of the human family, yet the fact is incontrovertibly established that many diseased conditions result from malarial poisoning without the manifestation of a febrile reaction. Illustrative of such may be mentioned hæmoglobinuria, enlargement of the spleen, malarial neuralgia, motor ocular paralysis, etc., and if the contention be granted that it can and does affect the liver, spleen, kidneys, and nervous system, the argument that it, likewise, assails the eye and is responsible, in a measure, for given conditions, is both possible and rational.

To theorize is to acknowledge skepticism, and skepticism invites infidelity. Man must have a belief to be earnest. Sincerity implies truthfulness; and truth must be demonstrated. It can only be accepted when facts are practical and unbiased; when experience, and not conjecture, is corroborative. Appreciating this, without further transgressing the domain of metaphysics, and apologizing for having indulged this illustrative digression, let me present, in evidence, the following cases: Early in July, 1896, Miss N., eighteen years of age, presented herself for treatment. Family history good, physical condition rather robust, and health otherwise apparently perfect. About the middle of the previous winter, while at college, her eyes became so weak and painful that she was forced to leave and consult a physician. During the interim, prior to visiting my office, she had consulted two reputable oculists, from whom she claimed to have received only temporary benefit. An examination revealed clear media, and an otherwise healthy fundus. The external muscles and appendages were normal, save a mild form of catarrhal conjunctivitis, which promptly yielded to medication. Her refraction proved, that although able to read 20-15 with either eye with ease, yet it could be held only for a few moments. After two examinations Lens 25D. cly, ax 90 was prescribed for each eye. This afforded some, but only temporary, relief, and forced me to the conclusion that there were present other than the usual causes of asthenopia. Having watched and studied the case for several days, there became apparent a decided periodicity in her asthenopic paroxysms. Further questioning divulged the fact that, although never a victim of fever, she was reared and had lived at all times in a malarial district. A specimen of blood having been obtained and examined microscopically, the presence of hæmatozoa was readily determined. Liberal doses of quinine bisulphate and arsenous acid were given in combination. After three days of treatment the pain and weakness of vision had disappeared, proving conclusively that malarial poisoning had occasioned her indisposition. To eradicate the same thoroughly from her system the treatment was continued for several weeks. The subsequent fall she was again able to resume her studies, and, at this writing, has not had the slightest indication of any further inconvenience or trouble.

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*Read before the Pan-American Medical Congress at Havana.

The second case is given in greater detail than the preceding on account of its peculiar interest. It is purely of malarial origin. James E., a negro, twenty-eight years of age, a native West Indian, but for five years or more a resident of this country, and by occupation a hotel waiter, sought treatment December 3, 1897. An intense eye pain and weaksightedness occasioned his visit. An examination confirmed the existence of an acute catarrhal conjunctivitis, to which was referred the condition above noted. The usual treatment was adopted and dark glasses recommended. At the expiration of the third day the conjunctival inflammation had entirely subsided, but the patient claimed to realize no appreciable improvement.

An ophthalmoscopic examination of the eye resulted negatively, while his refraction and the external muscles indicated no abnormality. Microscopically, the blood abounded in malarial plasmodia. Almost every cell was impregnated with hæmatozoa.

Except for a slightly torpid liver, which was promptly relieved by a mercurial purge, his physical condition and general health were excellent. At no time could a rise in temperature be detected. His history evidenced the fact, however, that two years previous, when visiting the West Indies, he had had an attack of intermittent fever of fourteen days' duration. Consequently, large doses of quinine, arsenic, and strychnine were prescribed, and in two days there was a slight change for the better. Within three days his condition had been perceptibly ameliorated. The anti-malarial treatment was continued, and in the afternoon of the eighth day after the beginning thereof absolute relief had been obtained No difficulty was experienced in using his eyes, and even in a very bright light he suffered no inconvenience. Nevertheless, to guard against a possible recurrence, the same medication was advocated and advised for a further period of ten days Since then he has been seen twice, and no renewal of his trouble has been noted, even under the most adverse circumstances.

Since July, 1896, it has been my good fortune to observe and treat sixty-eight patients with asthenopia, of whom twenty-eight were males and forty female. Of these cases, thirteen in males and nineteen in females were accommodative in character and entirely relieved by the proper adjustment of glasses. Nine males and eleven females were hypermetropic and had associated malaria. They were fitted with glasses, but without permanent relief until placed on an anti-malarial treatment. Eleven cases, seven male and four female, were purely of malarial origin. One male with insufficiency of right internal rectus muscle and normal refraction, but whose blood abounded in plasmodia, was permanently cured by the administration of strychnine, arsenic, and quinine. The condition of one male with insufficiency of the left internal rectus, after a futile trial with prisms, was alleviated only by tenotomy. Two cases in females were traced to uterine reflexes, and the patients were referred to their family physicians. One case of neurasthenic origin was assigned accordingly. The blood of one female, presenting insufficiency of right internal rectus, and hypermetropia, contained hæmatozoa.

Thus, to summarize, twenty cases of hypermetropic asthenopia associated with malaria, as proven by the microscope, have come under my observation during the past four years. In addition there have been eleven with no other assignable cause. Parasites in abundance were observed in each blood specimen examined: and an anti-malarial treatment, when indicated, verified the contention that this malady is an etiological factor in the production of certain well-defined asthenopic conditions.

From the evidence produced the following conclusions are deducted: (1) That two distinct forms of malarial asthenopia exist—acute and chronic. The former is seen most frequently by the family physician, and is characterized by the eye strain, pain, and weakness of vision which accompany febrile reactions of an intermittent or remittent type. The latter more frequently falls under the care of an oculist, and may be associated with muscular or accommodative asthenopia, or both. (2) That asthenopia *per se* does not exist, but must possess some qualifying cause. (3) That the interocular and neurotic manifestations should be classified individually and not generalized. (4) That microscopic investigation can and does determine the prevalence of plasmodia in certain of the aforesaid conditions. (5) That a febrile reaction does not of necessity accompany the history of the case. (6) That under judicious anti-malarial treatment, provided the presence of hæmatozoa has been demonstrated, the causative factor can be readily eradicated and a permanent cure affected.

Lunacy in Edinburgh.—There has been a large increase in the lunacy rate in the Edinburgh district within recent years, and, as a consequence, the accommodation for the insane has become completely exhausted

It is announced that the total number of pauper lunatics belonging to the district had increased from 512 in 1898 to 704 at the beginning of this year —*London Times.*

THE USE OF ARGYROL IN THE TREATMENT OF ACUTE GONORRHŒA.

G. K SWINBURNE, M.D
NEW YORK.
SURGEON TO GOOD SAMARITAN DISPENSARY.

That the treatment of acute gonorrhœa has been much improved since the introduction in recent years of the series of new silver preparations is well recognized by the majority of those who have had experience with them.

The qualities sought for in their manufacture was the production of a preparation which while capable of destroying the gonococcus is at the same time unirritating to the delicate mucous membrane of the urethra. Further, it should possess the power of penetrating the living tissue, in order to reach the germs which are multiplying in the deeper layers, without causing the slightest damage to these tissues. These preparations, which are made by combining silver with some form of albuminous product, possess two noteworthy qualities: They do not coagulate albumin, nor is silver chloride thrown down when they are brought in contact with a solution containing sodium chloride. As to the penetrating power of these compounds when in contact with living tissues it is impossible to make a satisfactory proof, though experiments have been made to test their power of penetrating dead tissue.

Argonin, protargol, and albargin are the best known of these products, and deservedly the most popular. Argonin contained only about 4 per cent. of silver, but when used in 10 per cent. strength, which is the limit of its solubility, is, in my experience, absolutely unirritating and very satisfactory. It was, however, rather troublesome to make up the solutions, which deteriorated after a few days, and so was replaced by protargol, solutions of which were much more easily made, kept longer, and were more convenient to use. Protargol contains about 8 per cent. of silver, but cannot be used in the urethra in solutions stronger than 1 or 2 per cent. In this strength it certainly caused pain in some cases, so that, until the patient became accustomed to it, its use had to be supplemented by the injection of a solution of cocaine. When used in the deep urethra there were many cases in which it would cause marked discomfort, lasting as long as an hour. Nevertheless protargol has proved to be of very great value, and will undoubtedly retain its place for some time. Albargin, containing 15 per cent. of silver, has more recently been brought to the notice of the profession, but, in my experience, while in some cases it could be used with good results in strength of from ½ to 2 per cent., in other cases, even in the strength of ½ per cent., its use had to be abandoned because of the discomfort produced. It is readily soluble, the color of the solution being a very light yellow, and apparently it did not stain the patient's linen.

In March of the present year, A. C. Barnes, M.D., of Philadelphia called my attention to a new silver preparation manufactured by himself, to which the name argyrol has been given, and asked me if I would try it on a few patients, which I readily agreed to do. This preparation is not a patented article. For its chemical properties the reader is referred to Dr. Barnes's article in the Medical Record of May 24, 1902. It comes in dark-brown scales, is very hygroscopic, and is soluble to almost any degree in water. The solutions keep well without deteriorating. It contains nearly 30 per cent. of silver. It possesses one drawback, which everyone who uses it will be very apt to note, and that is its staining properties. On account of this it has to be very carefully used, for though, when properly treated, the stains are readily removed, yet it is distinctly disagreeable to the patient to get it on his underwear. Boiling water removes the stains; they can be readily washed out when fresh. After the stains have become dry, I have found it better to moisten the spots with a saturated solution of iodide of potassium, after which they readily wash out. Stains of the hands are easily removed with soap and water.

From March 6 to August 1 upward of 350 patients having a gonococcus-bearing discharge were treated with this drug, at the dispensary. Cases at all stages of the disease were studied, but the great majority of the cases were acute. Full records of these cases were kept after the manner described by me in previous papers, and have been tabulated, but, as the method employed is not what I consider the best way to use this remedy, I do not think it of as much value to take up space with them as it would be to describe the methods which I have finally come to employ in my private work.

In the beginning all the patients thus treated at the dispensary were given a single daily injection of 2½ to 3 drachms of a 1 per cent. solution, which was held by the patient for 10 minutes in the anterior urethra. Cases in which the posterior urethra was involved received in addition a deep instillation of an ounce of the solution through a small flexible catheter, which was then urinated out.

In this work I did not, except in a few cases that could not come daily, give the solution to the patient to use at home, as it has been my habit and practice for a number of years not to do so.

In going over the records I noted that many patients doing well would drop out for several days, then reappear with renewed discharge, again attend till they were doing well, again drop out. It was easy to see the reason: they were comfortable; they had no discharge; they thought they were well, and so remained away until the reappearance of symptoms. Under this see-saw arrangement the disease would gradually travel down the canal until the posterior urethra became involved, and consequently the usual complications would be found in some of these cases, and we had our due proportion of prostatitis, epididymitis, etc. But, on the other hand, we had also our due proportion of cases who came faithfully and regularly, who recovered completely in a moderately short time, successfully passed through their "beer test," and, to all appearance, as thoroughly cured as our present methods of investigation permit us to judge.

After these injections there was absolutely no reaction and no pain. After three months of use at the dispensary, I gradually began to use the drug in my private work—this since the latter part of May—until the past month or more I have used almost nothing else. I have used it by irrigation, in strength of from 1-2,000 up to 1-500, using 1 quart at a time, and there is hardly any difference to be noted in the reaction following either strength. I have followed this by injection of from 1 to 5 per cent. into the anterior and posterior urethra without any reaction whatever. Old patients, who have been repeatedly irrigated with permanganate and other solutions, have often remarked upon the comfort following their treatment by this drug, and the results have been as good as, I believe, they can be, with this tormenting disease.

In treating patients I use several methods, according to different circumstances, such as the severity of the disease, the chance of aborting the disease, and the patient's ability to come frequently or not. Treatment may be daily. In such cases I irrigate the urethra with one quart of hot 1-1,000 or 1-2,000 solution of argyrol, follow this by a 2 or 5 per cent. injection or installation, as the case demands, and have the patient use a 2 per cent. solution of argyrol at home once or twice a day in addition, or it may be no injections are used by the patient at home.

Some patients may only be able to come once or twice a week—they get the same treatment when they come to the office, and use a 2 per cent. solution two or three times a day at home.

I use argyrol for irrigation before the use of urethral instruments where I before used permanganate solutions.

In chronic cases I have seen good results by the use of this drug. Cases needing sounds get now, as a lubricant, on the sound, a 5 per cent. ointment made with adeps lanæ as a base, the argyrol being rubbed up with water just enough to render it smooth before incorporating it with the ointment.

I cannot help laying great stress on the painlessness of the drug. I have frequently dropped a 10 per cent. solution into my own eye. Any one who knows the sensation produced by 2 per cent. protargol on the eye will readily appreciate the difference. The argyrol hardly produces a sense of warmth.

During the past week I have used at the dispensary as strong as 20 per cent. in three cases of primary gonorrhœa of twenty-four hours to three days' duration without producing any pain to the patient, one patient saying the following day that he had experienced no discomfort either from the injection or the disease since the treatment of the previous day. These cases are cited only to show the painlessness of the drug. It has been so used too short a time in this strength to know its value thus used as a curative agent.

Of all the cases thus treated only one case showed a peculiar idiosyncrasy, which began after the patient had been treated for two weeks. That was great pain in the urethra after injection, lasting perhaps an hour or more, and the injection of cocaine afterward in this case did not give relief.

To sum up, this drug has decided gonococcidal powers; it has a decided effect in reducing and allaying inflammation of the disease; it can be used safely in almost any strength and at any stage of the disease; the injection can be repeated almost as frequently as the fancy of the physician dictates; I have not seen any unpleasant symptoms due to the use of the drug, and I believe it to be one of the most valuable remedies given to the profession in recent years.

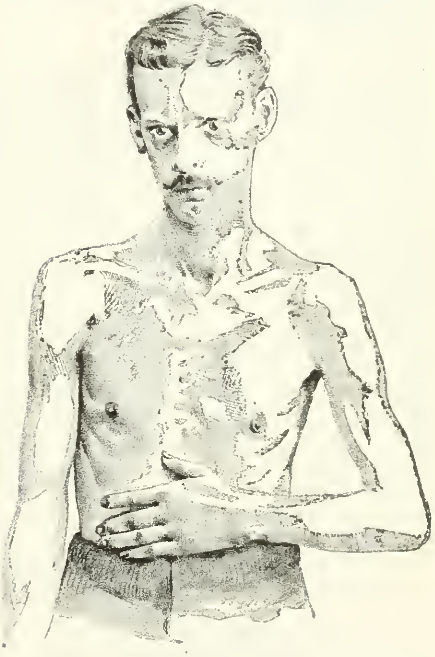
I cannot help reiterating here, as it is so often lost sight of in reporting cases, that it is important to remember that there is a great difference between a primary attack and multiple attacks of gonorrhœa, and the real test of a drug in an acute gonorrhœa is its behavior in primary cases.

Bacteria in Low Temperatures.—The researches of Professor Dewar at the Royal Institution of London on low temperatures show that all bacteria are not destroyed, even at the lowest. Certain species live when subjected for days together to temperatures as low as 310° F. The phosphorescent organisms cease to be luminous at the temperature of liquid air, but the chemical reactions producing the phosphorescence are only suspended, for the luminosity recurs when the temperature is raised. It cannot longer be assumed, then, that the temperature of space is sufficient to destroy all life, and it is not absurd to suppose that life can be transferred from one planet to another. If the bacteria will only choose cold meteorites they have a chance for life. But they must avoid the red-hot surfaces of such celestial carriers.—*The Sun*

A CASE OF RAYNAUD'S DISEASE OCCURRING IN A PATIENT SUFFERING FROM GRAVES' DISEASE.*

By S. W. THOMPSON, M.D.,
OSWEGO, N. Y.

L. J., male, twenty-nine years old, native of the United States, came from a family of neurasthenics. There was a history of specific trouble, manifesting itself in the nervous system in members of this mother's family. The patient was always extremely nervous as a child. He occasionally had fainting fits, and when in school, if teased by other boys, would throw himself into a convulsion, apparently at will. Nine years ago he became a sufferer from Graves' disease. The goiter and exophthalmos were well marked, the pulse was rapid, and the breathing was affected at times. In the autumn of 1901 he had a severe attack of typhoid fever, recovering in November. In December he noticed that the middle and ring fingers of his left hand became cold and pale when exposed to the air, although it was not extremely cold weather. This condition grew worse, and pains began to dart through his arm and into the hand. Thinking that it was only neuralgia and would get well, he did not consult a physician.



In April, 1902, he was putting up a barbed-wire fence and scratched the palm with a piece of wire. Although it was not a severe wound, the pain in his hand increased in severity, and then, thinking that he was a victim of blood poisoning, he consulted a doctor. There was no septic condition, the wound healed as any scratch would, and the patient was told that he was suffering from neuritis.

The pain was increasing and the middle and ring fingers began to swell and have a red color and the nails became apparently dead. The medical attendant used codeine, to control the pain and applied a mild galvanic current, put the patient on proper tonics, and advised him to use hot applications.

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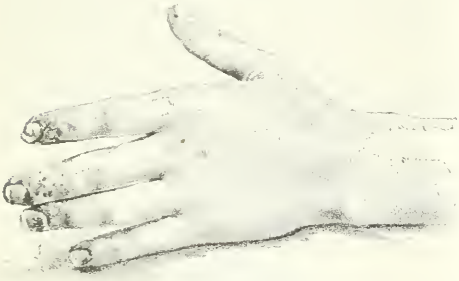
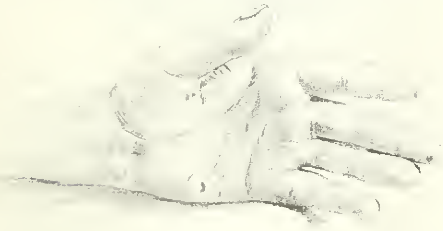
*Reported at semi annual meeting of Tioga County Medical Society

On May 28, 1902, his physician advised him to come to me, in hopes that static electricity would do him some good. It did not help him, it only seemed to increase the pain. By this time the finger nails were flattened and had slight ridges forming across them. Blebs filled with serum appeared on the ends of the fingers and at the base of the nails. The middle finger was bathed in a sticky perspiration and was becoming discolored. The pain was intense when the parts were exposed to the air. The patient was taking one-fourth of a grain of morphine every hour and was not relieved.



Having never seen a case like it, I consulted with Dr. C. H. Ott of the Robert Packer Hospital at Sayre, Pa., and we decided that it was a case of Raynaud's disease. I began giving $\frac{1}{100}$ grain doses of nitroglycerin three times a day, and tried mild descending current from a galvanic battery and mild massage of the parts. The pulse was not strong enough to be felt in the left arm from wrist to axilla. The nitroglycerin did not seem to affect the patient in any way; although the dose was increased to $\frac{1}{100}$ grain every three hours. The galvanic current, although very mild, caused the most excruciating pain. The massage gave very little relief. The middle and ring fingers had become a dark bluish-green color, the blebs on the ends were open and ulcerating, and the hand slightly mottled in appearance There was a marked fetid odor to the discharge from the fingers.

The patient lost his appetite and rapidly became thin. Could get no rest at all and threatened suicide.



At this date, June 23, he was getting twenty-four grains of morphine subcutaneously every day with no relief. Hoping to relieve the pain for a time at least, and maybe give him a possible chance of recovery by removing the offending member, I decided to amputate the arm. This was done in the Robert Packer Hospital at Sayre, Pa., on June 25, at 10 A.M., taking the arm off at the junction of the middle and upper thirds of the humerus. Patient was put to bed, and came out from under the anæsthetic in good shape, but was delirious. At 4 P.M. on the day of the operation the temperature was 101°F, pulse in the neighborhood of 130, respiration 28. I was giving one-fourth gr. of morphine hypodermically at 2 P.M. and 4 P.M. He apparently had very little pain. On the 26th he refused food or drink, spitting the water into the nurse's face. He remained in a state of delirium, grew weaker, and died on the 27th day of June at noon.

The illustrations show the general condition of the patient on June 20 and also the local lesion.

A Method for the Sterilization and Preservation of Catgut.—M. Claudius says that the many methods in use for the preparation of catgut-suture material sufficiently indicate the unsatisfactoriness of all of them. He proposes a technique which has many advantages and produces a perfectly reliable catgut. The ordinary raw cat gut is wound on glass spools and, without further preparation, is immersed in an aqueous solution of iodine and iodide of potassium. The formula for this is as follows: One part of iodide of potassium is dissolved in a small amount of water and an equal amount of finely-powdered iodine is added. When this has gone into solution, enough water is added to make a 1 per cent. solution. The container is marked with the date, and at the end of eight days the material is ready for use At the time of operation the catgut is placed for a short time in a 3 per cent. carbolic-acid solution or some indifferent sterile fluid, which washes off the superfluous iodine solution. If any unused catgut remains on the spool it is returned to the jar of iodine solution for future use. The sojourn in the iodine solution transforms the catgut into a black, wiry thread, which is very easy to tie and is extremely strong, the latter quality being greatly enhanced by the preliminary treatment in carbolic solution. The most important point, however, is that the material is absolutely sterile, as the author proved by a very detailed series of culture experiments. In fact, it is mildly antiseptic, this property affording an additional safeguard, since it eliminates the chances of a possible infection during the transit from the spool to the wound or from the patient's skin. It has been kept in the iodine solution for five months without deterioration in any respect.—*Deutsche Zeitschrift fur Chirurgie.*

Obstetric Paralyses.—Erwin Stransky says that the true obstetric palsies resulting from the actual events of parturition are to be differentiated from the cerebral groups, which have but little connection with the mechanics of birth, and from the facial palsies which are not infrequently observed after uncomplicated labors. They are therefore to be considered the autopathic obstetric palsies, and nearly always concern the upper extremity, though severe spinal trauma may produce analogous conditions in the legs. They are not very rare occurrences, though their ratio to the cerebral lesions is difficult to determine, but, at any rate, they are less common than the facial paralyses. As a rule, they are upper palsies; the lower portion of the extremity being less often involved and the entire plexus least of all. Exceptionally single muscles may be affected. The predisposing causes are disproportion of the maternal pelvis and the fœtus, protracted labor, and the expenditure of much force, exhausting disease of the mother, rigidity of the soft parts, and similar circumstances which effect asphyxia of the child or local asphyxia of an extremity, as in prolapse of the arm. If the damaged nervous apparatus of the child is now injured at some exposed point through obstetric trauma, paralysis will follow. It is of peripheral radicular type, and probably depends on slight neuritic processes in the roots, which may go on to secondary degeneration. If left untreated, the prognosis is usually bad, though not absolutely so, suitable treatment, however, nearly always effects a cure or great improvement. —*Centralblatt fur die Grenzgebiete der Medizin und Chirurgie.*

MEDICAL RECORD:

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NATURE'S WEAPONS AGAINST DISEASE.

THE individual in bad health is seriously handicapped in the struggle of life, as also, to a lesser extent, is one who is not thoroughly sound. The highly successful person must be equipped not only with a keen intellect, but with a good physique and vigorous constitution. These remarks apply with equal fitness to a nation as to an individual. If a nation be composed of strong and healthy human units, the chief component parts making for material success are then possessed. On the other hand, be the race, on the whole, feeble and puny, its downfall is assured with undeviating certainty.

Now that most of the foremost nations of the world are widely engaged in manufacturing, and to a large extent are dwellers in cities, there is need of unceasing vigilance on the part of municipal authorities to take care that life may be lived under the best conditions obtainable. That, in short, "Nature's weapons against disease" should have fair play in the fight.

Dr. A. C. Latham of Cambridge, Eng., a few weeks ago delivered before the anatomy class of that university an eloquent lecture on this subject, in the course of which he said that microorganisms, unless they were present in large numbers, or unless they were possessed of unusually virulent or poisonous properties, were harmless to those in a good condition of health; that is, to those, whose resistance had not been so reduced by bad sanitary conditions, by an insufficient supply of food, or by disease, that they readily fell a prey to these microorganisms. What was necessary, then, in order to stamp out diseases which owed their origin to microorganisms was to destroy the supply of seed and to increase man's natural resistance. But nature's weapons, light and air, did much to accomplish both these ends. A large proportion of the bacteria were killed by the direct rays of the sun. In laboratory experiments this effect was very striking, many species being destroyed in the presence of sunlight and air in so short a time as from one to two hours. Diffused daylight was also detrimental to pathogenic microorganisms, though its action was less energetic than was that of direct sunlight. Many pathogenic species such as the pneumococcus, the pyogenic cocci, the anthrax bacillus, the cholera spirillum, the typhoid, diphtheria, and tubercle bacilli, were known to succumb to this influence.

The lesson to be drawn from these facts—although an oft-told one—is strikingly obvious, and its repetition can do nothing but good. Nature's weapons are, after all, the most effective against disease; and the chief of them are fresh air, all the sunlight that can be obtained, and plenty of rest.

The future health of the people demands that everything possible shall be done to keep away disease, and to conserve the vitality of the race. In cities, wide streets and open spaces in abundance must be provided, while all due attention must be paid to keeping sanitation at a high standard. The houses must be large, well-ventilated, and provided with plentiful facilities for admitting light. The air must be kept as free from coal smoke, dust, and other impurities as conditions will allow. There are many other needs which go to make the sanitarian's dream of the city of the future, but if those mentioned above were conscientiously carried out, urban life would not have the degenerating moral and physical effect that it too often exerts at present.

VACCINATION AND SMALLPOX.

CONTRARY to the belief of the anti-vaccinationists, but quite in accordance with the prescience of the far-seeing, smallpox has once again thrust itself into unpleasant notoriety. During the past two years there has been a recrudescence of the disease in the United States on an exceptionally wide scale, while London has been suffering recently from a virulent and extensive epidemic. Perhaps it required but little of wisdom, or foresight, to predict that the time was near at hand when there would be wide-spread outbreaks of smallpox in this country and in Great Britain. Such prognostications were based upon sound premises. The ground had been prepared, and only the seed was needed to cause quick germination and a fruitful crop. The neglect of vaccination in the United States, and the abolition of compulsory vaccination in Great Britain, supplied the conditions necessary to the origin and spread of smallpox. In both countries the long freedom from extended epidemics had served to give the people an unwarranted confidence, and to lull them into a false security, and vaccination had come to be regarded as superfluous and unpleasant, even by some as dangerous to health.

There are, however, signs that, in Great Britain at least, the leaders of the medical profession, together with many of the foremost men in science, religion, literature, trade, and social and philanthropic work, have awakened to a true sense of the danger of the situation, and have resolved, by all means in their power, to endeavor to educate the people to an appreciation of the great value of vaccination. The recent epidemic in London, which cost the community about 1,500 lives, and caused serious suffering to some 7,500 other persons, in addition to the pecuniary loss occasioned by the scare, will doubtless render the task of these educators easier, and will help to drive the lesson home.

The British Vaccination Act of 1898 will expire at the end of 1903, when fresh legislation will become imperative. In order, then, to educate public opinion in favor of vaccination, and thus to influence legislation, an imperial vaccination league has been formed, whose chief objects will be the study of the laws regulating vaccination, and the improvement of the vaccination law itself, and its administration.

A league of this nature should offset to some extent the pernicious teachings of those misguided enthusiasts known as anti-vaccinationists, who, up to the present, have almost had the field to themselves, and who have received a degree of attention by no means warranted either by their numbers or by their brains. The league a short time ago issued its first manifesto, which is distinguished by moderation and fairness, and absolutely bristles with pertinent facts. No desire is evinced to force its own views upon those who hold contrary but mistaken opinions, nor in any way to hold up to derision the ignorant and obstinate individuals who elect to evade or fight the laws, thereby endangering the lives of their fellow men. The aim of the league will be merely to state truths, and to leave the drawing of deductions to the intelligence of the public. Also, the best procurable expert opinion will be obtained, to suggest improvements in legislation and in the administration of the vaccination law.

The formation of such a league in Great Britain augurs well for the future of vaccination in that country, and should act as an effective counterblast to the one-sided arguments of its opponents.

Before leaving the subject, it may be said that the mildness of the type of smallpox in the United States at the present time has intensified the difficulty of dealing with the disease properly. Precautions necessary to stamp it out and restrict its scope have been neglected. Consequently smallpox has spread, almost unhindered, through the length and breadth of the land. The hope that it will continue mild may prove illusive, and, in any case, until strictly-enforced measures have been taken to stay the course of the malady, its dissemination will doubtless continue. It would be wiser, therefore, to treat this lingering epidemic as if it were of a virulent type, and to use every effort to extirpate it.

The example, too, of the leaders of science and thought in Great Britain, in endeavoring to impress the public with a just conception of the value of vaccination, might be, perhaps, followed in this country with advantageous results.

VENOMOUS SNAKES.

Dr. H. W. Crouse, Victoria, Tex., writes in the *Texas Medical News* on the venomous snakes and spiders of that State. It appears that Texas contains the greatest variety of venomous serpents of any State of the Union, while, as to spiders, the two species found to be venomous, the Latrodectus mactarus and the Phidippus tripunctatus, together with the entire group of spider-like species, the Tarantula, are within its borders,

Dr. Crouse gives an elaborate description of the poisonous snakes of North America, which it would here be superfluous more than briefly to notice. The differentiation of the three great types of snakes is in the teeth. All serpents have backward curved teeth in the upper and lower jaws. The innocent have two rows of ungrooved teeth in the upper jaw, the outer occupying the maxillary, and the inner the palatine bone. The outer usually number twenty to twenty-five. Snakes of a second type have rows of teeth in the upper jaw, furnished at the base of the maxillary row with a grooved fang, used by it for destroying its food, has been classified by Steineger as the Opisthoglyphs, thus denominating a genus which, while furnished with a venom apparatus connected with its grooved fangs, has but slight medical import, on account of the deep situation of the same, and the labial arrangement of the mouth, making it difficult, if not impossible, for this order to use their fangs while biting man. The division appealing to us for consideration, is supplied with fangs, anteriorly situated, one or two functionating, and several rudimentary. The former occupy the wedge-shaped maxillary bone, the latter the internal pterygoid and palatine bones. Thus, through the medium of the teeth alone, we are able to classify the various divisions; to differentiate the ones of venomous import, and thereby recognize, when we have the suspected snake's head which has bitten a patient, and what form of remedial agents should be adopted.

The exact composition of the venom of poisonous snakes has not been decided to the satisfaction of all investigators as yet. Prince Lucien Bonaparte took up the study of the poison secretion of the European viper in 1843, and discovered that it was an albuminous substance, with proteid principles.

In 1882 Weir Mitchell, with Reichert, separated three proteid principles from the original substance, which they proved to be albuminous. They named these substances venom peptone, venom globulin, and venom albumose. Finally Martin and Smith say the three proteids are, "one an albumin and the other two albumoses, the albumin not virulent, but the two albumoses corresponding to Hetero and Proto albumoses of Kuhne, and are extremely poisonous.

Referring to the symptomatology of the poison derived from all snakes, Dr. Crouse remarks that it has many common points; equally so that of the bite of venomous insects, such as spiders. From both originate local and systemic symptoms, which vary with the specie. In all there is pain, variable local swelling, and irritation to the cardiac, respiratory, and cerebral centers, blood changes, antibacteriolitic influences, all of these varying with the type of serpent or spider. The diagnosis of a venomous snake depends on several objective signs. The presence of one or two isolated punctures, variably separated according to size of snake, the local pain swelling and peculiar systemic symptoms, the history given by the patient, the type of snake, if the head has been secured, and the absence of two rows of teeth in the upper jaw, the presence of one or more functionating fangs, found by taking a pencil, pen, or small stick and stroking the mucous surface of upper maxillary; the presence or absence of a pit, thus separating the Cobra from the Pit Viper. The prognosis of the case depends upon many factors: The size of the snake, the type of the snake, the climate, temperature, size, and condition of patient bitten, point bitten, treatment used, etc.

The treatment of snake poisoning is varied. The old mechanical remedy, the ligature, says Dr. Crouse, applied above and below the fang punctures, accompanied by scarifying, cupping, or sucking of the wound, still justly retains first place in local treatment. The infection of one of the coagulating agents in the tooth wounds about the point of swelling, and followed by free massage, has been proved, when used early, to be capable of destroying the entire chain of dangerous symptoms following venomous serpent's bites.

Kaufman experimented upon four dogs, giving each, on the inner side of the thigh, two drops, hypodermically, of viper's venom. In one, five minutes afterward, he injected a bichloride solution, 1-1,000. In another, a potassi. Permanganate solution, 1 per cent. In another, a 1-100 chromic solution. On the fourth he used no antidote. The three dogs on which these antidotes were used recovered, the fourth dog died.

Calmette says he used successfully calcium hypochlorate solution, 1-60, specially prepared thirty minutes after inoculation of the animal with the venom.

Strychnine is the remedy which most effectually meets the systemic conditions present in venom poison.

Mueller of Australia says of this form of treatment: "While snake poison turns off the motor batteries, and reduces the volume and force of motor nerve currents, strychnine, when following it as an antidote, turns them on again, acting with the unerring certainty of a chemical test, if administered in sufficient quantities. Purely physiological in its action, it neutralizes the effects of the snake poison, and announces by unmistakable symptoms when it has accomplished its task, and would, if continued, become a poison itself. Previous to this announcement, its poisonous action is completely neutralized by the snake poison, and the latter would, therefore, be equally as efficacious in strychnine poison as strychnine is in that of the snake.

Japorandi or pilocarpine is recommended by some. Bancroft prescribes strophantus, while among other remedies used and advised are the following, given by the mouth: Calomel, iodide of potash, nitrate of potash, tobacco ashes, tincture of iodine and, hypodermically, caffein and atropine. Fayrer and Brunton advocate artificial respiration, while Calmette and Frazer claim to have produced immunity by the use of anti-venomous serum. Lavage is suggested as a remedy of much value in cases of snake poisoning.

Dr. Crouse, in concluding his article, summarizes the cardinal points indicated in treating a snake poison case as follows: (1) Local ligature above and below the wound, injections of local coagulating agents, such as pot. permang., 1 per cent. solutions, chromic acid, 1-100, etc., scarifying the wound, followed by cupping or sucking, massaging the swollen area, loosening the ligature at times to prevent strangulation, systemic treatment, strychnia to effects, frequently repeated, and atropine as a respiratory stimulant; pilocarpine, hypodermically, until it has produced profuse sweating, alcohol in small doses, ammonia rarely, then only early and in small doses; fluid extract of cedron seed in 5 to 10 min. doses. Stomach lavage, iodine, pot. bromide, and calomel, chemical agents neutralizing venom in the stomach; artificial respiration for hours; diuretics; diaphoretics, and purgatives. Finally, do not allow patient to sleep long at a time during the first twenty-four hours; also encourage the invalid, as deep mental prostration accompanies the poisonous influences of snake virus.

OFFICIAL SUPERVISION OF THERAPEUTIC AGENTS.

With the increase in knowledge that has come with the progress of time, gradual but marked change has taken place in the treatment of disease, and at the present day less implicit confidence is reposed in the effects of mere drugs than has been the rule in the past, while those that are employed are given in more convenient and less nauseous form. In order that the clinician may obtain physiologic results from the remedies he prescribes, it is necessary for these to be of known and determined activity. In the present state of affairs this condition is not always fulfilled, and we fear that it happens occasionally, if not often, that disappointment results from the use of inert medicinal preparations. The harm thus done is negative in character, being the result of deficiency or substitution and not of excess, of omission rather than of commission. On the other hand, the presence of certain injurious substances constitutes a source of even greater danger. This may result from contamination, accidentally or otherwise, by agents of toxic power.

For these reasons it would be extremely desirable to have some form of official supervision of therapeutic products, with the object of having the purity of these tested and their activity passed upon. The need for this has become all the greater since the introduction for therapeutic and prophylactic purposes of the products of biologic activity, as here accidental contamination with bacteria of pathogenic activity or with powerful toxins is possible, as is shown by the recent lamentable experience of the city of St. Louis in connection with the development of a number of cases of tetanus following the use of antitoxin in the treatment of diphtheria. This need is further emphasized by the occurrence recently of a considerable number of cases of tetanus in the sequence of vaccination as a means of protection against smallpox. It is true that the larger number of the latter are due to accidental secondary infection, but in some instances the development of several cases after the use of the virus of one manufacturer, and the exceptional discovery of tetanus bacilli in such virus, at least establishes the possibility of danger from this source. The best of the houses engaged in the manufacture of pharmaceutical products, of prophylactic and curative serums, of glandular extracts, and of vaccines, secure for these purposes the services of men of the highest scientific ability, while they are equipped with the most modern apparatus and appliances, and they exercise the greatest care to prevent accidents of the kind referred to, but occasionally some unforeseen contingency arises and disaster follows, while such an event may be expected at any time from the employment of the products of less responsible manufacturers. The foregoing considerations would seem to render unnecessary extended discussion as to the desirability and the need for some official control in this important matter. This could best be exercised by some central authority under the auspices of the national government, inasmuch as municipal or State control would require such a multiplicity or complexity of organizations as would scarcely work to satisfactory advantage. In the line of these reflections a bill was introduced into the United States Senate at its last session "to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes." The objects of this bill are most worthy, and their effectuation would be a step in the right direction. The practice of medicine, and particularly the treatment of disease, is becoming daily more scientific, but precision in application and reliability of result can never be attained until the physician has assurance from some authoritative source as to the quality and the activity of the therapeutic agents he uses.

Virchow and the Parasitic Theory of Disease.

At this time, when the whole scientific world is ringing with the praises of the mighty pathologist just dead, it is in a high degree fitting to chronicle, or, rather, to call to mind his views on parasitism and infection. Virchow accepted the principle that infectious diseases are of parasitic origin, but he was not an ardent supporter of the parasitic theory of disease, and was opposed to the opinions now held by many that all diseases are of parasitic origin.

When the great German scientist delivered the Huxley lecture at Charing Hospital Medical School on October 3, 1898, he thus defined his attitude with regard to parasitism and infection. The following are his own words: "With regard to the subject of parasitism, the progress of scientific observation was retarded for centuries by the prevalence of the assumption made by Paracelsus that disease in general was to be regarded as a parasite. Pushed to its logical conclusion, this view would imply that each independent living part of the organism would act as a parasite relatively to the others. The true conception of a parasite implies its harmfulness to its host. The larger animal parasites have been longest known, but it is not so many years since their life history has been completely ascertained, and the nature of their cysts explained, while an alternation of generations has been discovered in those which are apparently sexless. Very much more recent is the detection of the parasitic protozoa, by which the occurrence of the tropical fevers may be explained. As yet we have not complete knowledge as to their life history, but we hold the end of the chain by which this knowledge can be attained. The élite of the infectious diseases are, however, the work of the minutest kind of parasitic plants, bacteria, the scientific study of which may be said to date from Pasteur's immortal researches upon putrefaction and fermentation. The observation of microbes under exact experimental conditions, and the chemical investigation of their products opened up the modern field of bacteriology, a science among the early triumphs of which were the discoveries of the bacilli of tubercle and Asiatic cholera by Robert Koch. In connection with this subject three important landmarks require comment. One is the necessity for distinguishing between the cause and the essential nature of infectious diseases, the latter of which is determined by the reaction of the tissue and organs to microbes. Secondly, there is the relation between the smaller parasites and the diseases determined by them. This may be summed up in the general word 'infection.' But to assume that all infections result from the action of bacteria is to go beyond the domain of present knowledge, and probably to retard further progress. The third point is the question as to the mode of action of infection. It is only the larger parasites whose main effect is the devouring of parts of their hosts; the smaller act mainly by the secretion of virulent poisons."

From a consideration of the foregoing, it will be observed that Virchow was of the opinion that it was premature to assume that all infections are of bacterial origin.

Eyesight Failing.

The Germans have been now known for a number of years as the bespectacled people of the world. The reason assigned—doubtless the right one—for the weakened sight of the Teuton is that it is mainly the close application to study for which he is distinguished above members of other races. Minute and painstaking research, involving almost continuous eye strain, has always been a distinctive characteristic of the student of the Fatherland, and it must be added that the results of this assiduous diligence, especially in scientific investigations, has been the gain of mankind.

For some time, however, the fact has been plainly evident that other nations besides the German nation are failing as to eyesight. Everywhere one goes one sees numerous individuals wearing glasses, and the habit is increasing at a rapid rate.

The New York *Sun*, September 28, publishes a dispatch from London bearing on this matter, which says: "Recent inquiries by oculists and opticians in England and on the Continent have developed the opinion that a few generations hence there will scarcely be a man or woman not wearing glasses. . . . This does not mean, apparently, that the eyes of each generation grow weaker. It is rather that the environment of modern civilization is inimical to healthy sight. Dust or fog play no small part in the troubles of the eyes, and traveling underground is also declared to be injurious. Then there is the hurried reading of small print, by which the reader lays up for himself impaired eyesight, with possible mental depression."

If it be true that dust is a prominent factor in causing defective vision, and that traveling underground is injurious to eyesight, then the outlook for the inhabitants of New York is the reverse of hopeful. Dust we have with us now, and in enormous quantities, and soon we shall have the underground. It may be expected, then, that in the course of a few years the man or woman who does not wear glasses in New York will be the exception rather than the rule. Perhaps, however, the hurtful influence of dust upon the eyesight has been exaggerated by the English writer, and as to traveling underground, so long as the tunnels are kept free from smoke and well ventilated, there should be no reason to apprehend that this manner of locomotion will be a menace to eyesight.

Failing eyesight is a deplorable but unavoidable concomitant feature of advanced civilization. It is one of the prices which we have to pay for living under modern conditions. Gas and the electric light have much to answer for in this respect. In order to retain eyesight unimpaired as long as possible, an individual should avoid poring over small print by artificial light, except when absolutely necessary.

Emergency Foods.

A problem, the solution of which has long been the aim of scientists and medical men in all parts of the world, is how to make a really sustaining food which can be packed into a small compass. Soldiers and explorers are more directly interested in the question than other members of the community, but, nevertheless, every one is more or less concerned in the matter.

At the time of the Spanish-American war the United States Army possessed no condensed ration which was satisfactory—in this respect being far behind the armies of Europe. Since that war, however, the War Department of this Government has bestirred itself, and now it is asserted that the army of this country has an emergency ration superior to that of any army.

Mr. H. E. Armstrong writes in *Ainslee's Magazine*, September, on the subject, detailing the result of tests made on three kinds of emergency rations by soldiers of the United States Army. A concentrated food to be capable of supporting life and sustaining strength for even a limited space of time must contain proteids, fat, and carbohydrates. The board appointed by the War Department to report on a ration decided that the emergency ration should contain at least 118 grams of proteids "and the largest amounts of fat and carbohydrates that can be combined to form a nourishing, easily digested food." Beef, beans, or peas offered the most proteids, but for the reason that in the first named these are most digested, beef was selected. More than 75 per cent. of parched wheat consists of carbohydrates. Chocolate contains 48.7 per cent. of fat, of carbohydrates 30.3 per cent., and of proteids 12.9 per cent., besides a small amount of salt. The latter two components were easily procured. To make the ration light and compact it was necessary to desiccate the beef, which in its fresh state contains 73.8 per cent. of water. Salt, which is essential to food, is found in all the components, except sugar. The dried beef—lean because it keeps better—and the wheat were ground fine and mixed together. Thus was produced a ration in small bulk, which will satisfy the healthy man and sustain his strength. Properly canned it will keep sweet in any clime.

Mr. Armstrong describes many other condensed foods used by the armies of different nations, as well as by explorers, sailors, sportsmen, and others who have need of such a form of diet, but the test to which the emergency ration chosen for the United States Army was put, would seem to show that it has no superior.

Charlatanism Past and Present.

Professor C. F. Martin, Honorary President of the McGill Medical Society of Undergraduates, took as the subject of his closing address "Charlatanism Past and Present." Much is heard nowadays of quackery, although this class are probably not so numerous as in the past

According to Professor Martin, charlatanism dates back as far as does history, and Hippocrates, 400 B.C., exclaimed loudly against quackery, against those who sought to cure epilepsy with amulets and charms, against those in whom superstition was uttermost in the treatment of disease.

"Paracelsus, again, was," says Dr. John Brown, "a renowned and ill-understood medley of evil and good, darkness and light, quackery and skill," but Paracelsus was in advance of his times, and really may be said to have laid the foundation of pathology.

It is curious that in this enlightened age the quack and advertising healer should flourish exceedingly and be able to gull so easily a large section of the public. Professor Martin thinks that this fact merely proves the sound sense of Pliny's assertion that any one with a sufficient stock of impudence may reasonably well pass for a physician. What applies to the early part of the eighteenth century applies with almost equal force to the early days of this our present twentieth century, and the lecturer supplied a striking instance of the truth of this statement. The following effusion was received from a man whose school of clairvoyance was such as to give him a handsome income, and will serve to illustrate the depth of credulity displayed by a large number of the community:

"Dr. —— ——, Clairvoyant and Botanic Physician. Terms of treatment, $5 per month, payable in advance. All medicines found.

"S—— ——, Maine, January 25, 1886.

"Mr. H——.

"Dear Sir: Yours received. The trouble in this case is caused by chronic disease of the liver and kidneys, which causes the blood to be sluggish in circulation, leaving the blood impoverished and impure, debilitating the mucous tissues of the kidneys, stomach and lungs, and debilitating the gastric juice of the stomach, also the nervous and muscular system. Consider the case can be helped. Notice head of letter for terms of treatment.

"Yours respectfully, "W. W. F."

There can be no doubt that at the present time commercialism is prevalent to a regrettable degree among the members of the medical profession, and Professor Martin thinks that charlatanism, in a small way, predominates with the regular physician who has had the advantages of a first-class university education.

There is undoubtedly a good deal of advertising in the daily journals in different parts of the world, and even this country has regular practitioners of medicine who think it no shame to thus attract attention to their ability and skill.

The plea, of course, may be entered that the competition is so acute within the medical profession that illegitimate means must be resorted to in order to gain a living. One remedy, however, is plain—that an elevation of the standards of medical education throughout the country would tend to relieve the strain to which the profession is put by reason of the unduly large number of medical men graduated each year.

Sanitary Problems of the Isthmian Canal.

Surgeon-General Sternberg writes in the *North American Review* of September upon this much discussed question, and gives some valuable advice as to the most efficient means to preserve the health of those engaged in its construction. The first and most important step to attain this object will be to ensure a pure water supply. This assuredly is of paramount importance, and should be carefully attended to before laborers are sent to any particular section of the line to begin work, and every possible sanitary measure calculated to keep away disease should be executed in advance.

Dr. Sternberg is, as is well known, a hard and fast believer in the theory that malaria and yellow fever are conveyed and spread by the agency of the mosquito. He, therefore, suggests that the men working upon the canal should be compelled to sleep under mosquito nets, a precautionary measure which should decidedly be enforced. The fact, of course, is well known that mosquitos, chiefly, attack human beings at night, who in a country swarming with the insects, as is both Panama and Nicaragua would be running neeless and foolish risks if not protected when asleep.

Dr. Sternberg also recommends that a sanitary service be established in connection with the Isthmian canal works similar in composition to the sanitary corps enlisted in the army.

News of the Week.

State Board of Medical Examiners of New Jersey.—At a meeting of the State Board of Medical Examiners of New Jersey, held at Newark, N. J., on October 1, twenty-three of the twenty-eight physicians who took the State examination held at Trenton N. J., on September 16 and 17, were duly licensed to practise medicine in New Jersey. The percentage of rejections for the September examination was eighteen. Beginning with the examination in June, 1903, each applicant will be required to file with his application a recent photograph of himself, with autograph signature, duly attested before and under the seal of a notary. In the matter of interstate reciprocity of medical license, the policy of the Board in endorsing the licenses issued by other States whose examining requirements are substantially the same as those of New Jersey, provided that the applicant fully meets the academic and medical requirements of the State, is gaining favor both with the profession and with other State boards. This policy places the admission of an applicant upon the basis of his personal fitness and the thoroughness of his examination which is believed to be the fairest and the most equable method of endorsement so far devised.

The Health of Havana.—According to the report of Dr. Charles Finlay, Health Officer of Havana, for August, the sanitary condition of that city continues good. No case of yellow fever originated in the city, but a man ill with the disease was brought by a steamer from Vera Cruz and died at Las Animas Hospital. Patients with yellow fever are not quarantined in the harbor, but are transported across land to the hospital. Concerning this, Dr. Finlay writes: "The success which has so far attended our efforts to prevent the propagation of the disease during the conveyance of patients from vessels in the harbor or from the immigration camp at Triscornia to Las Animas Hospital, as well as during their detention at that hospital, in this season of the year, is not only highly satisfactory to us as showing that our vigilance has not abated since the inauguration of the Cuban Republic, but also as an additional demonstration of the fact that in order to attain that result all that is needed is to guard the patient from being bitten by mosquitos." It is singularly appropriate that Dr. Finlay, the originator of the mosquito-theory of the propagation of yellow fever, should be the successor of Major Gorgas, who, acting upon this theory, drove the disease out of the city. The city death rate for the month of August was 22.81 per thousand, in which it compares very favorably with other cities of its size the world over, especially when the fact is taken into consideration that the city is without sewers. Dr. Finlay seems to have no fear that the Cuban Government will permit the sanitary condition of Havana to retrograde.

New Professors at Columbia.—With the opening of the new school year at the Medical Department of Columbia University (College of Physicians and Surgeons), Dr. Walter B. James takes the chair of the Practice of Medicine, and Dr. L. Emmett Holt that of the Diseases of Children. Dr. William J. Gies has been appointed Adjunct Professor of Physiological Chemistry in the University.

The Census of New York City Physicians.—According to the recently issued medical directory of the County Medical Association, there are 5,444 physicians in New York City, distributed as follows: Manhattan and the Bronx, 3,948; Brooklyn, 1,323; Queens, 115; Richmond, 58. In the State outside of New York City there are 5,162 physicians, giving a total of 10,606 for the entire State. The New Jersey list contains 1,655 names and the Connecticut list 1,103.

Ambulance Surgeons with Experience.—According to a new regulation which went into effect on October 1, the ambulances of Bellevue, Gouverneur, Harlem, and Fordham Hospitals will hereafter be in charge of the senior surgeons of the interne staff instead of the juniors, as heretofore. The new surgeons will have had six months experience in the hospital wards before having thrust upon them the very serious responsibility of dealing with all manner of accident cases. It is hoped that the private hospitals having ambulance services will follow the good example set by the city institutions.

The Beth Israel Hospital Alumni Association.—This society was organized in this city recently, its declared aims being "the promotion of social intercourse among its members, and the advancement of the science of medicine and the art of surgery." The officers are: *President*, Dr. A. Hymanson; *Treasurer*, Dr. George I. Miller; *Secretary*, Dr. M. Rabinovitz.

Chicago Surgeons Not Wanted.—The cable reports that Dr. Adolf Lorenz, Professor of Orthopedic Surgery at the University of Vienna, and Dr. Friedrich Mueller of the same city have started for Chicago for the purpose of performing a surgical operation upon a patient in that city. Are there no orthopedists in Chicago?

A Short Quarantine against Cuba.—Formerly the rule prevailed at this port of declaring a five days' quarantine against Cuba during six months of the year, from May to October inclusive, the five days counting from the date of sailing from Havana or other Cuban port. Owing to the absence of yellow fever, the quarantine period was shortened this summer by three months, the rule having been in force only from July 1 to October 1. It was not regarded as of necessity even for that time, but it was thought best to enforce the rule during midsummer, because of the possibility of unrecognized cases being carried to Havana from Mexican ports and then brought north.

A Visitation of Tarantulas in Seville.—According to the *Kleine Zeitung*, Seville and its neighborhood has been visited with a plague of tarantula spiders. Men, women, and children have been bitten, and are suffering cruelly. Although it has been scientifically proved that the bite of the tarantula is not really dangerous, and does not of itself inspire the bitten with the dancing mania, it is impossible to disabuse the ordinary Spaniards of their ancient superstition. As soon as the bite begins to work, the sufferer believes that he is compelled to dance, and that his dancing impulses can only be allayed by the tones of the "tarantela-guitarre." In Orsuna, as in other towns, there is a "Guild of Tarantula-players," says the writer, who earn considerable fees by sending round their members to heal the sufferers from the tarantula bite. The victim lies in bed, and as soon as his musical physician begins the monotonous clang of the "tarentela-guitarre" the patient rolls about wildly in the bed until he has worked himself into a fearful sweat, which carries the mild tarantula poison out of his body, and with the poison his mad desire to dance.—*The Hospital Gazette.*

Pathological Society of Philadelphia.—At a stated meeting, held September 25, Dr. J. Dutton Steele presented a specimen of chronic interstitial pancreatitis of syphilitic origin, in which, in contradistinction from the pancreatitis occurring in association with diabetes, the islands of Langerhans were preserved. Dr. David Riesman exhibited a specimen of aortic aneurysm, which ruptured into the right bronchus. The patient was a syphilitic, and he complained principally of pain in the chest, while physical evidences of aneurysm were wanting, except for the dilatation of the aorta shown in a skiagraph. In addition to the main aneurysm there were several other points of dilatation of the aorta. Attention was directed to the rarity with which aortic aneurysm ruptures into the right bronchus. Dr. M. H. Fussell exhibited a specimen of sarcoma of the pleura, obtained from a child that had presented symptoms of pneumothorax and, subsequently signs of pleural effusion. Tapping, however, failed to obtain fluid. On post-mortem examination the lung the right—was found greatly reduced in size and displaced, and the pleural cavity occupied by an enormous mass of neoplasm. Dr. Joseph Sailer exhibited a specimen of fracture of the skull with softening of the brain. The patient had been a man who was struck by a moving trolley car, and who developed symptoms that were thought to be due to delirium tremens. Death resulting, a fracture through the petrous portion of the temporal bone on the right side was found, together with subarachnoid hemorrhage on the convexity of the left hemisphere and an area of hemorrhagic softening in the temporosphenoidal lobe on the left side. Dr. Sailer exhibited also a specimen, aortic regurgitation, enlarged heart, and dilatation of the aorta. The patient during life had presented marked Cheyne-Stokes' breathing for a long time. The dilatation of the aorta was thought to be related to the increased amount of blood that had to be sent into this vessel with every contraction of the left ventricle, in order to compensate for the blood returned through the aortic orifice imperfectly closed by an incompetent valve.

Mr. Charles B. Ball, Professor of Surgery in Trinity Medical College, University of Dublin, recently delivered the Lane Lectures at the Cooper Medical College of California. On his return he was entertained in Chicago by Drs. John B. Murphy, William A. Evans, and J. Rawson Pennington, and in the evening, in the rooms of the Chicago Medical Society, he showed some beautiful colored slides of diseases of the rectum. Stereoscopic photographs were taken during his surgical operations in his Dublin clinic, by his son, and then subsequently rephotographed and colored with anilin dyes to bring out the salient features of each disease.

Obituary Notes.—Dr. John Byrne, for fifty-four years a medical practitioner in Brooklyn, died at Montreux, Switzerland, on October 1, aged seventy-seven years. Dr. Byrne was born in Ireland in October, 1825. He was graduated with high honors, from the Edinburgh Medical University in 1846 and in the following year had charge of a temporary fever hospital in Ireland during the famine. He came to America in 1848 and settled in Brooklyn. In 1853 he secured a medical degree from the New York University Medical College. He was one of the founders of the Long Island College Hospital, and organized St. Mary's Female Hospital in Dean street. He took the lead in the establishment of St. Mary's General Hospital, and from the date of its foundation was president of the faculty and chief surgeon of the institution. He was also consulting surgeon to St. John's Hospital, Long Island City. Dr. Byrne was a gynecologist of wide reputation, and an ex-president of the American Gynecological Association. A few weeks before his death he read a paper on uterine cancer before the International Obstetrical Congress in Rome. He retired from practice in February of this year, and went abroad, intending to devote several years to travel. A widow and two daughters survive him.

Dr. Thomas Wilde died at his home in Brooklyn, N. Y., on October 5, as the result of an accident which happened to him about a month ago. He was born at Port Huron, Ont., in 1837, and was graduated from the Bellevue Hospital Medical College in 1866

Obituary.

ABEL MIX PHELPS, M.D.,

NEW YORK.

Dr. A. M. Phelps, one of the most widely known and progressive orthopedic surgeons in this country, died on October 6, at the Post-Graduate Hospital following an operation two days before for cancer of the omentum. He was born at Alburgh Springs, Vt., January 27, 1851, and was educated in medicine at the University of Michigan, receiving his degree of M.D. from that institution in 1873. He had from the beginning of his studies a decided bent for surgery, and after graduation went abroad, studying for three years at the most renowned of the German surgical clinics. On returning to this country he became surgeon to the Central Vermont Railroad. He afterward settled at Chateaugay, Franklin Co., N. Y., where he practised from 1883 to 1887, and in this limited field, with its scanty material, he made for himself such a reputation as a bold and skilful operating orthopedist that he was called to this city to fill the chair of Orthopedic Surgery in both the University of the City of New York and the Post-Graduate Medical School. From 1885 to 1888 he also held the chair of Orthopedic Surgery at the University of Vermont, from which he was transferred to that of Surgery upon the retirement of the incumbent of the latter, Dr. J. Williston Wright.

Dr. Phelps was a member of the Medical Society of the County of New York, of the State Medical Society and of the American Orthopedic Association. In 1887 he was elected Vice-President of the Medical Society of the State of New York, in 1890 was chosen President of the same society, and in 1894 was President of the American Orthopedic Association. He was surgeon to the City Hospital, Visiting Orthopedic surgeon to the Post-Graduate Hospital, and surgeon-in-chief of the Daisy Fields Hospital for Crippled Children, at Englewood, N. J., of which he was one of the founders.

Dr. Phelps was known as an operating orthopedist, and was regarded as a leader in that school as disguished from those who rely chiefly upon mechanical measures in the treatment of deformities and chronic joint diseases. In the treatment of clubfoot especially he had little patience with those who endeavored to correct the deformity by subcutaneous tenotomies and the wearing of apparatus, and the open operation which bears his name was his protest against the methods of his more conservative brethren. He also devised a harelip operation, a wood corset for the treatment of spinal deformities, and several other orthopedic appliances. Dr. Phelps was a man of strong personality, who had firm convictions, which he never hesitated to express, and was known as a "fighter"; but his contentions were without bitterness, and arguments were expressed with fairness and left no rancor in the mind of his defeated antagonist. In his death American orthopedic surgery has lost one of its valued leaders, and many men in this city and throughout the country have to mourn the going away of an honest friend.

MORRIS JOSEPH ASCH, M.D.,

NEW YORK.

Dr. Morris J. Asch died at Irvington-on-Hudson, October 5, 1902. He was born in Philadelphia, July 4, 1833. He studied at the University of Pennsylvania, taking his A. B. degree from that institution in the class of 1852, and then entered Jefferson Medical College, from which he was graduated in 1855. Soon after graduation he was appointed clinical assistant to the elder Gross, occupying the position for several years. At the outbreak of the Civil War he entered the army, served on Sheridan's staff, and was the General's personal surgeon. He was officially mentioned for conspicuous gallantry on the firing line. He remained in the army after the close of the Civil War, and saw active service in the Indian wars. In the early seventies Dr. Asch resigned his commission, with the rank of major, to enter into private practice in New York City. His success was immediate, and he soon numbered among his patients many of New York's wealthiest and most influential families. He continued in active work until 1900, when ill health compelled retirement.

Dr. Asch devoted himself largely, though not exclusively, to the study and treatment of diseases of the nose and throat. In 1872 he was appointed surgeon to the New York Eye and Ear Infirmary, where he continued in active service till ill health forced him to resign, when he was appointed consulting surgeon. He became secretary of the Executive Committee of the Board of Directors in 1891, and was largely instrumental in shaping the policy of the institution and bringing it to its present state of efficiency. He was surgeon also to the Manhattan Eye and Ear Hospital from 1879 to 1902, and held a professorship of diseases of the nose and throat at the New York Polyclinic for some years. He was a member of the County Medical Society, the New York Academy of Medicine, the Roman Medical Society, the Medical and Surgical Society, and the American Laryngological Association. Though leading an unusually busy professional life, he found opportunity to keep fully abreast of the times, to contribute papers to various medical journals, and to collaborate in the preparation of several textbooks on diseases of the nose and throat. In 1890 he published an account of an operation he had devised for correction of deformity of the cartilaginous septum of the nose with a description of the instruments invented and a report of cases successfully operated upon. The operation is known as the Asch operation, and is extensively employed at the present time both in this country and in Europe.

As a man, Dr. Asch was modest, self-sacrificing, loyal and generous to a fault. His first thought, under all circumstances, was of others. Of a strongly sympathetic nature, and possessing to an unusual degree the power of inspiring confidence in his ability, his patients became his friends as well as his clients. His charities are known only to the many he befriended. His lasting reputation as a physician is established by the work he accomplished. His memory will ever be cherished by those who loved him.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ELECTION TO COUNCIL—SANITARY CONGRESS—SMOKE AND DUST PROBLEMS—TYPHOID IN WAR—SMALLPOX IN SHIPS AND PORTS—SANATORIA—BOOK ITEMS.

London, September 17.

This is the last day of the poll for the election to the general Medical Council, but counting the voting papers and the scrutiny will take four or five days, so that the result will not be declared this week.

We have taken the election quietly, though there has been some irritation among Sir Victor Horsley's admirers at a contest being forced upon him.

On the other hand, Mr. Smith's supporters say he is within his right, which cannot be disputed. Certain advanced reformers, as they deem themselves, were determined to test what they call principles. These I explained in my last letter.

Among the papers at the meeting of the Sanitary Institute was a rather original one by Dr. W. N. Shaw dealing with the problem of smoke in cities. It was certainly an appropriate subject for a meeting in Manchester, which has even a worse reputation than London for its smokiness. Dr. Shaw drew a parallel between smoke and sewage. He regarded one both as domestic or industrial refuse which had to be removed in some way or other. Peter Spence, many years ago, proposed municipal chimneys. Dr. Shaw suggests that each block of houses should be provided with the means of drawing off the smoke from all its fires into a chamber in which some treatment could be applied before discharging into the atmosphere. Architects of factories manage to carry the air of many flues into one channel. Why not apply the principle to all buildings? This being done, science would soon solve all the difficulties, and the question would become one of cost. Dr. Shaw estimated that it would require a tenpenny rate to get rid of smoke from the atmosphere of Manchester or London. Certainly that would give pause to ratepayers who have long been groaning under their burdens. But Dr. Shaw remarked that a year's fogs were estimated to cost from three to five millions sterling, and if that were so, a tenpenny rate would be cheap.

Sir J. Crichton-Browne, at a subsequent meeting, gave an address on an analogous subject—the dust problem. He said that the distance volcanic dust might travel had not yet been determined, but it was possible that that from the late West Indian eruptions might be reinforcing the black vomit of Manchester chimneys. Human agency increased the dust in the air. In the wilds of Argyleshire, tests had given 200 particles per cubic centimeter; in London, 150,000; in Paris, 210,000. Dust lowered the people's health, and when floating in fog increased the mortality. Industrial dust was responsible for an appalling amount of disablement and death. The potent remedy was ventilation, and humidity assisted. Wind and rain should have fair play and be supplemented by scavenging and by watering streets and pavements. Some domestic dust was inevitable, but the struggle against it must be kept up Wide streets and open spaces should be provided, back-to-back dwellings prohibited, and the height of all buildings restricted.

Simultaneously, presiding in the engineering section, Sir A. R. Binnie referred to the difficulty of removing all decaying matter, because sewage was generally waterborne, and such small quantities of decomposing matter rendered large volumes of water impure. Irrigation could not be carried out in our climate with the financial advantage once supposed. He feared some laxity was creeping in, due, perhaps, to improved purification of sewage. Large towns had expended millions to secure pure water, and London was running great risk in depending on the Thames and Lee, which receive more or less clarified sewage from a great population. As to a smoky atmosphere, when combined with mist or fog, it was one of the greatest evils of town populations. Electricity for lighting and gas for heating and cooking would be beneficial.

Perhaps the best discussion of all was that on Typhoid in War, elicited by a paper by Dr. Christopher Childs, who said the American commission on the Spanish war found that infected water was not the only factor in disseminating typhoid fever, but that personal contact and pollutions of soil were most important. He quoted Lord Wolseley's silly remarks, in the "Soldiers' Pocket Book," to the effect that he had never known the sanitary officer to make a useful suggestion, and recommending he should be left at the base. This explains the destruction of sanitary initiative and the despatch of an army to South Africa without any sanitary staff. I have often commented on Lord Wolseley's ignorant prejudice against the Medical Department. Lord Roberts holds a very different opinion and has publicly testified to the importance of a sanitary staff in all campaigns. What guarantees are there, asked Dr. Childs, that the War Office is fully conscious of the need of sanitary reforms or ready to carry them out?

Colonel Lane Notter, R.A.M.C., who acted as sanitary adviser during part of the war, said the country need not be ashamed of the state of things. He knew no hospital at home equal to the field and general hospitals constructed in South Africa.

Major H. H. Firth, R.A.M.C., representing the War Office, said the death rate from typhoid fever among the troops had not been 20 per 1,000, as was stated, but only 16 to 17. The authorities were quite alive to the importance of reducing it. But they must not expect the same results as in civil life. Those who said they did, "dwell in a fool's paradise."

Sir J. Crichton-Browne said there were no shortcomings in the medical department, which had done all that it could with the materials at its disposal. The withdrawal of so many men in the late campaign from typhoid fever prolonged the conflict, for had they not been removed it might have closed months earlier, and saved many lives, besides sixty or seventy millions of money.

Resolutions were passed recommending the study of the U. S. Military Camp commission and inquiring what measures the War Office is taking to institute a complete sanitary organization for the army.

Dr. Edward Walford, M. O. H. for Cardiff, brought up the subject of controlling smallpox on ships and in ports. The Notification Acts, he said, were of no use, as in the absence of a surgeon the master would omit to notify, or, if he intended to do so, his vessel was boarded by all sorts of people before he could, and a delay of hours might occur before the patient could be seen. Then there was no power to detain contacts or to require them to be revaccinated. He thought much of the incidence of the disease in the country was due to losing sight of these contacts. He advocated the transfer of the administration of the Vaccination Acts to the sanitary authorities.

There was a discussion on tuberculosis and sanatoria, in which some diverse views were freely stated, and the "Popular address" was delivered by Sir W. Collins, M.D., who discoursed on "Man *vs.* the Microbe."

Sir A. Conan Doyle has given £1,000, the balance of profits on his work on the South-African War, to the Edinburgh University to found a bursary in the Faculty of Medicine open exclusively to students from South Africa.

A book on consumption will be issued within the next few days by Dr. A. Latham, who, as I told you, obtained the first King's Prize. Vmraes's "War against Consumption" has already reached a second edition. It is printed on better paper, and the type is also improved.

Rose and Carless's Surgery has reached its fifth edition. A fifth edition has also been reached by Starling's "Physiology." There are other indications of the kind that the publishing season has begun and promises to be active.

THE MOSQUITO THEORY OF YELLOW FEVER INFECTION IN BRAZIL.

To the Editor of the Medical Record:

Sir: Until the present time the sanitary authorities of Rio de Janeiro have not made the war on the mosquito one of their methods of combating yellow fever, and it is only recently that the leading physicians here have accepted the "Havana doctrine," and even now some of the most eminent ones, while accepting the mosquito as *an* agent, do not believe it to be the *only* agent in the spread of yellow fever, and they rigorously defend the idea that the disease is propagated by fomites.

In Brazil the lawyers argue their cases, and fight their legal battles through the daily papers, and the doctors employ the same means to announce their discoveries and teach their doctrines. In yesterday's *Journal of Commerce*, the oldest and largest daily in Rio, Dr. Nuno de Audrade, for many years National Director of Hygiene, and one of Rio's most celebrated physicians, has a long article with the title, "The Prophylaxis of Yellow Fever," and as his views may be of interest to the readers of the Medical Record, I will send you a translation of some extracts from it.

He opens with the following just remark: "The discovery of the transmissibility of yellow fever by *Culex fasciatus*, or *Stegomyia fasciata*, introduces a new element into the prophylaxis of this pestilential disease, and helps to the comprehension of long-known and without explanation facts, which until now were inexplicable." As one of these formerly unexplained facts, he relates a personal experience of his in 1883. Contrary to the then generally accepted opinion that yellow fever was brought into the city from the shipping in the harbor, he acted upon the hypothesis that the shipping was infected from the lands, and to protect the vessels ordered them to anchor not less than 300 meters from the shore, and forbade them to touch the docks. At the time there were no cases either in the city or among the ships, but in the latter half of December cases began to appear in the city, and in the following months the disease became epidemic, but not until April of 1884 did the first case appear in the shipping, and this one was evidently carried from the land. By continuing this course in the following years, the epidemics of yellow fever were completely extinguished in a harbor where, in former years, they were so terrible that ships without number had their crews decimated. He then adds: "To-day more is known than in 1883. The Havana doctrine, confirmed by the studies of Reed, Carroll, Agramonte, and others, and inspired by the persevering observations of Finlay, revealed the agency of the *Stegomyia fasciata* in the transmission of yellow fever; and, as the natural history of mosquitos teaches us that they are poor travelers, it can be stated positively that the immunity of these vessels, separated from the shore, was due to the distance, which the mosquitos could not traverse."

Continuing, he says: "Another fact of great significance speaks equally in support of the Havana doctrine, and, perhaps, with greater brilliancy than the former. For fifteen years I have witnessed the immunity of thousands of non-immune persons, who, during formidable epidemics, have descended daily to Rio from Petropolis, returning at 4 or 5 P.M. Among these I do not know of a single person taking the fever, when the night was not passed here, but, on the other hand, I know many who took it when they impudently staid here over night. Now the *Stegomyia* hides itself during the day and begins to fly at dusk. This circumstance explains the well-known immunity of those who ascend to Petropolis. So, too, there are many cases in which yellow-fever patients have been carried to Petropolis, but I do not know a single one who became a *focus* for the spread of the disease. The altitude of Petropolis is not a serious obstacle to the propagation of yellow fever; but the *mosquito-vector*, which sucks the blood of the sick and injects it into the well, *does not exist there*." (Italics his.)

Petropolis is a mountain city, 2,700 feet above sea-level, about thirty miles north of Rio, and has about 25,000 inhabitants. It is reached by an hour's trip across the bay, and an equal time by rail, the last half of which is up an inclined plane. It is the summer home of the President and many Rio families, and the permanent home of all the foreign legations, and whenever their members have observed the precaution of not passing a night in Rio, they have always escaped; but this week the Chilian fleet has just left Rio with the remains of four ministers and secretaries of that country, who, during the last few years, did not observe this well-known law, and died from yellow fever. I am at present living in Petropolis, and I can, from personal observation, confirm Dr. Nuno's statement in regard to the immunity of those who go and come from Rio daily. One remarkable fact in this connection is that one taking the fever in Rio and going to Petropolis, even if the disease does not develop for a day or so, nearly always dies.

But to return to Dr. Nuno's article. He describes the experiments made in Havana, both those to prove the agency of the mosquito in the propagation of the disease and those to prove the inocuousness of families. Of the first he says: "These experiments are decisive and prove that the *stegomyia* inoculates yellow fever." He does not, however, accept as final the conclusions of the Americans in the second class, saying, "They conclude that such objects do not transmit the disease, and *deny the least value to their disinfection*. This statement, however, is not conclusive because the experiments were not well made. What can be inferred is, that the clothing, bedding, etc., do not transmit the disease *directly* [by direct contact translater], but do not prove that they do not *transport the germ*. To complete the experiment, there was lacking an indispensable element to the reasoning of prophylaxis; the presence of *healthy mosquitos*. These could infect themselves by these objects, and then inoculate men with the disease. The *lacuna* invalidated the inference." He sees the difficulty of his position, and, in a foot-note, says, "The foreseen objection that the anatomy of the feeding apparatus of the mosquito indicates that it nourishes itself by suction of liquids, but it does not destroy the value of our hypotheses; because it does not refute the possibility of the mosquito nourishing itself on any substance sufficiently moistened."

He cites several historical cases, which prove to his satisfaction that in many cases yellow fever has been developed where it was impossible to have had direct contact, by the mosquitos, which might have been the carriers, with the patients, who were the source of the infection, and, owing to the great difference in time, or in distance between them, there must have been external *media* of clothing, bedding, etc., to account for them. He says: "I confess that the hypothesis of the non-existence of the germ of yellow fever in external *media* has seriously disturbed me; because scientific documents, and my own observations, have piled up a world of facts, which are wholly unexplainable if the deductions of the American prophylaxis are accepted in their entirety." He concludes this argument as follows: "The Havana doctrine, then, in the part which excludes the yellow-fever germ from the external *media* is only a postulate—an interrogation; and does not authorize the exclusive prophylaxis which the Americans recommend; neither has it the force to impose the neglect, in the meanwhile, of the present methods of defensive hygiene. What it does positively prove is the ability of the mosquito to inoculate yellow fever. This discovery is equivalent to an illumination; but in a question of this kind it is well to accustom the eyes gradually to the light, so they will not be dazzled "

He also does not accept the conclusions of the "Americanos" that the "war against the mosquito" was the only, or even the most important, element in the stamping out of yellow fever in the Cuban city, but believes that the means of general sanitation of the city were important factors. In proof of this he refers to the fact that these measures were responsible for the reduction of the average annual death rate of 29.30 per 1,000 for thirty years to 22.11 for 1901, and quotes Dr. Gorgas as follows: "The American army took charge of the sanitary department of Havana in 1898, when the number of deaths reached 21,252 a year, and delivered it up with 5,720 deaths in 1901." From this he reasons that the methods which made such results possible were important factors in the fight against yellow fever. He also cites the results in New Orleans and in interior cities in Brazil, where the disease was stamped out long before the mosquito theory came into vogue.

He then comes to the practical application of the lesson to the needs of Rio de Janeiro, saying: "Yet be this as it may [the theoretical part], the consideration of the mosquito to-day forms an integral part in the prophylaxis of yellow fever. The 'war on the mosquito,' which the Americans initiated with the ardor of the Crusaders, ought to be waged with courage and without intermission. The administrative problem, then, is drawn in lines of living colors. Admitting that *Stegomyia* is the carrier, and (for the present) the only carrier, the necessity of its destruction follows without argument; it is the logical consequence of the established doctrine. To secure this result, the labor ought not to terrify, nor the expense to be considered useless. For fifty-two years yellow fever has strangled our progress, and it is already time for us to remember that we have a right to live. If the taxes which the people pay are not to be used to insure their life, I do not know for what they ought to be used."

He recognizes that the difficulties to be met in Rio are much greater than they were in Havana, Rio being two or three times larger, and, further, that here there is lacking the *power* to enforce the efforts of the authorities, such as the United States Army employed in Havana.

He outlines his future policy as follows: "Use all the present methods, and to them add those which have to do with the extermination of *Stegomyia*." He says: "*Addicão e não substitução* addition and not substitution."

Yellow fever usually dies out in Rio the latter part of May, or the first of June. This year, however, it has continued all through the winter, there being in June more cases than in any month before, and even now, at the end of August, there are a good many cases. This leads one to believe that now, as the warmer weather is coming on, with the start it has, it will develop into a severe epidemic during the coming summer, and it is to be hoped that Dr. Nuno's plan may be heartily supported.

H. S. Allyn, M.D.

Rio de Janeiro, August 27, 190

Urea in the Treatment of Tuberculosis.—At the British Congress on Tuberculosis, Mr. A. H. Buck described seven cases of external tuberculosis which were much benefited after the administration of urea, 30 grains three times a day.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 2, 1902

Contagious Conjunctivitis.—Myles Standish holds that in trachoma emptying of the follicles, followed by thorough antisepsis of the evacuated crypts, is the best treatment. The best method of accomplishing this result is by vigorously rubbing the surface with bichloride of mercury—1 to 500—conveyed on a cotton ball wound on the end of a stick. The results are surprisingly good, as in twenty-four hours the patient can open the eyes perceptibly wider, and the follicular stage, which formerly occupied from three to five months, has entirely disappeared. In gonorrhœal ophthalmia, he has found that protargol gives better results than silver nitrate. If the cornea have an infiltrated ulcer, however, protargol does not appear to have any extraordinary specific control of the corneal process. Many surgeons believe that these cases do better than they otherwise would, if the keratotomy of Siemisch is immediately done when the ulcers show any tendency to spread. In cases of diphtheritic conjunctivitis, treatment by antitoxin has given excellent results, the cornea not being involved after its administration.

A Case of Transplantation of the Biceps Femoris Tendon.—Charles F. Painter performed the following operation on a woman of twenty-eight years, who had been crippled to a considerable degree as the result of an infantile paralysis: The right astragalus was removed, and the cartilage covering the top of the scaphoid and the anterior extremity of the os calcis denuded, also that covering the external malleolus, and the tibia was moved as far forward as possible on this denuded area. Union took place by first intention, and two weeks later the biceps tendon was cut off at its attachment, and the muscle dissected free to such a height as would make it pull as an extensor when inserted into the quadriceps tendon, at the upper border of the patella. A slit was made through the expansion of the quadriceps tendon, close to the patella, and the biceps tendon was passed through this and fastened by two mattress silk sutures. The result is eminently satisfactory. The patient walks with the foot in a normal position, and the biceps is able to extend the leg to within 10° of complete extension, and to hold it there with the toes pointing upward; and is herself well pleased with the improvement.

Journal of the American Medical Association, October 4, 1902

The Classification of Chronic Nephritis.—J. B. Herrick offers the following scheme of classification, based essentially on that of Senator: (1) Chronic parenchymatous nephritis. (Chronic diffuse nephritis without induration.) (2) Chronic interstitial nephritis. (Chronic diffuse nephritis with induration.) *a*. Primary chronic insterstitial nephritis; *b*. Secondary chronic interstitial nephritis; *c* Arteriosclerotic kidney. (Arteriosclerotic interstitial nephritis.) (3) Mixed type, *i. e.* a combination of 1 and 2. The term "parenchymatous" can be used instead of "diffuse without induration" because, while not literally expressive of the true condition, which is more or less diffuse, it recognizes what is true—namely, that in this form the parenchymatous changes predominate; they are quantitatively greater than the second variety, in which the process, while diffuse, produces chiefly interstitial or stroma changes, with resulting induration.

Etiology of Chronic Nephritis.—A. R. Elliott starts with the premise that all nephritis is toxic in origin, and produced by the action on the kidneys of chemical or microbial toxins. Noxious substances are developed by altered tissue metabolism in the system, or are introduced from without. By their elimination through the kidneys they eventually produce organic changes in those organs. Hence, as causative factors in the production of the disease, we may have gout, chlorosis, diabetes, syphilis, the various cachexiæ, overwork, etc., and diseases involving certain excretory organs, such as chronic skin diseases, hepatic and intestinal affections. While it is comparatively easy to interpret the etiology of chronic nephritis secondary to some disease process which stands in direct relationship to it, there remains the large class of primary chronic nephritis, which does not offer the advantage of so easy an explanation, having no definite association with antecedent morbid perversions. This class of nephritis, comprising chiefly primary interstitial nephritis or granular atrophy of the kidney, is of extremely insidious development, and must depend upon the operation of some cause of very gradual and persistent character. Certain alterations in the vascular system, which are an almost constant feature of the syndrome of this disease, are no doubt, in the main, contemporary with the renal change, and produced by the action of the same irritant as causes the latter. In the opinion of the author, autotoxæmia of digestive origin is the great cause of primary contracting kidney.

Medical News, October 4, 1902.

Wandering Kidney, and the Results of Operation.—Clarence A. McWilliams gives the following resumé of the Presbyterian Hospital statistics of movable kidney. There were in all sixty-one cases; two occurred in men, fifty-nine, or 96.7 per cent., in women; thirty-eight, or 64.4 per cent., were married women; twenty-one, or 35.6 per cent., were single women. Of the married women, twenty-two, or 37.2 per cent. of the whole fifty-nine, had borne children. The average number of children to each was two. The right kidney was movable in fifty-three cases, or 86.8 per cent. The left kidney was movable in four cases, or 6.6 per cent. Both kidneys were movable in four cases, or 6.6 per cent. The average age was thirty-three and one-third years; the youngest was seventeen, the oldest, sixty-five years. Trauma was antecedent in only seven cases, or 11.4 per cent. As to complications, there was femoral hernia in two, gastro-intestinal indigestion in twenty-five, marked constipation in twenty eight, diarrhœa in three, jaundice in 1, chronic appendicitis in nine, urinary symptoms in eighteen, renal colic in seven, renal calculus in one, pyelitis in one, chronic nephritis in two, neurasthenia in eleven, general enteroptosis in three, uterine abnormalities in five. The results of operation were as follows: Forty-two cases followed after operation showed twenty-two, or 52.3 per cent. cured of subjective symptoms; fifteen, or 35.7 per cent., benefitted; five, or 10.9 per cent., no benefit. There were nineteen cases, or 31.1 per cent., of the whole number, uncomplicated. Of these twelve, or 63.1 per cent., were cured. There were twenty-three cases, or 34.4 per cent., which were complicated. Of these, ten, or 43.4 per cent., were cured. Recurrence occurred in six cases out of thirty-six examined or 16.6 per cent. The mortality of operation was 3.2 per cent., or two cases in sixty-one operations.

The Nervous Manifestations of Movable Kidney.—A. L. Benedict gives the results of the examination of 169 females: Of these, sixty-five presented movable kidneys, and two others depressed and palpable, but fixed right kidney. A number of others had right kidneys that could be oscillated a trifle, but scarcely enough to be considered movable, even in the first degree, or to produce symptoms. Thirty-five were nulliparæ, and thirty-two were multiparæ. Of the sixty-five cases, twenty-five had movability of the first degree only, but six of the twenty-five were affected on both sides. None of these presented nervous symptoms of any great severity, though often troublesome enough to the patient and her family. The remaining thirty-eight cases, excluding the two in which the kidney had become spontaneously fixed, or had been congenitally displaced, included one of insanity, one of suicide, two of contemplated suicide, at least two in which the family relations were seriously threatened by the nervous trouble, two of gastric ulcer, with its typic nervous state; one of hyperkinesis gastrica, one of general failure of secretory function, and other indications which led to the tentative diagnosis of Addison's disease; six not already counted, in which the diagnosis of nervous prostration, or some equivalent term, had been assigned, and without other adequate explanation. Of 200 males examined, seventeen had first degree right kidneys. Excepting a few of the men and a few women of the working class, all of the eighty-two cases emphasized their nervous condition. The writer adds that it is perhaps significant that so large a percentage as 8½ in men and 38.4 in women, should be met with in digestive practice. Taking the whole series of eighty-four, including the two of fixed kidney, the right kidney alone was involved in sixty-five, the left alone in four, and both in fifteen.

The Modern Treatment of the More Common Traumatic Injuries of the Eye.—Charles J. Kipp states that in all cases of suspected injury to the eyeball it is advisable to secure cleanliness of the skin of lids and the surrounding parts before proceeding to examine the eye. The free edges of the lids should be rubbed with bunches of absorbent cotton or sterile gauze, wet with a solution of 1 per cent. of carbonate of sodium, till all loose epidermis is removed, and this should be followed by a solution of bichloride of mercury, 1 in 1,000, applied in the same way. If the lashes are long, it is best to cut them short with scissors. If the skin of the lids is grimy, it should be cleansed with sulphuric ether, then with carbonate of sodium solution, and last, with alcohol. In all cases of injury to the cornea a very careful search should be made for disease of the lacrimal sac, as the secretion contained in the sac contains the pneumococcus in great quantity, which can cause extensive infection. In such cases care should be taken to cure, or, at least, to arrest at once the lacrimal disease. Local anæstetics are used very freely to enable a thorough examination of the eye and its appendages, and also for the relief of pain. In cases of blows on the eye from blunt instruments, cold applications to the lids will be useful in most cases and abstraction of blood from the temple will assist in subduing the inflammation. Cold applications are useful also in subconjunctival hemorrhage. Wounds of the ocular conjunctiva usually heal quickly, and require only that the secretion be frequently removed from the conjunctival sac. Sometimes a stitch or two will expedite matters. All wounds of the cornea, even though slight, if produced by unclean implements, require special attention. To remove foreign bodies, the lid is generally everted. If the foreign body is not found, search should be made for it in the cul-de-sac. A simple method is to pull the upper lid down by grasping the lashes, at the same time pushing the lower lid up, and then letting the upper lid go. The lashes of the lower lid will sweep it down. Foreign bodies *on* the cornea are easily wiped away by a cotton-tipped probe, wet with sterile water. If *in* the substance of the cornea, the body must be dug out with a sharp spud, or with a cataract needle. Perforating wounds of the cornea must always be regarded as dangerous. All large perforating wounds of the cornea and sclerotic, and especially those involving the ciliary body, are of an extremely grave nature, and their treatment should be left to the men experienced in such injuries. Rest in bed and cold applications are recommended until a specialist can be summoned. Burns of the conjunctiva and cornea are often very serious. The injuries caused by contact with strong acids, caustic alkalies, and escharotics, is very variable. Traumatic injuries to the eye are often the cause of litigation for damages, and it is of great importance that the physician should make a thorough examination of the injured eye, and also ascertain the exact condition of the uninjured eye.

New York Medical Journal, October 4, 1902.

A Case of Cheloid.—H. Taylor relates the case of a young man of twenty-one years, whose skin over the lower ribs, epigastrium, and hypogastrium was blistered by the application of a very hot poultice. Healing was followed in five or six weeks by the development of two lumps, which coalesced into a quite large mass, tender and painful. This was removed by operation, but recurred in three months, in the form of a double, hard, spindle-shaped mass, joined by a cross band, and was apparently inclined to invade adjoining tissue. There was none of the burning usually noted as a symptom. The author quotes the views of Virchow and Alibert as to the etiology of the lesion and mentions the points of differential diagnosis between it and merely hypertrophied scar. Nothing new is mentioned as regards treatment.

Beatson's Treatment of Inoperable Cases of Mammary Cancer.—J. G. Drennan believes that quiescence of ovulation has the effect of causing a greater supply of blood to the mammæ, thereby increasing lactation, if it is in progress, and that the removal of the ovaries causes a still greater vascular supply (spaying of cows); and that, in the case of lactation being altogether absent, there results from their removal a passive hyperæmia and a fibrosis of the glandular tissue, tending to obliterate the secreting tissue and to hem in the cancerous area, causing the germs to be killed by their own toxins. This fibrosis is, in all points, similar to that which occurs in any diseased glandular structure, liver, kidney, ovary, testis, etc. The fact of scirrhous cancer being the most frequent in this locality points to a fibrosis, the other forms occurring in the structures not so prone to fibroid changes. This curing of cancer or other germ diseases (and may not all disease be the result of them?) by hemming in the infected area may be produced in other ways, as by the administration, in large doses, of iron perchloride in erysipelas, thus causing a coagulated area around the diseased area, fatty degeneration changes not being a needful factor. After the germs have been destroyed by their own toxins the diseased tissue may be replaced by the action of healthy leucocytes and healing may take place.

A Method of Circumcision.—The method described by W. C. Klotz consists in the removal of a cuff shaped flap of skin, leaving intact the areolar tissue with its blood and lymph vessels. The patient having been prepared in the usual way, and the parts anæsthetized by infiltration with cocaine solution, the prepuce is retracted toward the root of the penis, and held moderately tense. A circular incision is made around the penis, from two to three inches behind the coronal sulcus, according to the amount of skin it is desirable to remove. This incision should divide only the skin as far as the areolar tissue. A second incision is made around the penis, about half an inch behind the coronal sulcus. This should be like the first, but in a plane placed more obliquely, so as to be parallel with the line of insertion of the glans. The two circular incisions are then joined by a longitudinal one along the dorsum of the penis, and, beginning along the edges of the latter, the cuff-shaped flap of skin outlined by the three incisions should now be dissected off all around the penis, either with a full-bellied knife, or with blunt-curved scissors. As a rule, there will be little bleeding. If the tissues are swollen from the infiltrated cocaine solution, strips of gauze, wrung out in hot salt solution, may be wrapped around the penis, and held with gentle pressure for a few minutes. The two edges are then brought together and united by interrupted horsehair sutures. Primary union takes place promptly, and the sutures may be removed about the fifth day. There is, as a rule, no swelling or œdema, and at the end of a week the skin is freely removable over the subjacent parts.

American Medicine, October 4, 1902.

The Pathological Relations of the White Blood-Corpuscles; a Case ot Hodgkin's Disease of Tuberculous Origin; a Case of Lymphatic Leukæmia. O. T. Osborne reports a case in which tuberculosis was undoubtedly at the bottom of the general appearance and manifestations of Hodgkin's disease. There was a decrease of nearly 1,200 leucocytes in seventeen months; the first count being 11,500. The second and more important case was one of lymphatic leukæmia. From a very careful study of this case, the writer concludes that (1) The lymphocytes are probably not the origin of the polynuclear leucocytes, else with so many lymphocytes—for at one count the white corpuscles numbered 380,000, and were practically entirely lymphocytes—we ought to have an increase of the more mature cells. (2) Normally, without medication to cause it, in lymphatic leukæmia, as has been observed by others as well as ourselves, the uric acid and phosphorus output is not increased, hence these cells do not break down more rapidly than in normal individuals with only 8,000 or more leucocytes. This means that a normal person with from 5,000 to 8,000 leucocytes has no more nuclear breakdown than these patients with nearly 400,000 leucocytes. (3) Arsenic, alkalies, and nusleic acid reduced the size of the glands and spleen in this case; but caused destruction of red corpuscles. (4) Nucleic acid alone seemed to reduce positively the number of the white cells. (5) The red cells and the general condition always and consistently improve under Armour's red bone-marrow. Hence it is justifiable to assume that in this case, if not in all cases of lymphatic leukæmia, the bone-marrow*is diseased. (6) The malarial infection reduced the number of the white cells and the size of the glands more than any treatment instituted.

An Analysis of Fifty-five Cases of Diphtheria.—Henry G. Godfrey considers in this report a series of fifty-five cases. The average age of the patients was 10.5 years. The sites of the lesions were the tonsil, the pharynx, the nasal mucosa, and the conjunctiva. There was no mortality. Prodromal symptoms were seen in twenty cases for a period of twenty-four hours or less preceding the development of definite lesions in the throat. Malaise, headache, pain on deglutition, and sore throat were usually complained of. An intense blanching of the face was highly characteristic. The temperature which had been elevated 1° or 2° during the prodromal period, took a sharp rise at the formation of the membrane, the acme being attained in twelve to twenty-four hours. There was no relation between the temperature and the severity of the infection. The pulse was accelerated out of proportion to the temperature in the prodromal stage, and increased coincident with the membrane formation. The membrane appeared first on one or both tonsils in thirty-five cases; as an exudate within the follicles of the tonsil in eight, in discrete patches on the wall of the pharynx in six; deeply hidden in a sulcus of the tonsil in four, and upon the nasal mucosa in two. Its extension was very rapid during the first twelve hours, after which intense œdema of the subjacent structures developed. Lymphadenitis was seen in twenty cases. It occurred early, and was usually unilateral. Vomiting was seen in twenty two cases—in ten at the onset. Concentrated diphtheria antitoxic serum was used in all cases in initial doses of 2,000 units or more. The injection was made in the subcutaneous tissues of the thigh. The average total dosage was 4,500 units. In one it was 20,000. Degenerations of the heart-muscle occur early in this disease. Antitoxin is not depressant to the heart. The persistence in the throat of the diphtheria bacilli is noteworthy—in one case for thirty-seven days. The average period was thirteen days. The complications in this series of cases were: Nasal hemorrhage, albuminuria (in two cases associated with casts). There were no palsies. Such untoward effects of the antitoxin as occurred appeared between the eighth and eleventh days, and were of short duration. The results in these cases seem to suggest that the larger doses of antitoxin consume the blood to a greater degree. The results of treatment by the serum alone have been unprecedented in the absence of mortality and in the infrequency and trifling nature of the complications.

Philadelphia Medical Journal, October 4, 1902.

A Modification of the Barker Method for the Treatment of Fractures of the Patella, with Illustrations.—H. T. Williams describes his method as follows: A double ligature is used, and in introducing the needle it can be directed either from above downward under the patella, if it is desired that the knot be tied below, or from below upward, if the knot is to be tied above. In introducing the ligature it is threaded double into the eye of the needle, after the needle has appeared at the opposite incision from which it is introduced. The two ends of the ligature are then held outside of the skin and the needle is withdrawn enough to bring it with the loop just beyond the opposite side of the fragments of the patella. Then, without withdrawing it from the wound, it is passed above the fragments and brought out through the incision at its first point of exit. The loop is then unthreaded from the eye of the needle and the needle withdrawn. In this manner the ligature is doubled around the fragments, and by not completely withdrawing the needle before it is passed above the patella it prevents the skin or subcutaneous tissue from being caught in the ligature as is apt to be the case in the Barker method. After the needle is withdrawn one end of the ligature is passed through the loop and, after pulling both ends tightly, they are tied firmly, thus making what is known as the Staffordshire knot. A little manipulation over the seat of fracture as the ligature is being drawn tight helps materially to arrange the fragments in their proper position. The ends of the ligature are cut off and the small incisions above and below the patella are closed with one or two catgut sutures, and the parts dressed antiseptically and the limb put in anterior and posterior splints. The advantages of this method are: The double ligature. The prevention of integument or subcutaneous tissue being caught between ligature and fragments; and by using the Staffordshire knot, the ligature can be more tightly drawn and the fragments held more closely together. The writer has applied this method in two cases with satisfactory results.

The Lancet, September 27, 1902.

Foreign Bodies in the Cornea.—W. Williams notes that when a minute foreign body, such as a little brown or black speck, is situated, as is generally the case, toward the middle of the outer aspect, the enlarged pupil, which follows the instillation of cocaine, makes it very difficult, and often impossible, to see the offending particle. To obviate this and to secure a clear view of the object to be removed, he finds it useful to instil a drop of eserine sulphate (1 per cent. solution), or preferably from 1 to 2 per cent. solution of pilocarpine hydrochloride, so as to neutralize the mydriatic effect of the cocaine. In this way one secures the anæsthetic effect of the cocaine without its drawbacks, for the eserine spreading the iris as a curtain behind the dark speck renders it visible and its removal comparatively easy, and that irrespectively of the direction in which the patient is looking.

Pythogenic Pneumonia. A. H. Copeman relates the history of a family, the members of which began to manifest, following the occupancy of new living quarters, bilious and feverish attacks. Then the eldest son was attacked with pneumonia. On the third day of his illness two other children came down with it, then the mother, and finally the father. The latter died on the sixth day of his attack, but all the others recovered. The chief features of the epidemic were (1) the very sudden onset; (2) the high temperature, and (3) the extraordinary manner in which the patients appeared to be prostrated from the very onset of the attacks. The sequence of events naturally directed attention to the sanitary condition of the premises. The official inspector reported that he applied the smoke test to the drains with the following result: In applying the test to the gulley in the covered yard, a direct communication was found to exist between the drain and the interior of the premises, the smoke finding its way from under the floors into the cupboard around the staircase. He also found an untrapped opening in covered yard (leading direct to drain) and a bell trap in the front area.

A Note on Syphilis in Relation to Life Assurance, with an Examination of 500 Consecutive Claims.—In the experience of F. P. Weber, as suggested by the title, syphilis played a part in the death of eighteen out of 500 persons, as follows: General paralysis, 8; tabes dorsalis, 4; brain disease, 3; cardiac and aortic disease, 3. At the examinations for insurance a history of syphilis was obtainable in only three out of the total of 500. Other interesting statistics from this series of risks are these: Most of the 500 were males, only forty-five being females. The males, aged sixty-five years or over, numbered 210 and the females twenty-one. The males who died before the age of sixty-five years numbered 236, and the females twenty-four. As stated above, in only three out of all the cases was a history of syphilis given, and in none of these cases did the syphilis seem to have anything to do with the death. All the three persons were males. One died at the age of fifty-six years from vesical calculus, ulceration, and hemorrhage; another died at the age of thirty-one years from tetanus, consequent on a fracture, and the third died at fifty-three years of age from shock connected with an operation for appendicitis. The last was a big stout man of the kind who bear operations badly; at the age of thirty-five years, when his life was accepted, he was six feet two inches high and weighed 252 pounds.

On Two Cases of Paralysis Complicating Gonorrhœa.—The cases occurred in the practice of T. R. Glynn. Case I was that of a man aged forty-eight years, who had gonorrhœa twenty years before, and again one month before coming under observation. Ten days before the latter, a feebleness was manifested in the feet and knees. This increased so that in three days he could scarcely walk. The later history of this case showed that the patient suffered from an ascending paralysis, and also from peripheral neuritis. The urethral discharge ceased at the onset of the paralysis, but reappeared on the cessation of the latter. The patient finally recovered after an illness of four months. Case II was that of a boy of seventeen years, who had suffered from gonorrhœa for two months. One month after the onset of the discharge he had pain in both knees and one elbow, without swelling. In a day or two his legs became weak, and symptoms developed pointing to a neuritis, involving the motor fibers of the peripheral nerves of the lower extremities, and causing muscular weakness and pseudo-tabes. He had also some of the stigmata of hysteria, such as general analgesia, some restriction of the usual field, tremors of the eyelids and hands, and some impairment of taste. A perfect recovery ensued. In this case also the discharge was absent during the active period of the nervous symptoms. The author adds that the probability of the correctness of the diagnosis rests upon the following facts: Peripheral neuritis is invariably due to some intoxication, often to bacterial infection. Many cases of peripheral neuritis have been set down to gonorrhœal infection, and experiment has indicated that the toxin of the gonococcus is capable of exerting a morbid influence on the nervous tissues—central and peripheral. In his patients there was evidence of gonorrhœal infection in the joint trouble, and no other source of intoxication could be discovered. He recognizes this to be a weak point in the argument, because in some few cases of multiple neuritis, poliomyelitis, and Landry's paralysis, no origin of intoxication can be recognized.

The British Medical Journal, September 27, 1902.

Cheloid in Vaccination Scars.—Henry Wiggins reports two cases, one a girl of eight years, the other a girl of fourteen years, whom he vaccinated in three places. The vaccination took well and followed the usual course. A few weeks later cheloid developed in each cicatrix. The lymph was the same that the writer had used for years. These were both primary vaccinations. The rest of the large number of cases that the writer vaccinated to the best of his recollection, were revaccinations. All of these gave most satisfactory results.

Rheumatic Myocarditis.—Theodore Fisher reports this interesting case. The patient was a girl, aged fifteen years. The right knee was swollen and painful, and there was some swelling of the metacarpophalangeal joints of both hands. A systolic murmur was present at the apex. "Harsh sounds" were heard at the base of the heart, which were possibly pericardial in origin. Still later rheumatic nodules appeared abundantly on the forearms and legs, and about the same time the pulse became rapid and remained about 136 to the minute. Then came a period of improvement but a vomiting attack occurred. This persisted, and, after three days, death took place. Examination of the heart showed fatty degeneration. The muscular pillars showed tabby-cat striation, and sections of the cardiac wall everywhere showed a patchy appearance, due to pale and opaque mottling. The mitral valve was slightly thickened, but the orifice was of normal size. The segments were fringed with small vegetations. Stained sections showed extensive degeneration. Not a fiber could be found that did not show granules and small globules of fat throughout its whole length. Cultures showed a rather small coccus, sometimes a diplococcus, but generally in short chains in broth, but like a staphylococcus on [illegible]

A Note on the Condition of the Central Nervous System in a Case of African Lethargy. W. B. Warrington reports the case of a Mandingo girl about seventeen years old. She had shown abnormal symptoms for about two months. The temperature was abnormal, the pulse about 70. She lay apparently asleep, and was roused with difficulty. She would then grunt or slowly answer questions which had to be repeated. Now and then she would indulge in long drawn out yawns. The skin was dry, scaly, and shrivelled. It evidently itched a great deal for, when roused, she continually scratched herself. Nothing abnormal was detected in the lungs, heart, spleen, or kidneys. The sternomastoid, axillary, and supraclavicular glands were felt but could not be seen. Systematic examination of the nervous system did not reveal anything abnormal. General sensation and the special senses were normal. The knee-jerks were present and equal, and the optic discs normal. Examination of the blood showed no filaria or malarial organisms. The patient seemed to improve under arsenic, and left the hospital for a time but returned in worse condition. The knee-jerks were now exaggerated, and there was a slight double ankle clonus, the pupils reacted normally and the optic discs were natural. After death the brain and spinal cord were saved, but not the peripheral nerves. The dura mater was normal, but the pia was considered to be thickened and slightly opaque, especially over the convexity of the brain and base of the pons. Stained sections showed it to be infiltrated with round cells. Parts of the cortex, the motor area, the frontal region, the basal ganglia, the pons, medulla, and cord, and the posterior ganglia were examined and all showed the same change—namely, the distension of the perivascular lymphatics with lymphocytes. The condition was evidently one of subacute leptomeningitis. In the cord a fair number of cells were found in the ventral cornua, which showed chromatolysis in various stages. No degenerated myelin was found in the brain; but in the cord, black granules were seen. According to Campbell, there seemed to be a slight general falling out of the nerve fibers, best seen in the radiary zone, where the inter-radiary plexus was deficient in density, the radiations of Meynert being unduly slender and the large oblique and transverse fibers lacking in number. In the radiary zone there was a curious patchy appearance, probably a manifestation of degeneration. No cocci were found resembling those described by the Portuguese observers.

Deutsche medicinische Wochenschrift, September 11, 1902.

Neurasthenic Neuralgia.—E. Jendrassik considers under this appellation a form of neuralgia which occurs in neurasthenic individuals and presents certain differences from the ordinary form of this disease. The pains are constant and not intermittent, as is the case in ordinary neuralgia. They are not strictly limited to a given location, but extend to regions which are in greater or less proximity to the involved site. Paræsthesias are generally present. The objective symptoms of ordinary neuralgia are not observed. Thus in neurasthenic facial neuralgias there is no local tenderness or redness or watering of the eyes. Motion of the affected parts gives relief, and the same frequently is brought about by pressure. At night the pains are usually less than during the day. The cause of the trouble is invariably ascribed by the patients to some local lesion. Thus in facial neuralgias the teeth are often regarded as the seat of the trouble. In all cases careful questioning shows that the patients are of the neurasthenic type, although this may not be at first apparent. The treatment presents the greatest difficulties. Operative measures are entirely contraindicated, as permanent relief is never obtained thereby. Internal medication is frequently unsatisfactory, although the various narcotics and anodynes give temporary relief. The best results are to be obtained by hygienic and general measures which are directed toward the rectification of the neurasthenic disposition. Nine cases of neurasthenic neuralgia of the fifth facial muscle are reported in detail.

Berliner Klinische Wochenschrift, September 15, 1902.

Intraglobular Methæmoglobinæmia.—S. Talma reports three cases. So far as the author knows, this condition has not hitherto been described. It consists in an intraglobular change of oxyhæmoglobin to methæmoglobin. The latter remains within the red blood cells and does not pass into the plasma. In all of the cases there was a cyanotic appearance and a dark pigmentation of the skin. When the blood was drawn it was dark in color and thick in consistency. Spectroscopic examination revealed the presence of the methæmoglobin in the red cells, but not in the serum. The subjective symptoms were principally headache, dizziness, and a general indisposition. The duration was from four months to over one year. All ended in recovery. The cause was attributed to intestinal autointoxication, since in all cases there was marked intestinal fermentation, and large quantities of indol and skatol in the urine

Munchener medicinische Wochenschrift, September 16, 1902.

Varicose Aneurysm of a Branch of the Saphena Magna which was Diagnosed as a Femoral Hernia.—Florian Hahn's patient was a woman thirty-nine years of age and had passed through a normal labor eight days previous to coming under observation. Upon standing a tumor appeared in the location of the external femoral ring which was painful, tender upon pressure and non-reducible. A diagnosis of femoral hernia was made, and as the pains increased and the tumor became dark in appearance an operation was at once underatken. Upon cutting down the true condition of things was ascertained. The varicose branch of the vein with its aneurysm was extirpated and recovery speedily followed.

Glycosuria and Tabes.—Ernst Meyer thinks that in certain instances in which diabetes and tabes are simultaneously present in the same patient the former is due to a tabic lesion located on the floor of the fourth ventricle, and is in reality analogous to the experimental glycosuria which is produced by a puncture in that region. To support this view a case is reported which gave the classical symptoms of both diabetes and tabes. A strict diabetic diet was without effect upon the glycosuria; neither did the abundant administration of glucose or other carbohydrates increase the amount of sugar in the urine. This latter fact shows that there was no inability on the part of the body to dispose of carbohydrates, but that the glycosuria was due to a lesion which could not be influenced by diatetic regulations. In the present knowledge it can only be supposed that such a lesion could be located in the nervous system, and in the presence of tabic alterations it is the most rational to ascribe it to such.

Treatment of Syphilis.—E. v. During believes in a combination of the symptomatic and specific treatment of syphilis. There is, of course, no doubt that mercury is a specific for this disease, but the indiscriminate and injudicious use of this drug produces in many cases a reduction of the general vitality of the patient and in all cases only gives the best results when used in moderate dosage and in combination with symptomatic and hygienic measures. The treatment of syphilis should never be commenced until the cutaneous lesions are manifest, both from the standpoint of correct diagnosis, and because of the moral effect upon the patient, whom it is necessary to impress with the seriousness of his condition in order that a sufficient continuance of the treatment may be obtained. The subcutaneous injection of mercury is to be preferred as a method of administration, as by such patients are kept under much better control than when the drug is given by inunction or by the stomach. For this purpose the salicylate is the best preparation. The injections should be given twice weekly, the dose being from .08 gm to 1 gm. This should be continued until all symptoms have disappeared. Indeed one or two injections should be given after this has occurred. As a rule from ten to fifteen injections suffice for this purpose. Turkish baths are of greatuse and should be takeneither the day before or immediately after the injections. Lesions of the mucus membranes should be treated locally with a 2 to 20 per cent. solution of chromic acid and the effects of the acid upon the tissues neutralized by washing with a saturated solution of the bicarbonate of soda. During the second month after the injections the patient begins to take the iodide of potash in daily doses of from .5 to 1 gm. This is continued for about a month. If there are then no symptoms present all specific treatment is discontinued. The patient is examined bi-weekly for another month and if symptoms develop the iodide is again ordered in the above dose. If no symptoms are present at the end of this time the iodide is given in about one-half the above dose for from one to two weeks. After this the patient is examined at from one to two monthly intervals and if necessary the iodide is given. The intervals of administration are thus gradually lengthened until during the second and third years only one or two treatments are given.

French and Italian Journals.

Subconjunctival Injections of Sodium Chloride in the Treatment of Retinal Hemorrhages.—Giacomo Rombolotti reports a case in which retinal hemorrhages were threatening vision For twelve days he injected a 2-per-cent. solution of sodium chloride in distilled water, and obtained great improvement in vision in the right eye. The left was more rebellious to treatment, but persistence in the injections produced an acuteness of vision of two-thirds. The ophthalmoscope showed that there were still some hemorrhages present, but the transparence of the retina was about normal.—*Gazette Medica Lombarda*, September 14, 1902.

Double Post-Grippal Ptosis.—Jacqueau describes a man, aged fifty-three years, having negative, personal, and family history. Two months ago he probably had the grip, for he suffered from anorexia, headache, and back ache. His indisposition lasted three weeks. He appeared to completely regain his health, when, four or five days afterward, he developed ptosis of the left eye, and on the next day, ptosis of the right. He presented a typical double ptosis. No disturbance of the musculature, either external or internal, could be found, nor any trouble with the fundus of the eye. Syphilis did not appear to be the cause of it. There was no trace of this contagion in the children of the patient. They had been born at term and were healthy. He presented no symptom of tabes. Jacqueau concludes that this is a case of post-grippal infectious paralysis.—*Lyon Médical*, September, 1902.

A Case of Traumatic Tetanus Cured by the Baccelli Method.—Giacomo Domenichini reports a case, which he intended to treat with Tizzoni's antitoxin, but was unable to procure any of it. He, therefore, resorted to the Baccelli method of phenic acid injections. These he gave every three hours, beginning with 1 c.c. and increasing to 2, and then to 3. On the first day he injected 16 c.g., in eight injections, each of 1 c.c. of a 2-per-cent. solution. The second day 24 c.g. were given in eight injections of 1½ c.c. each. From the third to the tenth day 32 c.g. were given daily in eight injections; from the eleventh to the sixteenth, a 3-per-cent. solution was used, and 40 c.g. were injected daily in eight injections of 2 c.c. each. Ninety-six c.g. were given finally from the nineteenth to the twenty-second day. From the second day of the treatment improvement was marked, and a complete recovery followed.—*Gazzetta Medica Lombarda*, September 21, 1902.

Syphilitic Arteritis of the Extremities.—Durandard states that, like all infectious diseases, syphilis can produce generalized lesions. The predominance of arterial lesions of syphilis is well known. Arteritis appears far more frequently in the tertiary period of the disease. Microscopically, there are two types of the lesion: obliterating and aneurysmal. The tendency to-day is to believe that the process starts in the external tunic. The arteries most frequently affected are those of the brain. Compared with these, the other arteries are far less frequently affected. Compared with other forms of arteritis of the extremities, syphilitic arteritis is relatively benign. When the lesions are not past hope, treatment is efficacious, especially when it is instituted in time. The best treatment is the administration of mercury with or without iodide of potassium. The hypnotics are useful in combating the painful symptoms. In the gangrenous types, when the process can not be influenced by treatment, amputation offers the only chance for the patient.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, September 25, 1902.

The False Anæmias.—Marcel Labbé declares that there is not a diagnosis that is made with more facility—even with thoughtlessness—than that of anæmia. When a patient presents himself with the functional and physical symptoms which are ordinarily attributed to anæmia, when he complains of lassitude, of palpitations, of vague digestive troubles, etc., if he be ever so slightly pale, the physician voluntarily labels his case "anæmia." If the patient is a young girl, if there are certain menstrual troubles, certain signs of neuropathy, it is named "chlorosis." This diagnosis ordinarily satisfies the patient, the parents of the patient, and the physician: the patient, because the word anæmia or chlorosis appears intelligible to her, and does not entail the fear of a dangerous affection; the parents, because this diagnosis confirms the opinion they had already formed, having judged from the pallor of the patient: the physician, because this diagnosis has not required of him long clinical researches, nor difficult intellectual efforts, and because he is going to order a treatment which is only too well known, and which will be gladly accepted by the patient. It is precisely this ease of diagnosis which is dangerous. Patients are often treated for anæmia who have only the one sign of pallor, of that disease. These patients may suffer from aortic insufficiency, from Bright's disease, from disease of the lymphatics, or of the thyroid. There is only one way of characterizing anæmia, of affirming its existence and determining its degree—that is, by examination of the blood. It is only after having made this examination, having counted the number of corpuscles, and having estimated the hæmoglobin, that one is justified in making the diagnosis of anæmia and instituting the treatment.—*Journal des Praticiens*, September 20, 1902.

Hydatid Cyst of the Lung Opening into the Bronchi.—Jacques Carles reports this interesting case. The patient was a woman of forty-six years, a resident of Bordeaux. She entered the hospital on account of intense dyspnœa and an incessant cough. She expectorated a clear liquid, a little reddish in color. This condition had suddenly developed after thoracentesis practised that morning. The personal history was negative. She had always lived in Bordeaux. Since childhood she had always had a cough. But there did not seem to be any pulmonary or bronchial lesion. The present affection had begun to trouble her some months before. It was thought at first by her physician to be pleurisy. An exploratory puncture was finally made, and a clear yellow liquid withdrawn. At the same time she expectorated a large quantity of fetid yellow pus, and suffered from an attack of suffocation. A second puncture was followed by the same results. She was then taken to the hospital. The expectoration changed to a red fluid, like wine. There was great dyspnœa. Auscultation revealed a large cavity in the median part of the left lung. Examination of the pus showed an enormous number of microorganisms of every kind, and some hooklets of the echinococcus. No hydatid membrane was expectorated, and the diagnosis was clinched by the presence of the hooklets. The patient was given frequent inhalations of aromatic substances, and pulmonary extract was administered. In case that the treatment should prove ineffectual, operation was advised.—*Journal de Médecine de Bordeaux*, September 14, 1902.

The Journal of Tropical Medicine, September 1, 1902.

Marking of the Tongue an Early Symptom of Ankylostomiasis.—A. B. Duprey holds that the peculiar marking of the tongue, described by one author as peculiar to ankylostomiasis, is in reality due to a staining of the mucous membrane from the chewing of a plant called phan. The condition recognized as ankylostomiasis is common in the West Indies, and is due to the inveterate habit of eating dirt or other filth, but the tongues do not present the condition described. The author mentions a very early sign of the disease, which may be detected before any palpable symptom of anæmia develops; namely, commencing atrophy of the skin consequent upon a condition of general innutrition.

Some Clinical Notes on a European Patient in Whose Blood a Trypanosoma Was Observed.—R. M. Forde reports a case in which the chief characteristics were: (1) An irregular intermittent temperature; (2) An œdematous condition of the face and lower extremities; (3) Rapid and variable pulse and respiration, unaccompanied by any evident cause; (4) Loss of weight with marked debility, wasting, and lassitude; (5) The persistence of these symptoms and their resistance to treatment. The only drug that produced any good result was arsenic (Fowler's solution), in graduated doses; there was a general marked improvement under its influence, but all the symptoms returned after it was discontinued for some time. Rest and light nutritious diet were the chief means of sustaining the patient's strength. The author presents a photograph of the parasite found in the blood.

Life History of the Ankylostoma Duodenale.—A. T. Ozzard found, by experimentation, that the embryos usually hatched from the ova in about twenty-four hours, when kept at ordinary temperature. During the rainy season, when the temperature is lower, they sometimes take a week before hatching out. In emerging from the egg, the embryo measures roughly from $\frac{1}{111}$ to $\frac{1}{100}$ inches in length, by $\frac{1}{500}$ inches in breadth. At this stage they show little else than an intestine and œsophageal bulb. They now increase rapidly in size and length, and undergo numerous ecdyses—perhaps two in the twenty-four hours. The embryos developed into free sexually-mature worms in from eight to ten days. The eggs in the free female worms are exactly similar in size and shape to those of the parasitic form. The size and shape of the free sexually-mature worms are, however, very different from those of the parasitic form, being very much smaller generally. The size of the free adult ankylostoma duodenale was, roughly, about $\frac{1}{27}$ inch in length by about $\frac{1}{250}$ inch in breadth.

The Edinburgh Medical Journal, September, 1902.

The Use and Abuse of Forceps in General Practice.—Michael Dewar, from the statistics collected, draws the lesson that there is much greater safety to both mother and child by a liberal, judicious, and careful use of the forceps, than when the labors are allowed to linger on, by the instruments being withheld for a long time, or not used at all, till the woman is quite exhausted, and her vital powers of resistance so lowered that she becomes extremely susceptible to the influence of disease germs, which are ever ready to take the upper hand. Of course the medical man should use the forceps merely to [illegible]

Some Neuroses in Childhood.—G. A. Sutherland writes of the nervous diathesis which is manifested in various ways, among others by local disturbances of function known as neuroses, and describes illustrative cases of functional tremors of the arm, spastic contraction of the right leg, functional aphonia and eructation, functional paraplegia, and functional difficulty in swallowing. Treatment should consist in removal from home, or isolation with a trained nurse. The child should be encouraged to use mind and body, and talking about ailments should be discouraged. All hygienic measures are to be employed and, above all, the child should be taught self-control.

Lobar Pneumonia in Young Children.—J. A. Coutts says that the principal points in the active treatment of croupous pneumonia in children are comprised in the efforts to control the temperature when excessive, to alleviate pain, to procure sleep, and to relieve the strain upon the right heart. Tepid sponging is efficacious in reducing temperature; the occasional use of a guarded dose of antipyrin is recommended. Alcohol can be given at the same time. Quinine can be prescribed with it. A single dose of opium, for the relief of pain when it is associated with hyperpyrexia and insomnia in the first "shock" of the complaint, is of great value. For the pain of pleural inflammation leeches or dry cupping are advisable. Insomnia may be due to constipation, in which case a copious warm enema will often induce sleep. As to cardiac failure, alcohol and strychnine are the drugs most to be relied on. As a last resource bleeding may be performed.

Atresia of the Conus Pulmonalis.—Edmund Cautley holds that we should be justified in dividing cases of congenital heart disease into two groups: (*a*) Cases due to developmental errors during the first two months of intrauterine life, the most probable cause of such defects being inherited syphilis. (*b*) Cases due to fetal endocarditis. Under the second group would be included all those cases of valvular lesions, leading to adhesion, contraction or destruction of valves, and many instances of delayed closure of the foramen ovale and ductus arteriosus. It must be borne in mind that the two factors may be coexistent in any one case, for endocarditis is more likely to attack a malformed than a sound heart. Moreover, structural defects, malformations, and endocarditis may be due to a common cause, which has begun to act in the embryonic stage of fetal life.

Russki Arkhiv Patologii, etc., July 31, 1902.

A Contribution to the Study of Cellular Poisons (Cytotoxins).—A Mankovsky, by injecting an emulsion of thyroid gland, mixed with a small amount of sodium chloride, into the abdominal cavity of cats, has found that after three injections the cat's serum was poisonous to the functions and cells of the thyroid body. Injected into the blood, the abdominal cavity, or the thyroid parenchyma of a dog, it caused symptoms similar to those which follow removal of the gland. A microscopic examination of sections of the thyroid showed a diminished amount of colloid substance, and a change in the lobules, with swelling of the cells, and cavities in the parenchyma.

The Cardiac Function in Old Age.—Charles Dehio says that old people are unable to accomplish hard physical work, not only because their muscles are enfeebled, but because the heart action is insufficient. The blood pressure curve is found to be very different in old age from that found in youth. The work which in young men causes 120 to 140 pulsations a minute, causes only 90 to 100 in old men. In youth, moreover, the curve rises at the beginning of work, remains high while the exertion continues, and falls to normal at its cessation. In old age the curve rises very gradually, and shows a tendency to fall during the continuance of exertion. It is evident that cardiac activity is, in large measure, lost in old age.

The Pathogenic Microbes in the Potable Waters of Kieff.—M. Moscaleff has made bacteriological researches into the potable waters of Kieff. No microbes were found in the waters from artesian wells. In that from ordinary wells, and from the river, the following microbes were found: (1) Staphylococcus pyogenes, aureus and albus, and citreus; bacilli pyocyaneus; bacilli coli; bacilli proteus vulgaris. (2) Non-pathogenous: Sarcina aurantiaca, lutea and alba; bacilli fluorescens liquefaciens; bacilli subtilis; bacilli mesent. vulgatus; bacilli megaterium; microc. ærogenes. The author also isolated a vibrio which was pathogenic for guinea-pigs and rabbits, and liquified gelatin in from twenty-four to forty-eight hours. The average number of microbes found in 1 c.c. of water from the Dnieper, was: In October, 2,223; March, 982; May, 2,444.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held September 22, 1902.

Frank Van Fleet, M.D., President.

Suppuration of the Middle Ear.—This was the general subject for the evening's discussion.

Etiology, Pathology, and Symptomatology of Acute Suppuration.—Dr. Edward B. Dench said that acute suppuration of the middle ear arose from the entrance of germs either through a solution of continuity of the drum membrane or through the Eustachian tube, but certain predisposing conditions must also exist. The middle ear was most commonly infected from the Eustachian tube. Acute suppuration was necessarily a common sequela of the acute infectious diseases which are associated with the presence of many pathogenic germs in the upper respiratory passages, as, for example, measles, diphtheria, and scarlet fever. The first symptom complained of was a stiffness about the ear, which was quickly followed by pain, rapidly increasing in severity. Ordinarily there was also an elevation of temperature, in adults to 99° or 101°F., and in children perhaps to 105° or even higher.

Complications of Acute Suppuration.—Dr. James B. Clemens discussed this subject. He said that the chief complication was diffuse otitis externa. Mastoid periostitis was frequently observed as a result of middle-ear suppuration. Inflammation of the mastoid cells was most apt to occur as a complication when there was delayed perforation of the drum and deficient drainage. Tenderness on pressure over the antrum and tip of the mastoid was commonly present in mastoiditis, and exceptionally pain was the only symptom. Cervical adenitis was often observed in acute suppurative otitis, but true suppuration of these glands rarely occurred. Retropharyngeal abscess might occur through an extension of pus through the Eustachian tube. There was a more or less localized meningitis, almost always associated with acute suppurative otitis media, in young children. A rapidly spreading inflammation was most commonly seen in those cases secondary to influenza.

Treatment of Acute Suppuration.—Dr. Wendell C. Phillips took up this topic. He insisted that rest in bed acted as a powerful abortive measure. The presence of adenoid tissue in the vault of the pharynx was a strong predisposing cause to acute suppuration of the middle ear. The exanthemata were responsible for many cases of suppuration, and much could be done in the way of prophylaxis by the systematic use of nasal irrigation. At the onset of the attack rest and free purgation with calomel were useful, and the pain could be relieved to some extent, and the inflammation checked, by irrigation of the ear, at intervals of half an hour, with sterile water at a temperature of 100° to 110°F. When there was evident bulging of the drum membrane, this membrane should be properly incised rather than punctured. After incision the canal should be kept clean by irrigation with weak bichloride solution, and bacteriological examinations should be made of the discharge, as a guide to both prognosis and treatment. Aside from the ice coil and the establishment of free drainage, there was very little to be done in the early stages. The ice coil should not be used for more than twenty-four or thirty-six hours, and the prolonged use of hot poultices should also be avoided, because of the danger of masking important symptoms. Persistent tenderness on pressure in the region of the antrum, together with bulging of the attack and posterior wall of the canal, indicated the need for operation. The exact time for the operation could not be measured by days or hours. It should not be forgotten also that early operation was usually followed by complete restoration of the hearing, a result not obtainable in many cases operated upon tardily. The general condition of the patient after operation demanded the use of tonics, such as freshly-prepared syrup of the iodide of iron. Uncomplicated cases of middle-ear suppuration under appropriate treatment always recovered in from two days to three weeks, and the responsibility for the untoward termination of such cases of suppuration must often be largely borne by the family physician.

Etiology, Pathology, and Symptoms of Chronic Suppuration.—Dr. M. D. Lederman was the author of this paper. He said that the pharyngeal space should be examined in all cases of chronic discharge from the ear, as the cause of the prolonged discharge would frequently be discovered by such examination. In children the infection entered the ear through the Eustachian tube very early, because this tube in them is wide and short. The position of the perforation in the drum often afforded a hint to the location of the disease. It was only in cases of long standing that the posterior wall of the middle ear became involved. Loss of hearing, with a persistent discharge, were the common symptoms of chronic suppuration of the middle ear. If the discharge were greenish and foul smelling, it would be safe to infer that there was necrosis of the bone. Pain was not a prominent symptom in these cases. In a person suffering from chronic otorrhea the occurrence of a chill with fever should lead one to at once suspect a fresh infection.

Complications of Chronic Suppuration.—Dr. Robert Lewis, Jr., discussed this topic. He said that among the more direct and obvious complications were a greater or less destruction of the membrana tympani, the formation of granulations and polypi in the adjacent cavity, the destruction of one or more of the ossicles, and necrosis of the tympanic wall. Above and beyond these, many infectious processes were at times set up in different parts of the body. With the exception of cases dependent upon tuberculosis or syphilis, all cases of chronic suppuration of the middle ear were the result of neglect of acute suppuration on this part. Of all the intracranial complications pachymeningitis was the most frequent. According to one writer, it was four times more frequent than sinus phlebitis, and twenty times more common than brain abscess. In 92 per cent. of the cases of brain abscess a fistulous tract connected the abscess with the ear, and in the large majority of instances the abscess was located in the cerebrum, usually in the temperosphenoidal lobe.

Treatment of Chronic Suppuration.—Dr. James F. McKernon, in taking up the treatment, defined chronic suppuration as that variety which had existed for six months or more with or without treatment. At the outset the nose and nasopharynx should be examined for abnormalities, and these, if present, corrected. Cleanliness of the auditory canal and adjacent parts should be at once secured. The location of the opening in the drum membrane should be ascertained, and whether or not drainage was sufficient. Usually the higher the perforation in the drum, the greater the involvement of the structures beyond. By cocainizing the part and exploring with the probe, the presence of dead bone could be determined. The "dry" method consisted in thoroughly drying out the canal with sterilized cotton, and introducing some antiseptic powder, and carrying a wick drain in deeply. This method of treatment seemed to be dangerous, except in expert hands, because of the liability to further infection. For this reason the modern practice among aurists favored the use of the "wet" method. The parts are irrigated with bichloride solution, one part to four or eight thousand of water, with boric-acid solution, twenty grains to the ounce, with a 1 or 2 per cent. solution of carbolic acid, or with a weak solution of formaldehyde or of permanganate of potash. The parts should be irrigated every two, three, or four hours, according to the amount of discharge using bichloride solution, one to five thousand. By means of the Valsalva method of inflation, the discharge could be dislodged from the less accessible portions, and then removed by irrigation. Of the astringent solutions used in the tympanic cavity, nitrate of silver, five grains to the ounce, was the most popular. There was a wide diversity of opinion regarding the use of hydrogen dioxide. It certainly reached all the parts very satisfactorily, but when the perforation in the drum membrane was small, he thought there was considerable danger of the evolved gas forcing the secretion back into the mastoid antrum, thus spreading the infection. In cases of long standing and extensive suppuration a radical operation was often necessary by which the mastoid antrum and the tympanic cavity were thrown into one. Systemic treatment should never be ignored in these cases.

Dr. Thomas R. Pooley, in opening the discussion, commented upon the rapid strides that had been made by otology in recent years. Mention had not been made by the the readers of the papers of the severe forms of acute inflammation of the ear not infrequently met with in the course of syphilis. It had been his experience in many cases of traumatic perforation of the middle ear that infection could be prevented by sealing up the opening by means of sterile cotton or gauze. He believed that the use of narcotics in any form should be completely eschewed in the treatment of inflammation of the ear. No doubt incision of the drum membrane was the proper thing in most cases, but, in his opinion, it was not necessary in all. In some cases the fluid in the cavity was only serous, and here simple puncture of the bulging quadrant of the membrane seemed to him adequate. One of the best ways of draining the middle ear in acute inflammations was by the insertion of strips of properly prepared aseptic gauze, the strips being introduced in such a way as to lie loosely in the depths of the auditory canal and projecting from the meatus. By capillary action the drainage could be made very effective in this way. He was sorry that Dr. Lederman had not dwelt upon the importance of repeated ophthalmoscopic examinations, to determine the existence of brain disease. Such examinations were important in both acute and chronic cases, but especially in the latter. Where there was choked disk present one could be sure of the existence of intracranial disease, and could be reasonably certain that there was sinuous thrombosis or chronic abscess of the brain. He had never been much in favor of the dry method of treating chronic suppuration of the ear, but he was heartily in favor of the local aseptic treatment of these cases by the "wet" method. Dr. McKernon had very properly given this local treatment great prominence, and this was especially fortunate, because, in the opinion of the speaker, the radical or Stacke operation had been too indiscriminately performed.

Dr D. B. St. John Roosa thought it would be well to disseminate the information that the Eustachian tube and the mastoid cells are essential parts of the ear, and not, as many seemed to think, rather remotely connected therewith. He desired to add still further emphasis to the great importance of rest in bed in the early stage of acute inflammation of the ear. He fully agreed with Dr. Pooley that it was not always necessary to make a large opening in the membrana tympani; moreover he considered that an unnecessary paracentesis of the drum membrane was a great deal more serious than the unnecessary opening of the mastoid process. The latter he did not consider an especially dangerous operation, but there was so much danger of infection from unnecessary and routine paracentesis of the drum membrane that he could not resist uttering a word of caution. In his opinion narcotics were of very little use in acute inflammation of the middle ear, and this was his chief objection to their administration in such cases.

Dr. Arthur B. Duel dwelt upon the improvement in hearing resulting from early and efficient treatment of these cases. Fortunately, the old notion that it was dangerous to stop a running ear had nearly lost its hold on the popular mind, and the modern aurist was allowed to treat other than inveterate and incurable cases referred to him by the general practitioner as a last resort.

Dr George B. McAuliffe alluded to the fact that the attacks of earache usually come on at night, and suggested that they were induced by the mechanical conditions present at that time. The influence of sound waves upon the inflamed ear was ordinarily ignored, yet in the treatment of an inflamed eye great care was taken, by the use of atropine, to prevent the disturbing influence of light. It was rather remarkable that the same physicians who would be horrified at the idea of incising any other part of the body and omitting to apply a surgical dressing were constantly performing paracentesis of the ear, and discharging the patient without even inserting into the canal of the ear a light packing of aseptic gauze.

Dr. Phillips said he only recommended the use of narcotics in adults and during the stage prior to suppuration. The spontaneous opening of the drum was usually a round aperture, which did not heal well; a free incision into the drum would promote healing. He had never met with a case of acute inflammation of the middle ear dependent upon influenza in which the fluid in the middle ear had not been distinctly purulent,

Dr. M. D. Lederman, in replying to the remarks of Dr. Pooley, said that while he would be very grateful for diagnostic aid from the ophthalmoscope or, indeed, any other source, he desired to call attention to the fact that in three recent cases of leptomeningitis complicating middle-ear suppuration the examination of the fundus of the eye was wholly negative.

Arthritis Deformans in a Child with Several Lymph Gland Enlargements and Splenic Tumor.—A. F. Lemke reports the case of a boy of eleven years with joint and glandular lesions, the diagnosis being for a time doubtful The axillary glands were enlarged so as to be visible from a distance, and the epitrochlear glands were the size of a hazel-nut. Tuberculosis was suspected, and one gland was removed and used for the inoculation of a guinea-pig, but the result was negative. During the period from the fourth to the eleventh year, he had cerebrospinal fever, pneumonia, and acute rheumatism. When he came under the observation of the reporter, the most conspicuous joint involvements were observed in the wrists and hands. The wrist-joints, particularly the carpal joints, were distended with fluid, but only slightly tender, and there was distinct joint crepitus. Crepitation could also be felt along the tendon sheaths as they passed over the wrist Some of these sheaths appeared to be distended with fluid The metacarpophalangeal joints and, to a more marked degree, the proximal interphalangeal joints were swollen owing to the accumulation of fluid and periarticular thickening. The elbows and shoulders were also involved, but to a lesser degree; motion in these joints was fairly well preserved. The knee-joints were much enlarged and also slightly distended with fluid. Crepitus was also to be felt over both knees. Complete extension of the legs upon the thighs was impossible rather on account of contractures of the flexor muscles than of the joint condition proper. There was some slight joint crepitus in both hips, and neither complete flexion nor extension of the thigh could be made by reason of the muscular contractures present. Both ankles were involved to about the same degree as the knees, the smaller joints of the foot showed comparatively very much less involvement than was observed in the hands None of these joints showed any evidence of acute inflammation, such as pain, redness, and an increase of local temperature.—*Chicago Medical Recorder.*

Clinical Department.

A MISPLACED APPENDIX.

By F. W. HEDGES, M.D.,
PLAINFIELD, N. J.

An appendix fourteen inches up the ileum, with no trace of an appendix attached anywhere to the cæcum. This, in brief, is the case I have to report. On June 4, of the present year, I operated on the patient, a young woman of twenty-nine years, for renal calculus, removing a stone one inch long and half an inch in diameter. It was the right kidney, and, in addition to a chronic pyelitis from the stone, it was a floater and made frequent and long excursions toward the pelvis. I anchored the kidney at the time of operation and the patient made an uneventful recovery, leaving the hospital one month afterward with the wound in the back healed kindly, save a small sinus, through which a moderate amount of urine still discharged.

During the next five weeks, living quietly at home, she was free from all the old pain in the kidney, but had two quite sharp attacks of pain with tenderness over the region of the appendix. The first attack lasted a couple of days, the second one a week, with typical symptoms of a mild catarrhal appendicitis, the temperature reaching 99.5° on several days. On putting one hand below the kidney and making sure that that organ was well out of the way, pressure with the other hand over McBurney's point would cause a good deal of pain. The removal of the appendix was advised, and on August 11 the abdomen was opened through the right rectus muscle. The small intestine presented, and while I was looking for the cæcum a loop of small bowel came out with a curious-looking appendix attached to it. It was at the point farthest from the mesentery, was an inch and a half long, half an inch wide at its base, tapering gradually to a blunt point. Of a structure seemingly identical with that of the small gut, not at all thickened, nor inflamed with no meso-appendix.

We remarked then that it looked like an appendix, but put it back and renewed the search for the cæcum. This was soon found and brought entirely outside the wound. There was no trace of an appendix attached to it anywhere. My brother, Dr. B. Van D. Hedges, who was assisting me, satisfied himself of the fact by a thorough examination, and four other physicians who were present were convinced that the young woman had no appendix anywhere about the cæcum, which was perfectly normal.

We then began to draw out the ileum to see if we could find again what we had at first mistaken for the appendix. We came to it fourteen inches above the cæcum, and a close examination showed it to be studded with tubercles, which had probably accounted for the pain in that region. Palpation over the course of the ureter revealed nothing, and the ovary was normal, while the kidney seemed firmly attached.

Recovery was uneventful, save for a sharp attack of ptomain poisoning on the tenth day.

POST-TYPHOIDAL PARALYSIS.

By P. L. BELLENGER, M.D.,
WATERPROOF, LA.,
EX-PRESIDENT OF THE PARISH BOARD OF HEALTH.

Cases of paralysis following typhoid fever, such as that reported by Dr. Isidore Ginzburg in the Medical Record of July 26, are not so rare as the reporter would appear to believe. While our country here is comparatively free from typhoid infection, in five cases, coming under my care within the last seven years, I have noticed this peculiar phenomenon twice. One, a woman patient, contracted typhoid fever on the 10th day of October, 1896. After running a typical course for five weeks, the disease terminated in total paralysis of both legs, which was fully recovered from in about six months without any special treatment, and the patient is now in perfect health, showing no evidence whatever of her former trouble. The second patient was also a woman, who contracted typhoid fever about the middle of October, 1896. After recovery she was partially paralyzed in one leg (the left). This was also recovered from in a few weeks without any special treatment. I mention these cases as being specially interesting, both coming in the same month and year and both in women of about the same age.

A NEW THEORY IN REGARD TO SEASICKNESS.

By E. CASTELLI, B.A., B.Sc., M.D., L.M., Dublin,
WASHINGTON, D. C.

I wish to call attention to a communication concerning seasickness, which was received from the Italian Ambassador to the United States, and which I consider worthy of consideration. The text of the communication is as follows:

"My Dear Dr. Castelli: Knowing that you are interested in the treatment of seasickness, I take pleasure in giving you my personal observations on the subject. After having found by experience that the only way not to suffer from seasickness was to lie in a horizontal position, I happened to notice that fixing my eyes upon a mirror while dressing (even when the sea was stormy) was sufficient to relieve the unpleasant sensations of seasickness. During my last ocean trip I tried this accidentally-discovered remedy, and always with good results. Take into consideration my observation and make it yours, if you think it may be of benefit to science.

"Mayor des Planches."

This clever observation may be another clue to the pathogenesis of seasickness. During my last trip, convinced of the possibility that cerebral anæmia was the principal cause of seasickness, I recommended to many travellers the use of red glasses in connection with the administration of euquinine for the purpose of producing hyperæmic condition of the brain, but the results were but slightly encouraging. My trip was from Geneva to New York, with a rather rough sea after leaving Gibraltar. What the distinguished author of the letter says, is, in my opinion, the demonstration that the pathogenesis of seasickness is the same as that of vertigo, *i. e.* the affection is the result of the *consciousness of the oscillation of the act of orientation.*

It is the same phenomena observed in a person who looks from the top of a tower on the surrounding country; the eye adjusts itself to all the different horizons that can be seen from the top—the tower being the center of the sky above and the earth below. The eye of the observer changes every few seconds to a different horizon, and has, in consequence, the sensation of the lack of equilibrium. We call that *vertigo*, which, in its highest form, manifests itself in pallor, cold perspiration, weak pulse, nausea, and vomiting—the same symptoms as those of seasickness.

Now, what happens on the ocean? At sea, the observer is obliged, in consequence of the rolling and pitching of the ship, to change the horizon repeatedly at brief intervals. He is, in other words, in the same condition as the person on the top of the tower.

I have not yet discovered if people suffering from vertigo are also affected by seasickness, or *vice versa*, or to what extent, but it would be interesting to have statistics on the subject, and to know if my idea would be confirmed.

What about the treatment? Why should the fact of looking in a mirror diminish the sensation of seasickness? Because eyes and mirror form one body and, the changing of horizons being reflected by a surface equal in every plane, the eye loses the consciousness of the different changes.

1518 K Street.

THE SUBCUTANEOUS USE OF PARAFFIN IN DEFORMED NOSES, WITH THE REPORT OF A CASE.*

By HAL FOSTER, M.D.,
KANSAS CITY, MO.

Dr. Roe of Rochester has done a great deal of original work in the correction of nasal deformities by surgical methods. Many others have followed him by devising several ways of correcting sunken-in noses, such as follow syphilitic perichondritis, leaving a saddle-back nose. The rhinologists meet patients with this deformity who are unwilling to submit to any surgical procedure. Corning of New York published his paper on the use of solidifying oils by injection into the tissues for mechanical purposes in the Medical Record, in December, 1891.

The writer read a report of a case treated by this method, by Dr. Heath of St. Paul, Minn. Dr. Gersuny of Paris was the first to use paraffin in saddle-back or sunken-in conditions of the nose. His articles were published in France, Germany, and America. His results were very good, and his patients greatly improved in facial appearance. Dr. Scanes Spicer of London recently reported a case in which he had successfully used paraffin in a saddle-back nose.

The paraffin should be sterilized, and every precaution taken to have the nose as clean as possible when the injections are made, in order that blood poisoning may not take place. The paraffin melts at 100° to 105° F. and solidifies at about the normal temperature of the body.

In the great number of cases now being reported, I have failed to find any case in which the paraffin was absorbed. Some writers caution against its use, saying that an oil embolism might result from its use. Meyer of Berlin has used the injection on animals, without any bad results. In some of his cases a very mild inflammation took place before encapsulation. He also used the drug to obliterate smallpox marks. Herman Smith of New York has reported several successful cases in which he had injected the paraffin.

Taking all this testimony from so many able men, I decided to try it myself. The patient was a boy, nineteen years old, from near Cowgill, Mo. He was suffering from constitutional syphilis, which was the cause of the nasal deformity, and was being treated for that disease by his family physician. The paraffin was sterilized, and a syringe, devised by Gersuny, was used. A few drops of 4 per cent. solution of cocaine was first injected into the part of the nose where the paraffin was to be inserted. I then, on January 20, 1902, under as thorough antiseptic conditions as I could, injected one teaspoonful of melted paraffin into the depression of the nose. It was rapidly moulded by the fingers and very soon became solidified, and the appearance was greatly improved. There was no pain during the operation. Ice may be applied to the nose for several hours after the operation to prevent inflammation.

I think there will be little danger of the paraffin doing any harm if rapid pressure is used immediately after the injection is made. Gersuny says several of his patients, some months after the injection, had typhoid fever, but the high temperature had no effect on the paraffin, it remaining in perfect apposition.

It is my opinion that this treatment, carefully used, will be of great assistance to rhinologists in correcting many of the unsightly, deformed noses which they meet.

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*Read before the Missouri State Medical Association, at St. Joseph, Mo.

HYSTERICAL(?) HEMIPLEGIA

By L. W. GROSSMANN, M.D.,
NEW YORK.

Mrs. E., aged sixty, was in good health until present illness. On July 14 I was hurriedly summoned to see her. When I arrived at the house I found her propped up in a chair, supported by a number of women. On inspection I saw the following: the left eye was closed, the mouth was twisted to the right, the left arm and left leg hung limp. She was unable to speak coherently, muttering unintelligibly. She could not raise her left arm or left leg. I stuck a pin deeply into the affected side, at various points, without causing any pain. At this juncture a priest arrived, and together we carried the woman to bed. The reverend gentleman administered the last sacraments, and two minutes later the afflicted woman recovered. Her left eye opened, the mouth resumed its natural shape, she could raise her left arm and leg, and could feel the slightest pricking of a pin. An hour later she had a similar but much less severe attack. I prescribed a saturated solution of iodide of potassium, gtt x t. i. d., a mild laxative, ice-bag to the head, absolute rest in bed, and a fluid diet. Three days later I left her enjoying the best of health. Her previous history is negative. Her heart and lungs are normal. There is a moderate degree of arteriosclerosis, and a high-tension pulse. Was this a case of hysteria?

A VERY RARE FRACTURE OF THE LOWER END OF THE FEMUR.

By J. F. BALDWIN, M.D.,
COLUMBUS, OHIO.
SURGEON TO GRANT HOSPITAL, ETC.

F. S., a stout farmer boy, not quite eighteen years of age, was referred to me by Dr. L. G. Glenn of Kenton, Ohio. The patient had always enjoyed excellent health in every particular. On January 10, 1902, he was carrying a basket of corn, and in climbing over a low fence placed the basket on the top of the fence, and with his right leg upon the ground, threw the left leg over the top rail. At that instant, and while his entire weight was on the right leg, it suddenly gave way beneath him. He is not sure that his foot did not turn upon a cob or some other object upon the ground, but no investigation of this was made. He at once experienced severe pain in the knee and was unable to bear any weight upon it. He dragged himself to the house and was placed in bed. Great swelling of the joint came on, which did not subside for about two weeks. When this subsided sufficiently he was able to make out a movable body in the joint just to the left of the patella. This his physician regarded as probably a floating cartilage, and he was sent to me for operation.

At my examination on February 24 I found the knee somewhat stiff and tender, but with little, if any, swelling. The body seemed to be cartilaginous, could be distinctly outlined, and was entirely movable. I advised its removal, and this operation was made the next day. The body was exposed by an incision made at the inner border of the patella, seized with a tenaculum and removed, and the incision immediately closed and sealed. Care was taken to bring nothing but thoroughly sterilized instruments into contact with the wound. The body was found entirely detached, but, much to my surprise, instead of being an ordinary floating cartilage, it was found to be a portion of the articular surface of the femur, consisting of the cartilage and of the condensed bony layer immediately under it. Convalescence was immediate, and the patient left the hospital in one week with good use of the leg.

The only reference to a fracture of this kind which I have found in the literature at my disposal is that contained in volume I of Agnew's "Surgery." The author states that Volkmann of Halle described such an injury, and attributed it to the patient falling on the knee during flexion of the limb. Teale is also referred to as having had a case produced by direct impact of a cask slipping against the knee. Brodhurst is referred to as having met with cases. In Volkmann's case the removal of the detached piece was followed by complete recovery. In Teale's patient, erysipelas and death followed the removal.

If, as seems probable, such a detachment is the result of a direct injury, it seems quite strange that it should have occurred, as in my case, without any evidence of injury to the surface.

THE SUTURING OF ABDOMINAL OPERATIVE WOUNDS.

By G. K. DICKINSON, M.D.,
JERSEY CITY N. J.

The minor operation of closing an abdominal wound made for operative purposes has been the cause of much indecision and discussion, because of a want of proper knowledge of the functional anatomy of the parts, and sometimes because of a careless technique.

The opprobrium of intraabdominal work is incisional hernia. All methods of suturing have been followed by this untoward result; some more frequently than others. Methods most diverse, from the simple through thrust of the early operators to the elaborately-devised complex incisions of some of the later, have been exploited. It is as much a surgeon's duty to leave his patient with as strong an abdomen as before she came to him, as it is to do the operation successfully. The perfectly united incision never bulges and never needs a supporter.

That which tends to this result is first a primary union of each severed tissue to itself; next that the peritoneum shall be infolded that no adhesions of intestines or omentum may occur and that no depression on its surface may take the brunt of intra-abdominal pressure and allow of herniation. Another condition makes for failure: that is, pendulous abdomen with divergent and, perhaps, atrophic recti. It is doubtful if an abdomen of the latter type can ever receive a wound of sufficient size to permit of extensive work and be placed in as secure a condition as before. If time and conditions permit, the closure may be made as in the operation for umbilical hernia.

Following on the lines of the above suggestions, let the entrance into the abdomen be through the edge of one rectus with blunt dissection and perfect hæmostasis. Let there be as little bruising with hands and retractors as possible, and avoid spreading pus or other infected fluids on the wound. Close as follows: Pinch up a fold of the peritoneum a half-inch from the margin, and pass a needle, threaded with silk-worm gut, through its summit; a needle threaded to the other extremity of the gut is passed through the fold of the peritoneum on the opposite side. Take the needle on the left and pass it through the fascia and rectus of the right side; at the same time cross the right needle to the left, and similarly pass it through the left fascia and rectus. Cross needles again and pass to the skin and tie. This brings the peritoneum together, serosa to serosa, allowing of no depression, and brings the important divided tissues properly together, so that no empty spaces are formed to be filled with serum and blood, slow of absorption and easily infected.

The after care of the wound can be much simplified. Heavy swaddling gauzes irritate and itch, for which the patient pushes a hand under the dressing. They bring an excess of perspiration with skin bacilli to the surface, and, as evaporation is at a minimum, stitch holes may be infected. On the third day it is well to remove all dressings and binder, paint the incision with compound tincture of benzoin, and lay a single piece of sterile gauze on the wound, retained by adhesive straps. Often no binder need be used. A subcutaneous suture, neatly applied, makes a linear scar, but the lack of drainage often renders the attempt futile on account of unnoticed veins or small capillary ooze.

278 MONTGOMERY STREET

AMETROPIA; PUPILLARY CONTRACTION; WRINKLES.

By NORBURNE B. JENKINS, M.D.,
CHICAGO ILL.

Badly-shaped eye-balls cause small pupils, wrinkles, and facial distortion. The human face, severed from its bones, is funnel-shaped, with its muscles centering to its five openings. Darwin, Mosso, and Mantegazza have shown that the least irritation or impulse acts upon the face and its openings and produces expression or its distortion. Taking as a basis the extreme deformity of the face, and even of the body, that comes from chronic granulated eyelids, or trachoma, it is only natural to suppose that eye irritation is a common cause of facial distortion, perhaps the most common of all causes, of course excepting the shrivelings of age.

While a small pupil, squeezed-up eyelids, and looking through a pin-hole do not improve the distant vision of a perfectly-shaped eyeball, they noticeably aid a badly shaped one. When viewing distant objects the pupil of a perfectly shaped eye is normal in size, while that of an imperfectly shaped one is contracted.

In children the pupils are large and active, even in badly-shaped eyeballs, because the focusing lens is so soft that it makes images clear without the aid of the small pupil. As youth and age come on the lens hardens, when the small pupil and squeezed up eyelids are depended upon to make images clear, consequently the closing muscles of the pupil and eyelids over-develop, and the eyelids and pupil become squeezed-up and sluggish. Such strains and spasms may throw the whole face into wrinkles and frowns. Theoretically, glasses intended to prevent wrinkles should relieve all strain and entirely prevent any necessity for small pupils or squeezed-up eyelids.

Book Reviews.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising Ten Volumes on the Years' Progress in Medicine and Surgery. Issued monthly under the General Editorial Charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol VIII Pediatrics and Orthopedic Surgery. Edited by W. S. CHRISTOPHER, M.D., JOHN RIDLON, A.M., M.D., and SAMUEL J. WALKER, A.B., M.D. Chicago: The Year Book Publishers, July, 1902.

IN his introduction the author states that although diseases of children constitute a very important part of pediatrics, the distinguishing feature of this branch of medicine—indeed, its key note—is the development of the child. He first considers, therefore, the growth and development of the child, and in this part he has inserted some very interesting tables and charts dealing with various factors, such as the average weight, height, vital capacity, etc., at different ages. He then proceeds to discuss nutrition, infections, mental activities, and anatomical and functional pathological resultants. The remainder of the text is devoted to the consideration of orthopedic surgery. This is a very attractive and valuable little reference handbook.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By GWILYM G. DAVIS, M.D., Universities of Pennsylvania and Gottingen; Member of the Royal College of Surgeons, England; Assistant Professor of Applied Anatomy, University of Pennsylvania; Surgeon to the Episcopal, St. Joseph's, and Orthopædic Hospitals. Illustrated from Original Drawings by the Author. Philadelphia: P. Blakiston's Son & Co., 1902.

THE subject of bandaging is always of interest to both laity and physician. The writer points out the difference between the ancient and the present methods. The general kinds of bandages are taken up in order and described: The roller, the tailed bandages or slings, and the handkerchief bandages. The preparation and application of bandages are considered. The fundamental bandages are described, and the special bandages are classified according to the regions of the body to which they are applied. The book is intended for beginners, and the language is simple and direct, while technical terms are avoided. Although the present volume is based on a previous one by the same author, it is so changed as to be practically a new book. There are numerous cuts, which add much to the text and make the descriptions perfectly clear.

A BRIEF OF NECROPSY AND ITS MEDICO-LEGAL RELATION. Arranged by GUSTAV SCHMITT, M.D., Milwaukee. New York and London: Funk & Wagnalls Company, 1902.

THIS convenient little pocket edition is well fitted to the needs of the general medical practitioner, the lawyer, and the expert witness. The practical facts concerning the study, diagnosis, technique, and medicolegal aspect of a post-mortem examination are presented. The book is authoritative, and is a valuable contribution to practical medical literature.

A PHYSICIAN'S PRACTICAL GYNECOLOGY. By W. O. HENRY, M.D., Omaha, Neb. Professor of Gynecology in the Creighton Medical College. With five full-page Illustrations and sixty-one Illustrations in the Text. Lincoln, Neb.: The Review Press, 1902.

THIS little volume is intended as a guide book in gynecology for both medical students and physicians. Although it is concise, it covers a great deal of ground. The object of the author is to offer a practical guide in this subject to the general practitioner, so that he will be enabled to recognize and diagnose diseases quickly, and thus give the patient the benefit of early treatment. The equipment necessary for gynecological work is described; the varieties of gynecological diseases, the physical signs and diagnostic methods are discussed; and the genital organs, their anatomy and malformations are considered. The arrangement of the material is clear, and the appearance of the book is attractive.

TYPHOID FEVER. By J. T. MOORE, M.D., M.C.P.S., Professor of Theory and Practice of Medicine, Medical Department of Hamline University, Minneapolis, Minn. Chicago: G. P. Engelhard & Co., 1902.

THE monograph before us gives an excellent review of the subject of typhoid fever. It is primarily practical and meant for the general practitioner who has not at hand the larger libraries for consultation. The author has compiled from well-known authorities a concise description of the symptoms, sequels, and complications of enteric fever, and has done it well. The chapter on treatment, however, appears rather too short, especially since the excellence of the early portions leads one to look forward to as complete a conclusion. The author has incorporated his own ideas together with those of other writers, thus adding to the value of the work. The publication of these monographs, of which this is one of a series, promises to meet with great success, inasmuch as it furnishes fairly complete descriptions of separate diseases for those unable or unwilling to buy the larger systems. If they are all as good as the volume before us, the entire series will make a valuable addition to American medical literature.

DIE ANATOMIE UND PHYSIOLOGIE DER KEHLKOPFNERVEN MIT ERGANZENDEN PATHOLOGISCHEN BEITRAGE. Bearbeitet von Dr. A. Onodi, Professor der Rhino-Laryngologie an der Universitat in Budapest, etc. Pp. 179. Berlin: Verlag von Oscar Coblentz, 1902.

IN this monograph the author exploits his studies on the innervation of the larynx, covering a period of fifteen years. The manual is sharply divided into two parts; (1) The anatomical; and (2) the physiological. Onodi considers the various views promulgated, from time to time, regarding the relations of the vagus nerve to the larynx, and the question of the possible communication of nerve fibers coming from the spinal accessory for distribution through the vagus branches. Personally, the author does not adhere to the latter view. For him the vagus nerve is the nerve of the larynx. The distribution of the vagus branches is given in full, and their various physiological relations are discussed from all points of view. The monograph belongs to that class of publications we are accustomed to receive from Teutonic sources, a class that goes to the very bottom of things, though at times "the kernel of truth is wrapped in the husk of verbosity." Onodi has avoided this defect, and has produced a concise yet complete exposition of a subject of profound interest to laryngologists. It is one still under earnest discussion, and one on which the last word has by no means yet been said.

TRAITÉ DE MÉDECINE. Deuxième Édition. Publiée sous la direction de MM. BOUCHARD, Professeur à la Faculté de Médecine de Paris, Membre de l'Institut, et BRISSAUD, Professeur à la Faculté de Médecine de Paris, Médecin de l'Hôpital Saint-Antoine. Tome VIII, par MM. ANDRÉ PETIT et W. ŒTTINGER. Paris: Maison et Cie., 1902.

THE eighth volume of this second edition of the original Charcot-Bouchard-Brissaud treatise is devoted to the diseases of the circulatory system. The greater part of the volume is occupied naturally by Petit's study of cardiac disease, a most satisfactory presentation of the subject. The author does not advance any novel theories, nor advocate any especially new methods of treatment, but he tells the old story in a new way, and presents the entire subject in an intelligible and readable form. Shorter, but no less praiseworthy, is the article on diseases of the blood vessels by Œttinger. The author studies the lesions of the arteries and veins only, since the pathological alterations of the capillaries relate rather to local disease of organs, or to general systemic diseases. Of special interest in this article is the chapter on atheroma and arteriosclerosis. The volume, both on account of the intrinsic interest of the subjects treated, and because of the skill with which the writers have presented them, is one of the best of the series thus far published.

HANDBUCH DER PHYSIKALISCHEN THERAPIE. Von Dr. A. GOLDSCHEIDER UND Dr. PAUL JACOB. Teil II, Band II, mit 86 Abbildungen. Leipzig: Verlag von Georg Thieme, 1902.

THIS fourth volume completes the set, and the editors, as well as all their collaborators, should be congratulated upon the ending of so extensive and valuable a work. The present age in medicine is one of physical as contrasted with chemical or drug therapy, and every day almost one sees evidence of improvement in mechanical methods and apparatus. Electricity, light, massage, gymnastics, baths, and many other means toward cure are to-day administered in a more scientific and successful manner than ever before, and a work which discusses these measures from a truly scientific standpoint is a valued addition to literature. The lack of an index to complete this volume is to be regretted.

LES COURANTS DE HAUTE FRÉQUENCE EN DERMATOLOGIE. TRAITEMENT DES MALADIES CUTANÉES ET VÉNÉRIENNES. Par H. LEBON. Paris: Société d'Éditions Scientifiques et Littéraires, 1902.

IN an interesting brochure of sixty pages, the author discusses the production of light frequency and high tension currents, with diagrams and apparatus, and their application to skin, venereal, and inflammatory affections. Much of the clinical data concerns the experience of others.

Photographic Atlas of the Diseases of the Skin. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y.; Consulting Dermatologist to the Board of Health, New York City; Physician to the New York Skin and Cancer Hospital, etc. Philadelphia and London: J. B. Lippincott Company, 1901.

Parts X and XI of this atlas present a number of what a dermatologist would probably call "beautiful cases." Some of the pictures are very life-like, and while they might cause the layman to exclaim "how terrible!" the physician sees at a glance that the drawings and colorings are true to nature, though at times they might give an exaggerated idea of the gravity of the actual condition to one unfamiliar with the appearances of life and the true import of the lesions. The text is well written, in a brief or concise style, covering the essential points. The descriptions do not go deeply enough into the various subjects to make this a substitute for those textbooks which give the etiology and pathology at length.

For one located away from abundant clinical material, such a collection of colored photographs, made under the direction of one so well able to appreciate the requirements, is of the greatest value, and no doubt the sales of this new and improved atlas will outstrip those of former efforts in the same direction.

A Text-Book of Practical Therapeutics, with especial reference to the application of remedial measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia, Physician to the Jefferson College Hospital, ect. Ninth edition, enlarged, thoroughly revised, and largely rewritten. Philadelphia and New York: Lea Brothers & Co., 1902.

There is little to say of the present edition of Hare's well-known treatise that has not already been said repeatedly during the twelve years that have elapsed since the work was first offered to the profession in 1890. In this edition the text has been revised wherever change has been necessitated by the introduction of new remedies or methods, particularly in the chapter treating of medical measures other than drugs.

The book is divided into four parts. I. General Therapeutical Considerations, including the modes of administration of drugs and their classification. II. Drugs, in which each of the pharmacopœial and more important of the non-official remedies is treated of in alphabetical order. III. Remedial measures other than Drugs and Foods for the Sick. IV. Diseases, this being a guide to the practical application of the information contained in the previous sections of the work. A dose-table and two indexes, one of drugs and the other of diseases and remedies, complete the volume. Hare's Practical Therapeutics is evidently destined to lose none of its deserved popularity so long as it is subjected every year or two to such careful and satisfactory revision as the present.

How Can I Cure My Indigestion? By A. K. Bond, M.D., Member of the Maryland Public Health Association, Formerly Professor in the Baltimore Medical College, etc. New York: The Contemporary Publishing Co., 1902.

This little book is written in a popular way, and is intended to teach some of the essentials of hygiene to the dyspeptics. Good common-sense principles are recommended, but there is nothing new in the author's text which is not understood by medical men although, perhaps, not always put into practice.

The Schott Methods of the Treatment of Chronic Diseases of the Heart with an account of the Nauheim Baths, and of the Therapeutic Exercises. Illustrated. By W. Bezly Thorne, M.D., M.R.C.P. Fourth Edition. Philadelphia: P. Blakiston's Son & Co., 1902.

In the fourth edition of this excellent manual we find two entirely new chapters; namely, one on the physiological action of the baths and exercises and one on what has been termed the "after-cure." The book gives an account of the baths and waters in use at Nauheim, together with a full description of the resisted movements, which are explained diagrammatically as well as in the text. A number of illustrative cases are given, with graphic charts of the areas of cardiac dulness before and after the treatment, and also many sphygmographic tracings, which undeniably demonstrate the value of the methods employed. The work should stimulate the employment of these procedures in a field wider than heretofore.

The Theory and Practice of Infant Feeding. With Notes on Development by Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital; Attending Physician to the Post-Graduate, Willard Parker and Riverside Hospitals; Consulting Physician to the Randall's Island Hospital. With numerous Illustrations. New York: William Wood & Co., 1902.

In this volume we have a most practical guide to the scientific feeding of infants. Not only are the details of the most approved methods given, but also the reasons therefore, which insures an intelligent management of different cases with their individual peculiarities. The author compares the milks of different animals, showing their adaptation to the special alimentary canals which are to receive them, and deduces from these facts the reasons for the difficulties of artificial feeding compared with that of nursing.

The subject of milk marketing is thoroughly considered together with the tests employed for determining the richness and purity of milk, the sources and dangers of contamination, and how to differentiate the various bacilli. The subject of infant development is specially new and interesting, and in it Dr. Chapin points out the importance of milk as an agent to that end. The illustrations are practical and the text remarkably clear, in no instances leaving the reader in doubt as to the ideas or methods of the author. The system of cross references has enabled the writer to concentrate his subject matter without loss of clearness, and it also helps the reader to obtain a connected idea of all topics under discussion. The book, as a whole, will prove interesting and instructive reading to all who have to do with milk, from the farmer to the physician.

Kurzes Lehrbuch der Krankheiten der Oberen Luftwege. Von Prof. Dr. Holger Mygind in Kopenhagen. Berlin: Verlag von Oscar Coblentz, 1901.

This manual is appropriately dedicated by the author to the memory of his illustrious fellow countryman and citizen, Wilhelm Meyer of "Adenoid" fame. The author was, in fact, one of Myer's pupils. The contents of the manual traverse familiar ground without presenting anything essentially new, though some of the illustrations of the shape and relations of the nasal structures are rather novel. The manual is well printed and contains all the essentials for students. It is hardly complete enough for the general practitioner, who seeks more than a conventional acquaintance with the problems of modern rhinology and laryngology.

The Canada Medical Act.—An act to provide for the establishment of a medical council in Canada was passed by the Canadian House of Commons in the early part of the present year.

It is set down that the purposes of the council shall be to promote and effect: (*a*) the establishment of a qualification in medicine, such that the holders thereof shall be acceptable and empowered to practise in all the provinces of Canada; (*b*) the establishment of a register for Canada of medical practitioners, and the publication and revision, from time to time, of such register; (*c*) The determination and fixing of the qualifications and conditions necessary for registration, including the courses of studies to be pursued by students, the examinations to be undergone and generally the requisites for registration; (*d*) The establishment and maintenance of examiners for examination and for the granting of certificates of qualifications; (*e*) The establishment of such a status of the medical profession in Canada as shall insure recognition thereof in the United Kingdom, and enable Canadian practitioners to acquire the right to registration under the acts of the Imperial Parliament known as the "medical acts." The whole act is lengthy, consisting of some twenty provisions, but the chief aim in passing such a law is to raise the standard of medical education throughout Canada to a uniformly high one, so that a Canadian medical qualification will stand on an equal plane to that of Great Britain, and will be thus recognized.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 4, 1902:

	Cases.	Deaths.
Measles	47	1
Diphtheria and croup	239	26
Scarlet fever	100	8
Smallpox	1	..
Varicella	14	..
Tuberculosis	195	113
Typhoid fever	190	24
Cerebrospinal meningitis	..	..

Some Statistics Regarding Heredity.—Dr. William C. Krauss of Buffalo, N. Y., published recently, in the *American Journal of Insanity*, a study of the statistics of the New York State hospitals, with respect to the importance of heredity in the causation of nervous and mental diseases, and commences by remarking that although this fact was known and appreciated by writers on these subjects for ages, the mode of transmissibility remains to-day as much of a secret as when the doctrine was first promulgated. Dr Krauss thinks that the diagnostic value of an hereditary tendency to insanity depends largely on its degree. Thus the insanity of one parent would indicate a less degree of predisposition than that of one parent and an uncle, or still less than that of a parent and a grand-parent, or of both parents. Again, the insanity of a parent and a grand-parent with an uncle or an aunt in the same line may be held to indicate a stronger predisposition than even the insanity of both parents. The significance of the insanity of parents will depend, to a large extent, upon the period of its onset. The insanity of a parent occurring after the birth of a child, if it arose from a cause adequate to excite it, without previous predisposition, would be held, of course, as of no value in the formation of an hereditary tendency.

The insanity of relatives further removed than parents, uncles, and aunts, brothers and sisters and first cousins, is not worth anything, except in corroboration of nearer and weightier facts. But the influence of other related diseases to insanity occurring in those near akin, such as eccentricity, alcoholism, epilepsy, hysteria, hypochondriasis, vicious or criminal tendencies, etc., may be of great import. The following facts are gathered from a consideration of statistics collected from thirteen New York State hospitals. Percentage of cases showing heredity, 1899–1900, 25.8; since 1888, 24.5. Percentage showing heredity, exclusive of unascertained cases, 1899–1900, 36.6; since 1888, 30.7. Percentage showing no hereditary tendency, exclusive of unascertained cases, 1899–1900, 63.3; since 1888, 59.8. Total number of cases admitted, 1899–1900, 6,361, since 1888, 61,257. Total number of hereditary cases, 1899–1900, 1,202; since 1888, 14,526. The hospital showing the highest percentage of heredity of the whole number for the year 1895–1896 was the Matteawan Hospital, with a percentage of 57.1; for the year 1898–1899, the St. Lawrence Hospital, with a percentage of 41.6; for the year 1899–1900, the Binghamton Hospital, with a percentage of 30.2, and since 1888, the St. Lawrence Hospital, with a percentage of 33.8. In the census returns of 1890, of 70,340 insane studied with reference to heredity, 22,077, or 31.38 per cent., had insane relatives: the number having insane fathers was 2,531; insane mothers, 3,159, insane grandfathers, 784; insane grandmothers, 810; insane uncles, 2,408; insane aunts, 2,034; insane brothers, 3,630; insane sisters, 3,704; insane sons, 465; insane daughters, 480 (Kellogg). The transmission of heredity through the maternal branch is greater than through the paternal, being 372, as compared with 335 for the year 1895–1896; 420 to 340 for the year 1898–1899, 450 to 320 for the year 1899–1900, and 4,261 to 3,608 since 1888. It is a noteworthy fact that the reports of the New York State Hospital show that maternal transmission is increasing rapidly over paternal transmission as shown by comparison of the figures given for the years 1895–1896 and 1899–1900. Dr Krauss concludes his interesting study by pointing out that heredity is found to be just as strongly represented in the various neuroses as was found for the psychoses.

The "Light Cure" at Copenhagen.—In the *American Review of Reviews* for October is an article on Professor Finsen and his work. The account is written in a popular style, so as to make it comprehensible to lay readers, but at the same time, some of the descriptions of the apparatus should prove of interest to the scientific medical man. A part of the description reads as follows: "While Professor Finsen began his experiments with sunlight, and still employs the natural rays when weather conditions permit, yet the inconstancy of the northern sun has made it necessary to treat the majority of cases with electric light. For this reason it is more to the point to dwell, first, on the construction of the electric-light apparatus, which, with their power of 20,000 candles each, are, nevertheless, so designed that the intense heat developed becomes nil as the tremendous glare strikes directly on the patient's face. It is this ability to utilize the chemical action of the concentrated light, and exclude the heat-giving quantity, which makes the observer look on in mute wonder. The concentration apparatus consists of quartz lenses, framed in two brass tubes which can be moved, the one into the other, like two pieces of a telescope. Lenses of quartz are used because this material, in a far higher degree than glass, allows the ultraviolet rays of the shortest wave length to pass through. The apparatus for the concentration of sunlight, however, may be made of glass, since all the ultraviolet rays here have longer wave lengths. In that part of the electric apparatus which faces the arc lamp two lenses are inserted. After passing from the lamp the divergent rays are here concentrated, and then they pass through the brass tubes, at the distant end of which they meet again with two lenses of quartz. Between these two latter lenses there is distilled water, which cools the light by absorbing the intensely heating ultrared rays, but does not impair the blue, violet, and ultraviolet ones. Four such apparatus for light concentration are fixed around each arc lamp, the whole supported from the ceiling. As far as the curative implement is concerned, everything has been done now to rob the light rays of their heat. But still the light is too hot to be turned on the skin without working injury. Therefore, since the light itself can be cooled off no further, the skin must be subjected to a cooling process. This is obtained through a little contrivance that consists of a brass ring which is closed at both ends with quartz plates. The brass ring also contains a small tube for the admission of running water and another tube to carry it off. By means of elastic bands the ring is now forced against that part of the skin which is to be treated. The cold, running water cools it off to such a degree that the skin can now stand a concentration of rays with a heating force sufficient to set fire to a piece of wool. This little apparatus has the additional function that it removes the blood from that part of the skin against which the ring presses. This very essential feature makes it possible for the chemical light rays to penetrate where otherwise the blood would absorb these rays. The water is carried through a rubber tube from a reservoir above, and after passing through the pressure apparatus finds its outlet beneath the floor."

Increasing Age of Population.—The Census Bureau has issued a statement showing the increasing age of the population from decade to decade. The median age of the total population in 1900 was 22.8 as compared with 21.9 in 1890. The median age of the white population in the last census year was 23.4, and the colored was 19.7; while in 1890 that of the white population was 22.4 and the colored 18.3. The report shows that there was an increase in the median age of the white population in each decade from 1810 to 1890, amounting in the ninety years to 7.4 years.

The Prognostic Significance of Hæmatemesis.—W. Janowski has found that the most reliable test for the presence of blood in vomitus is Weber's. This is carried out by shaking the suspected material in a test tube with one-third of its volume of acetic acid and the same amount of ether. The ether is then allowed to rise to the surface and a couple of cubic centimeters are decanted. To this five to ten drops of tr. guaiac and fifteen to twenty drops of old ol. terebinth. are added. The presence of blood is indicated by the appearance of a bluish-violet color, which may be made more evident by the addition of a few drops of chloroform. When the blood has entered the stomach by flowing into it from above from the upper-air passages, the prognosis naturally depends on the nature of the primary lesion. But, as this is usually of gravity (general sepsis, endocarditis, nephritis, scurvy, tuberculosis, etc.), hæmatemesis under these conditions is to be regarded as one of the most serious symptoms. In acute intoxications the bloody appearance of the vomitus is not necessarily of prognostic significance, for it simply indicates a certain degree of corrosion of the mucous membranes. The obstinate, painful vomiting of dark chocolate-colored, often fetid, material, however, is of grave import, and points to deep and extensive gastric ulceration with impending perforation or great danger of subsequent stricture. In gastric ulcer even small and infrequent hemorrhages do not permit a definite prognosis for more than a short time and never regarding permanent cure. In carcinoma hæmatemesis has the most sinister significance, as it appears in the later stages when surgical intervention is no longer feasible. Accompanying the perforation of stomach or duodenum, this symptom portends a fatal result unless adhesions are present, as even surgery usually is too late. In cirrhosis the prognosis depends on whether the bleeding comes from a capillary plexus or is the result of the rupture of a larger vein, in which case death may follow. When hæmatemesis is a symptom of pylephlebitis the prognosis is unfavorable, as it also is in wounds of the liver, pancreas, or stomach, and in aneurysm of the cœliac axis. In yellow fever the bloody vomit causes increased anxiety only when long continued, while its early cessation is a hopeful omen. In the plague hæmatemesis occurs only in the severest cases, which is also true in peritonitis following sepsis. Following laparotomies, and in endocarditis, its appearance usually is a forerunner of speedy death, and it is an unfavorable sign in acute yellow atrophy of the liver, leukæmia, and scurvy. In intestinal obstruction and peritonitis it is an evidence of sepsis. In chlorosis the prognosis is not made more grave by it, and in hysteria and gastric crises its importance depends on its frequency and severity, as hysterical women sometimes bleed often and freely without serious detriment to their general health. In the new-born hæmatemesis is accompanied by a mortality of from 50 to 60 per cent.—*Zeitschrift fur klinische Medicin.*

Alcohol as Food or Poison.—Professor Kassowitz has published, in a recent issue of the *Archiv fur die gesammte Physiologie*, the results of investigations and experiments carried out by him in his effort to settle the much-vexed question as to whether alcohol is a nutritive substance or not. A certain number of dogs were given definite amounts of food and required to take a stated amount of exercise each day. The dogs were placed on a running machine, and the distance run by each dog was recorded. During the first week that the dog that was given food without alcohol ran 10.888 kilometers per hour, while its mate, sustained by the same kind of food, with the addition of alcohol, ran only 7.847 kilometers per hour and showed a loss of weight at the end of the week, the first dog having gained in weight. During the following week the work was reduced on account of warm weather. The first dog ran 7.794 kilometers per hour, the second dog, given alcohol, 6.901 kilometers.

Several other experiments of a like nature were carried out, and it was found that the results were uniformly against the alcohol-fed dog, both as to the amount of work accomplished and changes in weight. The author thinks that the idea of alcohol having a nutritive value comes from the supposition that a part of the food may be oxidized directly without first taking part in the building up of protoplasmic substance. He is of the opinion that no food material can be used in the body without first being converted into protoplasm. Since alcohol, as a stimulating and poisonous substance, destroys the highly complex and unstable protoplasmic molecule, it cannot at the same time be assimilated by it, consequently it cannot act as food and poison simultaneously. After a comparatively short period, alcohol paralyzes the center of innervation for the muscles and, therefore, by diminishing the amount of muscular action, the secretion of carbonic acid is lessened. This diminished secretion, consequently, means no saving of the tissues of the body, but it is a direct result of the poisonous action of alcohol. Kassowitz is convinced that under no conditions can alcohol act in a nutritive manner.

Nothing New, Etc.—In these columns we have shown a number of times that many remedies and methods, now considered new and modern, were known and used hundreds of years ago.

Dr. Charles Francis now calls attention to the fact that saline injections in cholera were used during Sir James Paget's apprenticeship.—*Merck's Archives.*

Health Reports.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 4, 1902:

		CASES.	DEATHS
SMALLPOX—UNITED STATES.			
Delaware, Sussex County	Sept 1–25	7	..
Illinois, Freeport	Sept 20–27	2	..
Indiana, Indianapolis	Sept. 20–27	2	..
South Bend	Sept 20–27	2	..
Kansas, Wichita	Sept 20–27	3	..
Massachusetts, Chelsea	Sept 20–27	1	..
Michigan, Grand Rapids	Sept 13–20	1	..
Montana, Butte	Sept. 20–28	1	..
New Hampshire, Nashua	Sept. 20–27	13	1
New Jersey, Newark	Sept 20–27	3	..
New York, New York	Sept 20–27	5	1
Ohio, Cleveland	Sept 20–27	70	17
Pennsylvania, Erie	Sept 20–27	1	..
McKeesport	Sept 20–27	14	2
Pittsburg	Sept 20–27	7	7
South Carolina, Charleston	Sept 20–27	1	..
Wisconsin, Greenbay	Sept 20–28	1	..
SMALLPOX—FOREIGN.			
Barbados	Aug 31–Sept. 15	220	11
Canada, Amherstburg	Sept. 20–27	1	
Great Britain, Dundee	Sept 13–20	1	
Liverpool	Sept 13–20	3	.
London	Sept. 6–13	7	2
Sunderland	Sept. 6–13	4	.
Italy, Naples	Sept 6–13	1	..
Palermo	Sept 5–13	10	1
Mexico, Mexico	Sept 14–21	.	1
Russia, St. Petersburg	Aug. 30–Sept 13	18	9
Straits Settlements, Singapore	Aug 2–16	1	1
YELLOW FEVER.			
Columbia, Panama	Sept 15–22	3	1
Cuba, Havana	Sept 19	(1 case removed from S. S. *Havana* from Mexican ports.)	
Mexico, Coatzacoalcos	Sept 13–20	1	1
Mexico	Sept 14–21	2	..
Tampico	Sept 20	.	1
CHOLERA—FOREIGN.			
China, Hongkong	Aug 9–16	21	19
India, Calcutta	Aug 23–30	.	11
Japan, Osaka and Hiogo	Aug 30–Sept 6	17	18
Java, Batavia	Aug 16–23	38	35
Straits Settlements, Singapore	Aug 2–16	55	55
PLAGUE—UNITED STATES.			
California, San Francisco	Sept 11	1	1
San Francisco	Sept. 10	1	1
PLAGUE—FOREIGN			
China, Hongkong	Aug. 9–16	12	12
India, Calcutta	Aug 23–30		24

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Original Articles.

STATISTICAL REPORT ON CREOSOTE IN PNEUMONIA.

BY I. L. VAN ZANDT, M.D.,
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EARLY in last March I sent to many medical journals, and to a few individuals, a circular asking those who had used creosote or carbonate of creosote in the treatment of pneumonia to send me, in April, on a postal card the number of cases treated and the number of deaths; also yes or no to the following questions: (1) Do you believe creosote ever aborts pneumonia? (2) Do you believe the majority of cases are mitigated by it? (3) Have you ever found cases which, having plenty of time, were entirely uninfluenced by it?

In response I have received more than seventy letters and cards and five verbal reports. These came from Ontario, Mexico, Honduras, twenty-two States, and the Indian Territory.

This shows that the creosote treatment has had a widely extended trial. The accompanying table

NAME.	POST OFFICE.	CASES.	DEATHS.	QUESTIONS. 1	QUESTIONS. 2	QUESTIONS. 3	REMARKS.
Jno. W. McCullough	Alliston, Ont	2	0				
Hitchcock and Ferrell	Brookwood, Ala	11	0		Yes.	No	Aged eighty-four and forty. Both improved four or five days, when other lung became involved, and both died. Query: Was remedy omitted?
G. W. Bailey	Elizabeth, N. J.	2	2				
K. Lowder Reed	Atlanta, Ga.	1	0			Yes.	
L. S. Green	Elma, Miss.	2	0				
E. B Gilbert	Abilene, Tex	2	0	Yes.	Yes.		
J. H. Alexander	Meridian, Tex	18	1	Yes.	Yes.	No.	In fatal case, by second visit 104 to 99. A second chill followed, when the stomach, "a very catarrhal one," rejected everything for seven days.
R. S Lipscomb	Grapevine, Tex.	26	1	Yes.	Yes.	Yes.	
L. W. Hollis	Abilene, Tex	26	0	Yes.	Yes.	Yes.	
Fred. B. Johnston	Anderson, Tex.	27	1		Yes.	Yes.	Aged seventy-two. Complicated with heart trouble.
W. Penn Buck	Lansdowne, Pa.	9	0		Yes.	Yes.	
Leonard Weber	New York City	21	2	Yes.	Yes.	Yes.	Fatal cases complicated with other diseases.
L. E. Maker	Sibley, Ia.	10	0		Yes.	No.	
S. E. Sanchez	Barwick, Ga	19	1	Yes	Yes.	No.	
J. H. Burnett	Kopperl, Tex	8	0	Yes.	Yes.	Yes.	
Geo. H. Sanborn	Henniken, N. H	22	1	Yes.	Yes.	No.	
E. W. Hawthorne	Gypsum, Ind. Ty.	5	1	No	No.	Yes.	
A. A. Blassingame	Chisholm, Tex.	13	3	Yes	Yes.	Yes.	One sixty-seven years old, one complicated with measles, and one with obstructed bowel.
J. S. Cleland	Swanwick, Ills.	6	0	Yes.	Yes.	No.	
J. W. Carey	Whitesboro, Tex.	18	0	Yes.	Yes.	No.	
A. A Stafford	Alameda, Cal.	2	0				
J. A. Gracey	Waxahachie, Tex.	30	1	Yes.	Yes.	Yes.	Double hypostatic pneumonia after five weeks typhoid fever.
W H. Davis	Arlington, Tex	72	1	Yes.	Yes.	No.	
J. D. Croom	Maxton, N. C.	6	0	No.	Yes	Yes.	
H. H Stamper	Compton, Ky.	12	0	No.	Yes.	No.	
D. Gardner	Lehigh, Ind. Ty	22	4		Yes.		Two were "old men," pneumonia developing after seven to twelve days of "Grippe."
J. T. Selman	Joshua, Tex.	7	0	Yes.	Yes.	No.	
W. J. Chapman	Lake City, Miss.	4	0	No.	Yes.	No.	
A. M. Elnore	Dallas, Tex.	4	0	Yes.	Yes.	No.	
M. N. Due	Birmingham, Ala.	18	0	Yes.	Yes.	No.	
W. D. Lipscomb	Grapevine, Tex.	36	4		Yes.		One died five days after subsidence of fever from purpuric hemorrhage. One developed meningitis early in attack; One, bed-ridden five years, had attack following cholera morbus. One uncomplicated.
O. N. Schudde	Iberia, Mo.	24	1	Yes.	Yes.	Yes	
H. C. Whitehead	Ft. Worth, Tex.	5	0	Yes.	Yes.	No.	
F M. Hale	Crews, Tex.	10	0	Yes.	Yes.	No.	
V. P. Armstrong	Dallas, Tex.	11	0	Yes.	Yes.	No.	
I. A. Langston	Ross, Tex.	18	1	Yes.	Yes.	No.	The one death, railroad section hand; disease far advanced when called.
Frank Peak	Pratt, Kan.	1	1				
W. R. Howard	Ft. Worth, Tex.	122	4	Yes.	Yes.	No.	One with cerebral meningitis. Two—seventy three and eighty-three—would not stay in bed. One, aged three, following dysentery and whooping cough.
J. S. Berkman	Rochester, N. Y	4	0	Yes.	Yes.	No.	
P. F. Rice	Gaines Station, Mich.	1	0				
E. B. Tefft	New Rochelle, N. Y.	20	1	No.	Yes.	Yes.	
E. S. Lain	Bolivar, Tex.	13	0	Yes.	Yes	No.	From January 27, treated twelve cases without creosote, two deaths. Thirteen with creosote, no deaths.
L. C. Rouglin	Atlanta, Ga.	4	0	Yes.	Yes.	No.	
H. W. Cummings	Hearne, Tex.	45	2	No.	Yes.	Yes.	One, a very old man, died suddenly on fifth day after an attempt to get up.
E. P. Hall	Polytechnic College, Tex.	45	0	Yes	Yes.	Yes.	
J. W. Starr	Lacona, Ia.	5	0	Yes.	Yes.		
B. H. Brodnax	Brodnax, La.	9	0	No.	Yes.	No.	
W. A. Morton	Paradise, Tex.	25	1	Yes.	Yes.	Yes.	In fatal case lung cleared up, but patient took on low grade of fever, of typhoid type, duration thirty days
F. M. Vessels	Brewer, Mo.	5	2	No.	No.	Yes.	
J. B. McMackin	Wayland Springs, Tenn.	27	1	Yes.	Yes.	No.	
W. E. Redford	Boyd, Tex.	12	1				
Hill & Johnson	Reyno, Ark.	7	0	Yes.	Yes.	No.	Alcoholic, died from cerebrospinal meningitis Aspirated fluid, showing by culture pure pneumococcus.
O. Mallet	Troy, N. Y.	11	1	No.	Yes.	No.	
W. B. Pullen	Jacksonville, Tex.	15	0	Yes.	Yes.	Yes.	
Yates & Yates	Ander, Tex.	25	0	Yes	Yes.	No.	
Henry A. Kurth	Schenectady, N. Y.	1	1				
W. C. Brown	Britton, Tex.	8	0	Yes.	Yes.	Yes.	
J. T. Moore	Minneapolis, Minn.	8	1	Yes.	Yes.	No.	Fatal case, aged eighty-four.
H. S. Gully	Meridian, Miss.	6	1	Yes.	Yes.	No.	
W. A. Adams	Ft. Worth, Tex.	32	0	Yes.	Yes.	No.	
W. E. Van Zant	Mandeville, La.	1	0				
Jno. L. Scales	Alden Bridge, La.	9	1	No.	Yes.	Yes.	
M. H. Cravens	Arlington, Tex.	51	3	Yes.			One fatal case, was a chronic alcoholic
Anonymous	Stetson, Me.	14	0	No.	Yes.	Yes.	
Wilson O. Bridges	Omaha, Neb.	11	1		Yes.	No.	Used "creosote products." Fatal, double pneumonia with asthma.
J. D. Pettet	Mound Valley, Kan.	8	0		Yes.		
J. P. Gaston	Gilbertsboro, Ala.	6	0	No.	Yes.	No.	
W. H. Thomson	New York City	18	1				Taken from MEDICAL RECORD.
*Ignacio V. Johnson	Vera Cruz, Mex.	12	4	No.	Yes.	No.	
F. T. B. Fest	Tegucigalpa, Honduras	12	3	No.	Yes.		
W. P. Sipe	Cripple Creek, Col.	8	1	No.	Yes.	Yes.	Dissipated man, complicated with pericarditis. Normal mortality very high in this altitude.

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*Since completing the table I have received a letter from Dr. I. V. Johnson, Vera Cruz, Mex., from which I abstract as follows: "Pneumonia is more fatal here than in other towns." All these cases were very poor, some alcoholic, all ignorant, and most in previous bad health. Of fatal cases one was a double pneumonia, with little hope from beginning; one complicated with abortion, and "did not take regularly the drugs prescribed;" two were bottle-fed babies, and in both, attack followed measles and whooping cough. His dose had been smaller than recommended in reprint I had sent him gives the results of treatment, and the estimate in which the remedy is held.

I am gratified that so many have been moved to send reports, but yet am disappointed at not receiving reports from some localities in which I knew the treatment was in use. A few of these letters gave no numbers but opinions only. Two of these express adverse opinions, while the others enthusiastically advocate the treatment—two of the writers, however, having used guaiacol carbonate. One writer said he had used the creosote carbonate in approximately sixty cases, with no death except where there was "organic heart complication," but, unfortunately, he did not say how many had the "complication," so his report had to be left out.

Some of the reporters are recent converts, while others, as Dr. Howard, have used the treatment for a long time. His report covers seven years. The diagnosis of each case having been written on his ledger during or soon after the treatment.

It will be noted that I have not put my own work in the table. For this there are two reasons; first, I have constituted myself the "advocate" and do not wish to testify in my own behalf; second, I kept no clinical records, and did not think I could go back over my account books for eight years and pick out the cases of pneumonia.

I most heartily thank all who have sent reports, whether favorable or unfavorable; also all journals which were kind enough to publish my circular.

To the first question, thirty-seven, reporting 762 cases, say "yes"; fifteen, reporting 187, say "no"; and nineteen, reporting 177, fail to answer. Those reporting, a little more than two-thirds of the cases, assert the abortive effects of creosote.

To the second question, fifty-seven, reporting 1,022 cases, answer "yes"; two, reporting ten cases, say "no"; the remainder fail to answer.

To the third, twenty-three say "yes"; thirty-one, "no"; and sixteen fail to answer.

These answers furnish strong confirmation of my conclusions given in a former paper, viz., "A large per cent. of pneumonic cases are cut short or aborted, almost all the rest are mitigated, and the remainder, a very small per cent., are not at all affected by the remedy."

The figures of Dr. W. H. Thomson, near the close of the table, merit special attention. These cases were treated in Roosevelt Hospital. The loss was one in eighteen, or about 5.5 per cent. I have lately seen a condensed report for five years from this institution, giving an average death rate of 35.6 per cent. The contrast is striking.

Summing up the whole, we find 1,130 cases and fifty-six deaths, a little less than 5 per cent., but this is very much mitigated by report of complications under "Remarks." Contrasting this with the ordinarily recognized death rate, 25 per cent., we see in each 100 cases a saving of twenty lives, or 226 in 1,130.

This may be made even more striking by taking some official figures. The Registrar General of England, in 1900, published that the deaths from pneumonia in one year in the United Kingdom were 30,000 (almost as many as from typhoid fever, scarlet fever, measles, whooping cough, and diphtheria). This was presumably 25 per cent. of the cases, and according to our table, four-fifths, or 24,000, ought not to have died.

Again, taking the figures of our own last census, we find that 105,971 died in one year from pneumonia. If this is 25 per cent. of the attacks, four-fifths of these, or 84,774, ought not to have died.

In the light of these figures, and my own observations for more than eight years, I again venture "to express the opinion that the use of creosote or carbonate of creosote in the treatment of acute pulmonary inflammations is one of the greatest life saving discoveries of the nineteenth century."

THE RESULTS OF TREATMENT OF LARYNGEAL CANCER BY MEANS OF THE X-RAY.*

By D. BRYSON DELAVAN, M.D.,
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The suggestion that the *x*-ray might possibly prove an effective remedy for malignant disease has aroused universal attention. During the past year series of experiments have been undertaken in all leading scientific centers, and large numbers of observations have been made. The knowledge of this has not been slow in reaching the general public, and the victims of cancer are clamoring to know whether or not the new remedy is an assured success. Their anxiety is natural in view of the character of malignant disease itself, and also in view of the acknowledged danger of disaster from loss of time spent in useless experimentation when, as far as we now know, early radical operation is needed in order to secure even a fair chance of success.

What the *x*-ray itself is, or is not, how it should be applied, and what has been accomplished by it in other fields, it is not my purpose to discuss.

During the past six months we have been repeatedly importuned by sufferers from laryngeal cancer as to whether, in their cases, the use of the *x*-ray would be likely to effect a cure. The answer has always been that the study of this subject was in its infancy, and that no reliable information concerning it was at hand. Feeling that the importance of the subject warranted the most careful attention, and that we should try to discover as speedily as possible whether the method could be recommended or not, I have felt justified in presenting a few notes which will suggest the actual position of the question at the present time. In order to gain the necessary information I have studied recent literature for reports of cases, have attended several meetings at which the subject was discussed, and have personally interviewed a number of leading experimenters. I regret to report that, to the best of my knowledge, up to the present time, not a single case of carcinoma of the larynx has been cured by the *x*-ray. Of several large institutions in New York City at which the *x*-ray is being used upon malignant cases in general, but one has had cases of laryngeal cancer. Here four cases have been treated, two, as I understand, with unsatisfactory results, and two, still under treatment, showing some signs of improvement, but far from being cured.

Dr. Wm. J. Morton has treated for me a case of advanced malignant disease of the throat, originating in the larynx, with interesting results as to the effect of the treatment upon the mass of the growth. The patient died, however, from chronic Bright's disease after about twenty applications of the *x*-ray. In a case of cancer of the tonsil and lateral wall of the pharynx, shown me by Dr. Morton, the results thus far seem to be excellent.

During the past three months this subject has been presented and fully discussed at three largely attended meetings in New York City. Both meetings called out an unusually full representation of those practically interested, and included leading experts from Boston, New York, Brooklyn, and Philadelphia. Not a case of cancer of the larynx was reported. I am unable to find that any cases have been reported from Chicago.

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*Read at the twenty-fourth annual meeting of the American Laryngological Association, Boston.

Reviewing the literature of the subject, Pusey (*Journal of the American Medical Association*, April 12, 1902) reports a large series of cases, in none of which the larynx was involved. Dr. Wm. B. Coley writes to me (May 19, 1902), "I have tried to keep track of everything that has been published about the *x*-ray treatment of cancer, but thus far have not run across anything directly bearing upon laryngeal cancer. However, I do not see why the good results obtained in other localities should not be duplicated in the larynx."

Dr. Morton tells me that he is treating at present one epithelioma of the tonsil and lateral wall of the pharynx; one of the superior maxillary region following extraction of molar teeth; one of the cheek, and one of the tongue. Improvement in all of these cases is taking place.

From the meager and fragmentary details which I have been able to secure, it would appear that no positive deductions as to the value of the *x*-ray in laryngeal cancer can be made until the method has been tried upon a larger number of cases than up to the present time have been treated by it, and that a considerable period of time must elapse in the study of a given case before it can be pronounced cured. In the general results thus far obtained, such diseases as lupus and various other lesions of the surface have responded more satisfactorily than have deeply-seated malignant growths. This appears to be true of laryngeal cancer, in which the effects of the *x*-ray have apparently been less satisfactory than in some other directions.

In answer to the question "should the *x*-ray be resorted to for the treatment of cancer of the larynx," it is fair to say that with regard to inoperable cases, since much relief has been afforded in general cases of malignant disease and in the relatively few cases of cancer of the neck and throat in which it has been applied, the victim of advanced laryngeal cancer should be allowed the benefit of it.

On the other hand, in early cases of laryngeal cancer it is a grave question whether any time whatever should be lost in experimentation. The universal opinion of the day is to the effect that Butlin's plea for early radical operation is correct, and that nothing else offers even a fair chance of safety. On the other hand, it is stated that the benefits of the *x*-ray treatment are likely to make themselves quickly apparent, and that a fair trial of it might be made within a period of two weeks. This being true, we may safely conclude that, in the average case, where the progress of the disease was not rapid, and where a few days would have to elapse in any event between the time that the diagnosis of cancer was established, and the operation for its removal actually performed, it would be entirely justifiable to submit the patient to treatment by the *x*-ray. The same principle is already observed in the administration of iodide of potassium for the purpose of eliminating the possibility of the local disease being due to syphilis. It is certainly not going too far to assert that it should also be carried out with the *x*-ray. That the method is a specific cure for cancer has not yet been proved. Without question, however, it possesses extraordinary possibilities which cannot long remain in doubt. What is now needed is the largest possible series of carefully reported cases and an allowance of time sufficient to prove that the new treatment is capable of complete and lasting success.

CASE.—S. C., aged sixty-five, widower. Had syphilis twenty years ago. Has chronic nephritis. Is rheumatic. Voice became hoarse in February, 1901. Consulted me in November, 1901. At this time there was a large mass, apparently epitheliomatous, springing from the right side of the larynx. There was much infiltration of the posterior commissure and beginning involvement of the opposite side of the larynx. The glands of the neck were involved on both sides, as was the interior part of the lateral wall of the pharynx. The case was clearly inoperable, on account of the wide distribution of the disease, the condition of the kidneys, and the age of the patient. In order to eliminate the possibility of the lesions being specific, the patient was placed upon the iodide of potassium in moderate doses. The result of this was promptly disastrous, for within a few days he developed sudden œdema of the larynx with urgent dyspnœa, and his life was saved only by instant tracheotomy. During the winter the growth in the larynx and neck increased enormously in size. In March he was placed under the care of Dr. Morton for treatment with the *x*-ray. He submitted to about eighteen exposures. After the first few treatments the growth seemed less tense and began to soften at its middle and to harden at one end. Soon the entire contour of the growth seemed to change. Later it seemed that the mass was breaking up, as there was a distinct attempt at the separation of one segment of it from the other. At this period treatment had to be abandoned, and the patient shortly afterward died from Bright's disease. There appeared to be no doubt that the mass became smaller and softer after about two weeks' treatment, and that the patient would have been benefited had his general condition not been so unfavorable.

1 EAST THIRTY-THIRD STREET.

VARICOCELE.*

By CHARLES CHASSAIGNAC, M.D.,
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THE term varicocele, etymologically speaking, signifies a tumor due to dilated veins, without any reference to its location. Actually, it is taken to mean a varicose condition of the plexus of veins accompanying and surrounding the spermatic cord.

Anatomical Characters.—For a proper understanding of the various phases of the subject, it may be well to review the normal and pathological anatomy of the parts involved. Proceeding from the testicle, the spermatic veins in their upward course become convoluted, and form what is called the spermatic or pampiniform plexus, in and around the spermatic cord. The veins then converge into two or more branches, which unite to form the spermatic vein, at some point between the level of the external abdominal ring and the middle of the crest of the ilium. This vein on the right side empties into the vena cava at an acute angle and on the left into the renal vein at a right angle, after passing beneath the sigmoid flexure. The left vein is generally longer and larger than the right, and receives branches, usually two in number, from the descending colon. The spermatic veins lie in loose tissue, which afford them practically no support.

In varicocele some or all of these veins are tortuous and dilated; they are usually increased in number, and their walls are thicker than normal, all of which leads to a diminution in their elasticity and contractility. When cut, they often remain gaping in the manner of arteries. It is chiefly in the middle tunic that the connective tissue is increased apparently from a slight degree of chronic inflammation. The swelling produced by varicocele is usually conical in shape, the base being at the testicle, and the apex ending in the inguinal canal.

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* Read before the Louisiana State Medical Society, at Shreveport.

The testicle in pronounced varicocele is likely to be more or less affected. It is apt to be soft, flabby, somewhat shrunken, insensitive, though at other times tender, and sometimes even atrophied. It is a debated point whether the atrophy is a result or a coincidence, also whether it is a lack of development rather than a true shrinkage. Authorities galore could be quoted on either side. There is no doubt that atrophy of the testicle, not preceded by gonorrhœal or syphilitic orchitis, accompanies varicocele frequently enough to show that there is a relation between the two. I have seen several instances of the kind, and it seems to me rational to suppose that the interference with circulation, due to impeded outflow and to pressure on the gland, can lead either to imperfect development or to actual shrinkage from innutrition, the difference in the process being doubtless due to the age at which the affection becomes sufficiently pronounced, and to the extent of the trouble.

The scrotum becomes relaxed, elongated, and its structure thinner and less elastic; its veins also are often, though not always, varicose, sometimes to a pronounced degree.

Causes.—There is a wide difference in the ideas entertained regarding the relative importance of constitutional and of local conditions as causes of varicocele.

Considering the period of life at which this affection generally begins, to be referred to later, a careful study of the various views on the subject leads to the opinion that constitutional and even congenital lack of vascular tone is its predisposing and sometimes all-sufficient cause; that, for anatomic reasons, this weakness is shown earlier and more readily in the spermatic veins; and that, on account of anatomic differences between the sides, it develops more frequently on the left.

In individuals with the predisposition above specified, the exciting causes may be mentioned as (1) Chronic constipation, producing prolonged pressure on the left spermatic vein by the full colon; (2) Occupations demanding continuous and prolonged standing, by keeping the veins distended; (3) Sudden and violent efforts or straining; (4) Frequent and long-continued sexual excitement, not followed by relief, leading to more or less constant congestion of the parts; (5) Persistent cough and dyspnœa. None of these causes, or perhaps no combination of them would produce varicocele in an individual blessed with a perfect vascular system, but any one of them might be sufficient to accentuate and bring out a pre-existing lack of tone in the walls of the spermatic veins.

Heredity is considered an important factor by some, and dismissed as a cause by others. Masturbation and sexual excess are often mentioned in the books as causes of this affection, but the concensus of opinion to-day seems to be that they are, on the contrary, the reflex result of irritation of the testicle, produced by the varicocele at the time of life when the generative system is most easily excited. Guyon reports having observed several cases in which the disease was due to pressure produced by a tumor of the kidney.

Frequency.—Statistics and estimates as to the prevalence of varicocele vary to an astonishing degree, all the way from 2 to 75 per cent. This can be explained only in two ways: by the difference in the degree of varicosity deemed requisite to be considered pathologic and by the various classes and ages of the subjects examined by different observers, respectively. Only when the veins are enlarged sufficiently to be visible, palpable, and the cause of some relaxation of the scrotum, should the condition be considered a diseased one; also all types and classes of men should be included in the statistics if we attempt to determine the general frequency of the condition. Henry found only a little over 2 per cent. affected in a large number of men examined for appointment on the police. Horteloup found 2½ per cent. in nearly two thousand examinations. Curling reports about the same percentage in 166,317 young recruits examined in ten years for England and Ireland. Lydston's observations show that "5 per cent. of male adults" have a moderate degree of varicocele. Bennett claims that, taking all classes into consideration, about 7 per cent. have sufficient enlargement for it to be called varicocele. Keyes states that the "common estimate" of the frequency of the trouble is 10 per cent. Humphry, too, estimates that the disease occurs in 10 per cent. of males. Senn examined nearly 10,000 recruits during the Spanish-American war, and found over 21 per cent. with different degrees of spermatic varicosity. Landouzy, long ago, said that 60 per cent. of adult males were affected. Wertenbaker, who has examined recruits for the life-saving service during fourteen years, concludes that a *slight* degree of varicocele exists in at least 75 per cent. of men.

I have recently examined, with the aid of Dr. Paul Gelpi, one of my assistants, 316 patients in my ward and clinics at the Charity Hospital, at the Polyclinic, and at my office. Of this number forty-seven were found to have varicocele, twenty-eight slightly and nineteen to a pronounced extent; forty-four had it on the left side, two on both sides, and one on the right side. This would show a prevalence in almost 15 per cent. of the men examined, in whom were included men of all ages, colors, and conditions. Still, among those seen, there was a preponderance of young men; it must also be taken into account that the majority were genitourinary patients. The conclusion, to my mind, is that 15 per cent. is yet a little high, and that the "common estimate" of the frequency of the trouble, mentioned by Keyes, is very nearly correct; namely, 10 per cent.

Relative Frequency of Side Involved.—While here again there are marked differences in the figures presented by various observers, there is unanimity in declaring that the left side only is involved in the large majority of cases (80 to 90 per cent.); both sides are affected in about two-thirds of the remaining cases; those in which the right side alone is involved are the least in number, probably about 5 per cent. Even when the right side is included in the process, it is usually in a less pronounced degree and gives less trouble. For instance, Curling mentions that in more than 120 patients operated upon for this disease by Breschet, in only one was it located on the right side, and Keyes has never operated on that side. I have seen several situated on the right side, but none giving rise to symptoms justifying operation.

This marked preponderance on the left side is easily explained by the anatomic differences already enumerated: (1) The acuteness of the angle of junction of the left spermatic vein with the renal. (2) The greater length of the left vein, owing to the lower position of the left testicle. (3) The relation of the left vein with the sigmoid flexure, exposin the former to pressure from fecal matter during th intervals between defecations. Other reasons ar sometimes given, such as the tendency of men to stand more on the left foot, and the habit of "wearing" on the left side, but my opinion is that very little importance need attach to any but the anatomic differences. That the predisposition is much greater on the left side is further evidenced by the fact that in acute cases, produced by sudden strain, the disease almost always develops on that side.

Age of Prevalence.—Varicocele is met with chiefly in the young. It has been seen in boys under ten years of age, and Bennett mentions one case of marked varicocele in a boy of four years, demonstrated at post-mortem. Over half the cases are found at from fifteen to twenty-five years of age and few in men over thirty-five. On the other hand, it has been known to disappear after middle life.

Diagnosis.—It is generally easy to recognize uncomplicated varicocele, yet it is on record that the disease has been mistaken for hernia. It forms an irregular, convoluted tumor, somewhat pyramidal in shape, soft, doughy, compressible, and inelastic. It produces an elongated and relaxed condition of the scrotum; the walls of the latter are thinned, sometimes to the extent of assuming a dark-bluish hue, from the tortuous veins which show through. The feel of it is generally likened to that of a bundle of worms loose in a bag, and is very characteristic. When the person affected lies horizontally, the tumor disappears, as it usually does in inguinal hernia, but it does so more rapidly, and is not prevented from showing again, when the patient assumes an erect posture, by pressure applied at the external inguinal ring, as is the case in hernia; on the contrary, such pressure is apt to even increase the size of the tumor by interfering with circulation in the affected veins. As a rule, the tumor is painless, but it may be tender on pressure from a certain degree of phlebitis, which we have seen can sometimes be present. The swelling may increase on coughing, but the characteristic impulse of hernia is not felt. It is diminished in size by cold and increased by heat; also is more pronounced by bed-time than upon arising. It is, of course, dull on percussion.

When complicated, the varicocele becomes of secondary importance, the other ailment being nearly always that requiring attention and treatment.

Symptoms.—One of the most noteworthy points in connection with the subjective symptoms of varicocele is that their intensity does not correspond with that of the disease. Often a small varicocele will produce pronounced suffering, while as frequently a large one will cause little annoyance. Everything else being equal, young patients complain more of this condition than the middle-aged or old. The natural sensitiveness of the testicle, and the association of its nerves with the sympathetic system, explain why and how local and general disturbance may be expected. For convenience of study, we can divide the effects of varicocele into mechanical, reflex, and mental.

The Mechanical.—From the volume of blood dammed back in the veins involved, a sensation of weight and dragging is produced in the scrotum and along the cord. The pressure on the testicle may produce pain, tenderness, and neuralgia, although in advanced cases there may be a diminished sensitiveness. When the tumor is voluminous it gets in the way, interferes with the patient's activity, and even produces visible deformity. Cutaneous irritation is apt to develop from friction and moisture, frequently leading to pruritus, intertrigo, or eczema. I remember the case of a middle-aged man, in whom pruritus of the most persistent and distressing character was the chief symptom and who was promptly cured by operation

The Reflex.—Neuralgic pains of different kinds and different intensity are common. In the testicle itself they may be only slight, but, on the other hand, they may be most intense. Curling notes the fact that several operators have performed castration for their relief, at the request of the sufferers themselves. They may radiate to the penis, the perineum, the back, down the thighs, and have been known to include even gastralgia. Loss of tone in the sexual apparatus exists in most cases; this varies in degree from a slight diminution of sexual power to complete impotence. This loss of power can be due either, primarily, to the varicocele itself, or, secondarily, to the excesses and the seminal losses, which are also included in the reflex effects of the disease. Urethral neuralgia, vesical irritability, dyspepsia, and general malaise have been included in the list of subjective symptoms.

The Mental.—To the actual physical and the reflex symptoms of varicocele may be added the emotional. Disproportionate anxiety is characteristic of this disorder as well as of most of the sexual apparatus. Mental depression follows, to which hypochondriasis and neurasthenia are sometimes added. Even a suicidal impulse has been occasionally noted. There is no question but that the morbid tendencies resulting from this affection are frequently aggravated by quack advertisements, commercial medical literature, and the artful suggestions of the charlatan.

Prognosis.—If there is no intervention of any kind, the disease is apt to increase gradually from puberty to middle life, both as to physical and mental results, more or less rapidly, according to the occupation and mode of life of the patient. Occupations demanding violent efforts, or, on the other hand, very indolent habits, producing constipation and lack of vascular tone, favor the development of the affection; sexual excesses, and especially frequent ungratified sexual excitement, tend to aggravate the condition. After middle life varicocele gives much less trouble mentally and in a reflex way, while in the old it causes no inconvenience except mechanically, if quite large.

When palliative measures are carried out properly, the bad effects are overcome in a large proportion of cases, and there is no progress in the disease, provided an exciting cause does not continue to exist in a marked degree, and there is no morbidity on the part of the patient. Cases have been reported in which the disease disappeared after the patient had passed the age of thirty.

Radical treatment by means of any of the operations to be described, properly selected and performed, promises a positive removal of the abnormal physical condition. Even shrunken and undeveloped testicles have been known to grow and resume a natural state. Cessation of the reflex and mental phenomena also usually follows; in fact, a part of the benefit at times perhaps results from the moral effect of the operation. Yet it would be rash to give too positive an assurance of complete relief, as some of the neuralgic pains may occasionally persist. Especially must we be careful in reference to impotence, for we cannot be certain always that the lack or absence of sexual power may not be a coincidence, and be due to a separate and distinct cause. The possibility of the latter should be carefully studied, and suitable treatment of the accompanying or complicating ailment be promptly instituted.

Palliation.—In a large proportion of the milder forms of varicocele, palliative measures are sufficient. These consist: (1) In the removal of any exciting cause. The bowels must be carefully regulated; straining, heavy lifting, and constant standing must be abandoned; any existing cough should be relieved; sexual life must be regulated so that occasions for frequent ungratified desire may be avoided, as well as excesses of actual commission. (2) In toning up the general system, and especially the circulation. Systematic but gentle exercise, preferably out of doors; the daily use of the cold plunge or shower bath, followed by a brisk rub; the administration of iron, strychnia, and any other tonic indicated, or the use of bromides if there is much nervous excitability, will all prove beneficial. (3) In local applications. Bathing the scrotum in very hot or in cold salt water, morning and night; applying astringent lotions, such as the aqueous extract of witch-hazel or weak lead water, by causing contraction of the scrotum, affords some support and consequent comfort. (4) In wearing a suspensory. This should be light, though strong enough to be firm, and by all means well-fitting; it should relieve the testicle and scrotum of all weight, hence the medical adviser should see that it is carefully adjusted; it should be worn constantly except during rest in bed, the local baths already mentioned being resorted to when it is removed and before it is again applied; the patient should possess two at a time, so that they can be changed daily, not only in order to be cleaned when necessary, but that they may not become stretched as readily. (5) The patient's mental annoyance and exaggerated apprehensions must be allayed by sensible advice and an adequate explanation of physiologic and hygienic laws relevant to the subject.

Indications for Operation.—We should have clear views as to the advisability of an operation in a given case, for a patient may desire its performance simply through a magnified idea of the evil of his condition. In such instances, a plain, honest talk, with advice directed to palliation, may suffice to remove all his alarm. At other times a sexual neurasthenic may importune us to operate simply because he has been influenced by quack literature on the subject, and has detected a slight fulness of the spermatic plexus with sensitiveness of the veins, the latter, perhaps, only an item in the general hyperæsthesia of the genitals. In these cases we must decline to satisfy the whim; we must not be led away by the possible moral effect of the operation; the cold steel sound, and other appropriate measures, will accomplish more good and with more permanent effect.

We should decline to operate when there exists independently pronounced physical or mental disease, and at such time as there is intercurrent inflammation of contiguous tissues, as epididymitis, for instance.

I would advise limiting the operation to the following conditions: (1) When the varicocele is voluminous enough to cause marked deformity, interference with occupation, or skin irritation; (2) When it causes severe pain or reflex neuralgia; (3) When the testicle on the side affected is becoming atrophied; (4) When the opposite testicle is lost or seriously impaired from disease or injury; (5) When the disease is increasing, in spite of palliative measures; (6) When apparently it alone causes marked mental depression and aberration of the sexual function; (7) When a patient is desirous of entering a public service and varicocele is the only obstacle.

Operations.—To consider all the measures that have been devised and advised for the radical cure of varicocele, while historically interesting, would be useless. Their mere enumeration would entail a loss of time. Many of them have become obsolete, for various reasons, not the least important of which is the introduction and observance of aseptic and antiseptic technique. Some are dangerous, and have been discarded on that account. Hence I shall describe only three distinct methods, one subcutaneous and two open, each of which has to-day its warm partisans, and is subject to various modifications. I shall try afterward to point out their main advantages and disadvantages.

Resection of the scrotum is frequently advocated either as an operation *per se*, or as supplemental to other measures. The scrotum is so elastic that it will often stretch again if the venous tumor itself is not more or less obliterated, or will contract if the varicocele proper is remedied; consequently I deem a sacrifice of scrotal tissue usually either insufficient or superfluous, as the case may be. When operating on persons in whom the scrotum is much elongated, it suffices to bring the edges of the wound together in such manner as to change the line of incision from a horizontal to a transverse direction, as recommended by Parker.

Let it be understood, so as to save repetition, that any and all operations must be preceded by the proper preparation of the parts and the patient. The latter's bowels should be opened; he should have a warm bath; his scrotum and pubes should be shaved, then kept covered with a mild bichloride pack until the moment of operation, at which time the skin should be mopped with alcohol. Any of the operations can be satisfactorily performed under local cocaine analgesia. The two open ones may be done under general anæsthesia, if preferred for a valid reason. All must be done in every instance with the greatest care as to asepsis and antisepsis. It will be taken for granted always, that the operation is being done on the left side.

Subcutaneous Ligation.—The best of this type of operation is that devised by Keyes and bears his name. It is in reality a modification of the method practised by Ricord more than half a century ago. It is done with strong twisted sterile silk and Keyes' modification of the Reverdin straight needle, the eye of which is kept closed by a spiral spring in the handle and is opened by pressure backward on a button.

The patient should stand in a good light, leaning against the operating table. Grasping the scrotum from before backward with the left thumb and fore-finger, the vas deferens is separated from the veins and held to the inner side; it can be distinguished by its whip-cord feel. The needle, charged with a piece of silk about a foot long, is thrust through the scrotum, between the veins and the vas deferens, as high up as possible, and left there. A second needle is thrust through in a similar manner lower, near the globus major, and also left hanging. In pronounced cases, a third needle is similarly introduced between the globus minor and the veins that hang below. The patient usually feels faint by this time, if not earlier, and may be placed on his back on the table. Each ligature is now to be completed in turn in the following manner: the eye of the needle is opened by pressing back the button; the loop of silk is seized with forceps or tenaculum and the short end pulled out; the needle, with its eye closed, is pulled forward until its point gets back to the anterior puncture, but without emerging; the veins are allowed to drop back to their natural position alongside the vas; the needle is then again pushed under the dartos on the other side of the veins and brought out at the posterior puncture where the silk is still hanging; the eye of the needle is once more opened and the silk is inserted into it; the needle is finally withdrawn through the original anterior puncture and unthreaded. Two or three loops are now around the veins, and the loose ends of each are hanging in front; each set is to be seized and pulled upon to adjust it as near the veins as possible, then tied with a double knot, cut off close, and the knot made to disappear by pulling on the scrotum. A dry dressing and a support of some kind are to be applied. I use a cotton and collodion dressing at each puncture and apply a well-fitted suspensory.

The points of ligation and the testicle itself swell and become tender, the inflammation subsiding gradually after two days up to the time the patient is able to get about, in four or five days; the inflammatory exudate persists for several weeks, but is slowly absorbed.

Open Scrotal Ligation.—There are several methods of performing this operation, varying as to more or less important details. Some open the venous sheath in their dissection, others ligate without so doing; many advise resection of the veins, some do not. I shall describe the operation I prefer, which is in all essentials that originally advocated and described by Bennett.

The patient is placed on his back, the operator standing on the left. The affected veins are made tense and pressed up by grasping them with the left hand. The vas deferens at the same time is pushed back and avoided. An incision about an inch in length is made over the prominent veins, and is deepened until the thin fascia surrounding the varicocele is exposed. The vessels can now clearly be made out and need not be actually denuded. With an aneurysm needle a strong chromicized catgut ligature is slipped under the bunch of veins, as near the testicle as is deemed proper, and is tied securely, the ends being left long. The veins, in their sheath, are then freed above and drawn out of the wound to the extent that it is decided to resect. A second ligature is slipped around the freed veins as high as possible and tied in a single knot, held by an assistant. The portion between the ligatures is divided about a quarter of an inch from each ligature and removed. The upper ligature is now tightened and knotted, both ends being left long, as with the other. The wound is cleaned and dried and one thread of each ligature is passed through its corresponding stump, between the point ligated and the cut end. The stumps are then brought and held together by tying the ends of the upper ligature to those of the lower and cutting them all short. The edges of the cut are sutured with catgut or silk-worm gut, a dry dressing is applied, the scrotum is held by a snugly-fitting suspensory and the patient is put to bed.

The wound usually heals in a few days, and the stumps of the veins can be felt to be enclosed in a mass of exudate, which may take a month to disappear, although the patient may be allowed to sit up in about a week and resume any ordinary occupation in about two. He should wear a suspensory until the exudate has been absorbed.

Suprapubic Ligation.—This, which has been called also the "high" operation, has been introduced within the last two or three years and is the favorite with many army surgeons. It is done as follows:

The incision starts just above the spine of the pubic bone and is carried upward and outward, somewhat parallel with Poupart's ligament, for about an inch and a half to two inches. The superficial and the deep fascia are divided carefully, until the vessels of the cord come into view, when the latter is raised out of the wound by a little blunt dissection. The spermatic duct and artery are returned to the bottom of the wound. The veins are then dissected from the connective tissue for about two inches, ligated with catgut at each terminal point of dissection, and cut between the ligatures; the latter are left three or four inches long and are tied together so as to approximate the upper and the lower ends of the veins which are finally anchored to the external pillar of the ring. The deep and the superficial fascia are separately united with catgut suture and the skin with silk-worm gut. A dry dressing is applied and is held in place by means of a spica bandage. The wound is to be redressed in a week, when the external sutures are to be removed, and the patient is allowed to sit up in ten days.

General Observations.—It must be noted that in the description of the three types of operation I have deemed worthy of notice, great stress is laid upon the necessity of excluding the vas deferens and the spermatic artery from the ligature. Concerning the vas the reason is obvious, a practical obliteration of testicular function would otherwise followand there can be no difference of opinion. Concerning the artery the reason is the danger of sloughing or wasting of the testicle, the argument being that destruction of the organ necessarily results from a cutting off of its blood supply; yet here opinions are at variance. While the majority of writers caution against including the artery, as mentioned above, no less an authority than Bennett has said that "division of the main trunk of the artery, together with the veins, if the principles of surgical cleanliness be observed, is not only harmless to the testicle, but probably aids in ultimate relief by diminishing the pressure of blood going to the testicle." In a more recent article, this operator goes much further. He concludes that only the complete division of the whole spermatic cord, with the exception of the vas deferens and its vessels, gives certainty of a complete cure. He has done it over two hundred times, and at present resects through an incision made over the external abdominal ring. He believes that all fear of gangrene or atrophy from this procedure may be dismissed, as the vessels which accompany the vas, together with a few small ones derived from the cellular tissue, furnish sufficient nutrition to the testicle. He claims that, on the contrary, the artery, continuing "to pump a great quantity of blood into the testicle, nearly all the different vessels of which have been removed," causes an enormous engorgement which, persisting, may lead to fatty degeneration of the organ.

Notwithstanding the plausibility of the argument last outlined, it would seem safer to avoid the artery; it is not likely to produce distinctly bad effects to exclude it and it may do so to include it. I had occasion to see one case in which complete sloughing of the testicle followed section of the artery.

Each type of operation has its advocates and its detractors, which means that it possesses its advantages and disadvantages. Subcutaneous deligation has the advantage of being done quickly; is bloodless; requires no *cutting*, which is the bugaboo of so many patients; confines the patient less long; and can be considered simpler. I have frequently seen patients walk or ride home from the operating room immediately after its performance. The serious objections to it are that it is less exact as it is really done in the dark, and that it does not give the opportunity of resecting the veins, which is advisable in large varicoceles. The open scrotal operation has the advantage of being exact, also of allowing the performance of resection of the veins and the change of direction in the incision when suturing. Those who favor the other methods claim respectively that it is unnecessarily severe, and that there is more difficulty of securing perfect asepsis, owing to the locality of the wound; the patient is ordinarily laid up longer than after the subcutaneous method. The suprapubic ligation is urged by its advocates on account of the ease with which the veins can be reached at that point, and because of the greater facility in securing asepsis. Its critics argue that it causes a weakening of the walls of the abdomen at what is already a weak place, and that it demands a longer confinement in bed.

Weighing all the reasons *pro* and *con*, I favor the open scrotal operation when there is no contraindication to its performance. You can see what you are doing; you can remove what you consider undesirable and, with proper care, you can almost invariably obtain primary union. I can scarcely remember any occurrence of suppuration within the last few years, and I do remember a case in which the patient developed gonorrhœa[*] the day after the operation, yet prompt union followed. Subcutaneous ligation should be reserved for cases of comparatively small varicocele not requiring resection; for patients objecting to cutting operation; and for instances in which the minimum time of disability is paramount.

Summary.—Varicocele is a common disease, from 10 to 15 per cent. of males above puberty being affected to a noticeable extent.

In the majority of instances it causes little or no trouble.

In a certain proportion it leads to more or less pronounced symptoms, physical or psychical, direct or reflex.

Palliative measures are sufficient when the symptoms are not severe.

The only radical cure is by operation.

Open scrotal ligation and resection is the operation of choice.

Suprapubic ligation and resection may be substituted by those who prefer.

Subcutaneous ligation is proper in selected cases.

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[*] Previously contracted, of course.

A Journal Entitled "Camp and Plant," published in Colorado, tells of a decidedly curious accident which occurred at Brookside in that State on April 12. A man named Martine was in his house on that date, when a rock fell from the roof of his room whereby his skull, nose, and upper jaw were fractured. He was taken to the hospital at Pueblo, but died.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

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From the statistics of the United States census for the year 1900, bearing upon the causes of death, I find that among 1,000 deaths from all causes 109.9 were due to consumption. When these are classified according to age, it is found that among 1,000 deaths in children under fifteen years of age, 39.6 were due to consumption; among persons between the ages of fifteen and forty-five, 252.4 were from consumption; from forty-five to sixty-five, 232.5; and of those over sixty-five years of age, 260.1. Consumption thus destroys principally persons at the productive period of life; and of those dying at this time one-fourth owe their death to pulmonary tuberculosis. German statistics, which I think are more reliable, show that one-third of all deaths from fifteen years of age to forty-five are due to tuberculosis. A disease so destructive to the human race, particularly at the time of life which gives the greatest usefulness and happiness in the lives of most persons, should receive our most earnest thought and attention, and we should be prepared in every way possible to prevent the ravages of the greatest enemy to mankind.

When I say that a large proportion of cases of catarrhal pulmonary tuberculosis, in the first stage, is as certainly curable as many other diseases, I am sure that I voice the sentiment of the best authorities on tuberculosis; but after the disease has progressed to the breaking down of the pulmonary tissue and cavity formation, we all have felt the almost utter hopelessness of any but palliative treatment.

Realizing, as we must, that the health, happiness, and even lives of many of our patients and friends, as well as those intimately associated with them, depend upon our ability to make an early diagnosis of consumption, why do so many cases go on to the second and third stages before the nature of the disease is known? One reason is the utter carelessness of many people regarding matters pertaining to their health. I have seen persons with a hacking cough and progressive emaciation go for months without medical attention. I have seen others, although they and their friends suspected that they had consumption, would yet postpone for a long time consulting a physician, because they were afraid of being told that they had consumption under the impression that consumption means certain death. The laity should be taught that consumption, if treatment is begun early, is among the diseases amenable to treatment, and the earlier the diagnosis, the greater the probability of cure. A great many cases escape observation until too late because of carelessness or ignorance on the part of the physician. Many physicians, capable of making fine distinctions in diagnosis, allow their patients to go without a thorough examination, prescribing in a haphazard way, often taking the patient's diagnosis as to the nature of the trouble. The careful diagnostician, whatever may be the symptoms which he is called upon to treat, makes a thorough examination of the lungs, heart, and abdomen, and frequently finds pathological conditions which are unsuspected, and which may be the real cause of the symptoms. Then it should be remembered that several diseases may co-exist in the same

[*] Read at the first meeting of the Southeastern Alabama Medical League at Troy, Ala.

patient, the one affecting or being dependent upon the other. This is especially true of tuberculosis; it, more than any other disease, is a cause, complication, or sequel of other diseases. I have several times been surprised to find an apex diseased, when the patient had consulted me for other troubles, and having no symptoms which caused him to suspect or fear tuberculous disease.

In the several post-graduate and hospital courses I have taken in northern cities, I have been surprised to see how deficient in physical diagnosis were most of the physicians I met there, many of them graduates of colleges of great renown. I will admit that I also learned how little I knew about the subject myself. I am, therefore, willing to make the broad statement that but few, if any, medical colleges in this country, in their undergraduate courses, are as thorough as they should be in physical diagnosis. Some of them are thorough in their textbook teaching, but the students do not have the opportunity of becoming, by practical experience, proficient in physical diagnosis, or else they do not realize the importance of the subject. It is only in hospital work or in private practice that physicians become skilled in physical diagnosis.

It may not appear to the world, or to the admiring spectators, as brilliant an achievement to diagnose tuberculosis in the early stage, as to perform a laparotomy, thereby relieving conditions which, without surgical intervention, would mean almost certain death, yet the results are the same as far as the good to humanity is concerned, and it requires as much skill or learning for the physician to make such a diagnosis as for the surgeon to perform a major operation. The general practitioner certainly has the opportunity of doing more good by becoming an expert in diagnosis than he could by being proficient in surgery; yet because of the glare and glitter attending surgical operations, and because of the reputation it gives with the laity, who are deluded with the idea that it requires great nerve and skill to use the knife, many physicians dabble in surgery and fail to perfect themselves in diagnosis, particularly the physical examination of the chest.

I fear that my "subject theme may turn out a sermon" on the necessity of being thorough in general diagnosis; but right here I will confess my own sins of omission and commission in diagnosis, by failure in some cases to make a sufficiently careful examination of the patient, and in other cases by ascribing the symptoms to other causes, where later I learned they were due to incipient phthisis. However, I have resolved in the future to sin less in errors of diagnosis.

The point that I desire especially to emphasize is that if we will examine all of our patients thoroughly we will find more cases of tuberculosis in the curable stage. If we examine ninety and nine normal chests and find the hundredth with a diseased apex, we not only become more proficient in diagnosis, but are repaid a hundred fold for our trouble.

There are certain conditions which should in every case demand a thorough examination of the lungs, no matter what may be the other symptoms. The principal ones of those which occur to me now are:

Gradual loss of weight and strength without obvious cause. This may be for a time the only symptom. Slight dyspnœa after exertion is often seen early. An evening rise of temperature of 100° to 101° F., and in some instances a subnormal morning temperature, indicate tubercle formation.

A frequent pulse, from 85 to 110, without apparent cause, should excite suspicion.

I cannot lay too much stress upon indigestion as being not only a frequent predisposing factor in the production of tuberculosis, but one of the earliest symptoms in many cases. Anorexia and morning nausea are not infrequently seen, and they are symptoms which materially affect the prognosis, because if a tuberculous patient cannot be well nourished his chances for recovery are greatly lessened.

Chest pains, particularly in the upper part of the chest, may be due to a slight fibrinous pleurisy, or to myalgia from coughing. If these pains are unilateral and constantly recur, they are sometimes significant of phthisis.

Fistulo in ano sometimes calls our attention to the tuberculous diathesis, and an examination of the lungs may show a diseased apex.

If to any one or more of these symptoms there is added a slight dry and hacking cough, which is more annoying at night or early in the morning, whether there is absence of expectoration or the sputum is scanty and mucoid in character, tuberculosis may be strongly suspected, even if there are no physical signs to prove it.

Sometimes tuberculosis follows or is coincident with a chronic bronchitis, or a bronchopneumonia may be of tuberculous origin. In such cases, the sputum should be repeatedly examined for the tubercle bacillus. The presence of the bacillus, however, is only confirmatory, and its absence is certainly no evidence that the process is not tuberculous.

Indeed, in many cases a tuberculous infiltration or deposit at the apex can be diagnosed before any sputum is thrown off or there is any breaking down of lung tissue with liberation of bacteria. I use the microscope constantly as an aid to diagnosis, and in many cases, even in the earliest stages, the bacilli may be found in the sputum, but the absence of the specific germ is only negative evidence.

I have under my care now a case of catarrhal tuberculosis of the left apex, with all the physical signs of the first stage. I have watched the case for two months, and while the woman has a slight hacking cough, there has never been the slightest expectoration. I obtained by means of a laryngeal application a specimen of the secretion from the larynx just after an attack of coughing, but microscopic examination showed no tubercle bacilli; yet I am as positive of the diagnosis of consumption as if there were signs of cavity formation with the sputum teeming with the specific germs.

In making a diagnosis of tuberculosis the influence of heredity should be considered, as should also a history of constant exposure to the infection, as of a person living in the house with a tuberculous subject. The tuberculin test or reaction is recommended by Musser and others as a means of early diagnosis, but is condemned by other equally eminent authorities. Personally I have had no experience with it.

Below I give the physical signs of the most common form of pulmonary tuberculosis, *i. e.* the catarrhal or bronchopneumonic type, before there has been softening of the diseased lung tissue with subsequent cavity formation:

Inspection, in the stage of beginning deposit, is often negative, though there may be a slight flattening of one infraclavicular space, or an undue prominence of one clavicle, with slight impairment of motion of the affected lung. At a later period, when consolidation has taken place, there is a decided depression of surface of the infraclavicular region and markedly less motion on the same side. There is a loss of flesh, with often the dusky pallor of anæmia, or an intermitting hectic flush. Some authors call attention to the enlargement or prominence of the superficial veins over the affected area. I have never seen this condition except in cases of long standing; and as it is probably a collateral circulation due to prolonged obstructive disease of the lung, it seems to me that probably in all cases it would be of late appearance. In some cases limitation of the excursion of the diaphragm (Litten's sign) may be one of the earliest signs of tuberculosis.

The *x*-ray in expert hands is said to give a light shadow over the disease area, but it occurs to me that there would have to be considerable consolidation before the *x*-ray could be of value.

Palpation, in the early stage, may or may not give increased vocal fremitus, but where there is consolidation the fremitus is marked. *Mensuration* generally shows diminished expansion, on one or both sides.

Percussion gives a slightly higher pitch, or impaired resonance, above, on, or below, the clavicle. This is sometimes better brought out if the patient's mouth is kept open (Wintrich's change of note), or if he is instructed to hold his breath at the end of expiration. When consolidation is complete there is positive dulness over the affected area. It should be remembered that normally, particularly in right-handed persons, percussion over the right lung gives a higher pitched, or slightly duller, note than on the left side.

On *auscultation*, in the very early stage, the respiratory murmur may simply be rougher or harsher than normal, or it may be feeble or diminished. The breathing may be of the jerky, so-called cog-wheel variety, but this is often seen in nervous patients with normal lungs, and should not be considered, except with other signs. Flint's bronchovesicular murmur, or as Page better terms it, vesiculobronchial respiration, is the one pathognomonic sign of incipient pulmonary tuberculosis. It consists of a roughened, loud inspiratory vesicular murmur, with a relatively prolonged, blowing (bronchial), expiratory sound. It should not be forgotten that, normally, in the right infraclavicular region, because of the proximity to the surface of the large right bronchus, there is heard a type of bronchovesicular breathing. Crepitant and crackling râles or clicking sounds at the end of inspiration are sometimes heard at the apex, and are always due to tuberculous infiltration. They are best brought out by a full inspiration or by coughing. As the consolidation increases the vesicular character of the breathing is gradually lost, and is replaced by pure bronchial breathing. Frequently with these sounds are heard the râles of a concurrent acute or chronic bronchitis, and sometimes the friction sound of a fibrinous pleurisy.

Da Costa has called attention to a murmur or blowing sound over the subclavian or pulmonary artery, when there is a tuberculous deposit in the left apex. I have noted it several times, and regard it of some value. It is probably due to a slight pressure of a tuberculous deposit upon those arteries.

While the great majority of cases of phthisis begin in the apex, occasionally the base of the lung is first involved. This, however, generally succeeds a lobar pneumonia or a pleurisy, which provides the *locus minoris resistentiæ* for the tubercle bacilli. In such cases the physical signs will be found over the affected area of lung.

In the acute catarrhal type, which is also known as *phthisis florida*, or galloping consumption, the course is very rapid, many cases proving fatal in a very short time. We see this type frequently among the Southern negroes. In such cases the physical signs of the stages of infiltration and consolidation pass very rapidly into that of cavity formation. The fibroid type, which is very chronic in its course, generally succeeds, or is associated with a pleurisy, and presents somewhat the same physical signs as a pleurisy with retraction of the chest wall.

Acute miliary tuberculosis may not present any distinctive physical signs, indeed in many cases a hyperresonant note is heard upon percussion. The diagnosis is made from the high and fluctuating fevers and personal or family history of tuberculosis, and in some cases from the presence of the tubercle bacilli in the sputum.

The recognition of incipient pulmonary tuberculosis is one of the most important diagnoses which the physician is ever called upon to make, but when made early the reward is so great that the subject should merit our most earnest consideration.

SOME REFLECTIONS ON CASES OF ACUTE INTESTINAL OBSTRUCTION.

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Acute intestinal obstruction is a symptom of a number of different lesions, and in considering its treatment we must understand from the first that this means the treatment of very different mechanical conditions. Acute obstruction may be due to the presence of tumors which have been some time in existence, or may be due to conditions of immediate development. The various cases of obstruction may be classed under the following heads: (1) Internal hernias; (2) Angulation due to bands or faulty attachments; (3) Volvulus and intussusception; (4) Tumors in the walls of the intestines; (5) Foreign bodies within the lumen of bowel.

The exact method of treatment must vary according to the condition present, so that a more or less accurate diagnosis should be made before operation is begun. It is true that nearly all these cases, for a positive diagnosis, require an exploratory operation; yet it is equally true that some cases are more easily operated through a lateral than a median incision. In arriving at the decision as to the point of operation, we have then to carefully consider the history of the case.

A few cases will serve to illustrate the various classes:

First—A young woman, twenty-one years old, was admitted to the St. John's Hospital with the following history: She was suddenly seized with abdominal pain, referred to the umbilicus; there was an inability to move the bowels; early onset of vomiting; very moderate distention of the abdomen; rapid pulse and severe prostration. A diagnosis of obstruction high up in the small intestine was made, and due probably to either a band or internal hernia. The point of obstruction was so located because of the early appearance of vomiting and moderate distention. A median incision was determined on, and the abdomen opened in the median line at the level of the umbilicus. The hand was introduced, and a coil of small intestine found strangulated in the fossa duodeno-jejunalis. This was liberated, the abdominal incision closed, and a perfect recovery resulted. Three such cases have come under my personal observation.

In the second class, those cases due to angulation, bands, etc., we have a very interesting class to deal with. In some cases the obstruction seems to be due not to any actual mechanical obstruction, but to an angulation brought about by the sudden filling of a portion of the bowel with gas. A section of the bowel suddenly becomes filled with gas, and so presses on a distal coil that it completely shuts it off, and the greater the pressure becomes, the more complete the obstruction. In these cases the rational treatment would be to place the bowel at rest and try to favor the absorption or more general distribution of the gas. Unfortunately, this is seldom done. Most strenuous efforts are made to get a movement, and injections are given, and cathartics of increasing strength are administered. The use of enemata is certainly not nearly as objectionable as the attempts to open the bowels by means of cathartics, for these simply set up a peristalsis, which soon reverses itself and brings on vomiting. This, of course, weakens the patient and tends to prevent successful operative interference.

One of the points I desire to make in this paper is not to resort to strong cathartics to overcome symptoms of obstruction; whatever you do, do from below. Two cases of this character I will give in detail.

Mrs. B., fifty-two years old, was admitted to Dr. Fowler's service at the Methodist Episcopal Hospital, with symptoms of acute obstruction of several days' standing. Her condition was such that it was considered best to give her relief by an artificial anus. This was done, and, twenty-four hours after the opening, a normal evacuation of the bowels took place. At the end of two weeks, the artificial anus was closed and the patient discharged. Two years later she came into my service at the Norwegian Hospital, with a large strangulated hernia at the site of the former operation. The patient has never worn any means of support even after she discovered the hernia developing. There had been no movement of the bowels for a week, the abdomen was much distended, and fecal vomiting had existed for several hours. The hernial sac was opened and found to contain a coil of small intestine, held down and constricted by a band within the sac. This band was severed, and the distended bowel was punctured so as to reduce the distention, the point of puncture being closed by Lembert suture. The patient suffered much shock, and never completely rallied. She died on the fifth day. In this case no tumor existed in the intestine, and it is fair to presume that the original attack was due to angulation.

A second case, Mrs. H., sixty-two years old, gave the following history: She had always suffered with indigestion and the development of much gas. Two weeks before admission she was seized with a severe abdominal pain and distention, and inability to move the bowels. All cathartics administered were immediately followed by vomiting. This was allowed to go on for over two weeks. When I saw her she was much emaciated, abdomen greatly distended, and vomiting frequent. Under local anæsthesia, an artificial anus was made at the cæcum. On opening the bowel there was a continuous profuse discharge for twelve hours. At the end of this time the abdomen was nearly flat, and a natural movement occurred. From that time on the bowels continued to move naturally, only a small amount coming from the artificial anus at a time. She refused further operation. A year later I was called to see her, and found an intussusception of the ileum through the ileocæcal valve and artificial anus, the intussusceptum being outside of the body. This had occurred before, and had been replaced, but on this occasion it was allowed to remain out so long that it became so œdematous that reduction was impossible through the ring in the abdominal muscles. Under anæsthesia the abdomen was opened at the site of the former operation, and when the constriction was relieved the reduction of the intussusception was quite easy. The edges of the intestine were then separated from the parietal peritoneum, and the opening in the cæcum closed, as a careful and thorough examination of the entire intestinal tract failed to show any tumor or point of obstruction. The patient made an excellent recovery from this operation, but, curiously, six months later, died from an attack of acute dysentery.

Another interesting case was one due to a band of omentum. The patient, a girl of twenty years, was admitted to St. John's Hospital with a history of severe abdominal pains, followed by persistent vomiting. The patient came in from the country sitting in an ordinary car of the Long Island Railroad. She was so sick that no history could be taken from her, and her physician was not with her. She was stimulated, and allowed to recover from the shock of transportation as far as possible. A median abdominal incision was then made, and the omentum found adherent to the fundus of the uterus, and a coil of small intestine, about eight inches, caught behind this, was completely gangrenous. This was resected after the band had been divided, and the ends united by means of the Murphy button. The patient never rallied, and died twelve hours later. At the time of the operation it was suggested that the uterus had probably been punctured, and that the tip of the omentum became adherent to this point. Investigation proved this to be true. This case would naturally lead one to reason that after pelvic operations, where exposed surfaces for adhesions exist, one should be especially careful not to allow the omentum to dip down into the pelvis.

In a case of my own, a year after an hysterectomy, the patient was brought back to the hospital suffering with acute obstruction, which at operation was found to be due to a similar band of omentum adherent in the pelvis.

Tumors are frequently the cause of acute obstruction. It seems very difficult for the general practitioner to realize that acute obstruction may appear in cases where the lesion is a tumor of slow development. That is seen so frequently that I believe we should emphasize it. If the history is carefully gone into, as a rule we can get a history, extending back some six months to a year, of intestinal disturbances with difficulty to move the bowels, but the symptoms are so slight and commonplace that little attention is paid to them. Suddenly the patient is unable to get a movement of the bowels; he takes some cathartic, tries enemata of several kinds, and all without effect. Then he calls in the family physician, who goes through the entire list of physics and enemata with no result, unless it be an increase of the distress and possibly the induction of vomiting. Quite a number of such cases have come under our care, and they have been dealt with differently, according to the conditions found at operation.

Three plans have been followed—first the relief of the condition by the forming of an artificial anus, to be followed later by an anastomosis or a resection of the growth with anastomosis; second, the immediate resection of the growth with anastomosis; and third, the production of a permanent artificial anus.

Mrs. M., thirty-eight years of age, was referred to me by Dr. Ives. She had suffered for a year or more with floating kidney of the right side, had more or less difficulty in moving the bowels, had been confined within a few months. During the night she was suddenly seized with general abdominal pain, which was very acute and was accompanied by vomiting and complete obstruction of the bowels. The next morning the pain had subsided some, but there was marked tenderness on the right side, some temperature and increase of pulse rate. It was a question whether the tenderness was due to an appendicitis or to the old kidney condition. The pains were paroxysmal; vomiting was nearly constant. I saw her in consultation the next afternoon, and at that time the signs and symptoms were about the same, with marked distention added. The case was not a clear case of appendicitis, nor could we find any changes in the urine to lead us to believe it was a pus kidney. She was at once removed to St. John's Hospital and operated upon that evening. A right lateral section was made rather higher than usual. Exploration revealed the appendix much distended with gas, elongated and congested, yet it was evident that it was not the primary cause of the trouble. The appendix was removed. The kidney was examined and found normal, examination of the hepatic flexure of the colon revealed nothing; but at the splenic flexure a distinct mass could be felt occupying the entire bowel. It was decided to make an artificial anus, and, at a later date, attack the growth; accordingly, the cæcum was brought into the wound, sutured, and then opened. The patient made a prompt recovery and, two weeks later, was again subjected to operation. Knowing the location of the growth, an incision was made on the left side, beginning at the free border of the ribs and carried downward along the outer edge of the rectus for four inches. This exposed the growth, which was resected, about four inches of the transverse colon being removed, and an end-to-end anastomosis by suture was made. The patient reacted well, and three weeks later was discharged from the hospital. Nearly two years have now elapsed without any sign of recurrence.

Belonging to the same class was the case of Mr. K., fifty-four years of age, also a patient of Dr. Ives. He was suddenly seized with pain in the hypochondriac region and complete obstruction of the bowels. He gave a history of the abdominal distress extending over several months, with a feeling of the gas in the bowel passing to a certain point and giving pain, but once past this point the pain ceased. Considerable flesh had been lost. For twelve hours efforts to move the bowels by enemata were employed, but without result. The diagnosis of obstruction due to a new growth was made, and operation advised. He was removed to St. John's hospital, and a right lateral incision was made for the purpose of producing an artificial anus, using the cæcum. Exploration revealed a mass in the transverse colon. The cæcum was brought into the abdominal wound and the bowel immediately opened. Patient was immediately relieved, and during the next three weeks gained considerable strength. During the second week there were normal movements of the bowel for three days. This was evidently the result of leakage through the growth and accummulation in the descending colon, for, after an enema had been given, no further movements resulted.

Three weeks after the first operation, a second one was performed. This time a median incision was made just below the umbilicus. The hand was introduced and the growth located at the splenic flexure, but in such a position that removal was impossible. The ileum was then sought and brought over to the sigmoid flexure, where an anastomosis was made by means of a Murphy button. The button came away on the twentieth day. The patient had one or two normal movements each day, and no longer had the sensation of gas being arrested at a certain point, and then, failing to get by, producing pain. This sensation continued even while the artificial anus was open before the anastomosis was made.

At the same time the artificial anus was closed in the following simple manner: An incision was carried around the margin where skin and mucous membrane met and the dissection carried through the abdominal wall. A purse-string suture was then passed around the base of the funnel-shaped process, and after invagination of this process, the suture was tightened. This closed the opening in the intestine, and the superficial wound was allowed to granulate. This method of closing could be easily accomplished under cocaine anæsthesia. This patient died eight months later, apparently from an internal hemorrhage.

When the growth is low down in the descending colon, or sigmoid efforts at excision are not as successful as when the obstruction is high up, for it is is much more difficult to accomplish an anastomosis between the small intestine and the rectum˙ and owing to the anatomical relations of the descending colon, resection is much more difficult. In two cases operated upon by myself it seemed almost impossible to prevent leakage of fecal matter during the manipulations. Both cases died of peritonitis on the fourth and fifth days, respectively.

Conclusions.—The sudden onset of obstruction of the bowels does not always mean the presence of a recent lesion, especially in those at or beyond forty years of age.

In many cases the symptoms may point to an attack of appendicitis, as the appendix becomes distended by gas or fecal matter.

It is best in all cases where a new growth is suspected, or where there is much distension, to first make an artificial anus, and to use the cæcum for this. At this time do not spend valuable time, and produce some shock, by making a thorough exploration of the entire abdomen, in order to satisfy yourself of the exact condition.

Always open the intestine immediately, as you need to give relief as soon as possible, and there is no danger of leakage of fæces back into the abdomen, provided the exit at the anus is not blocked by too tight dressings. Better leave the wound exposed, the nurse being instructed to clean away the fecal matter as it appears.

Do not be contented to leave these cases with the artificial opening, unless at the primary operation the tumor has been found immovable and anastomosis impossible, for many cases may live months with the tumor *in situ* if the current of fecal matter is diverted by placing the loop of intestine containing it out of the fecal current.

73 Eighth Avenue, Borough of Brooklyn.

A New Medical Superintendent at Molokai.

Dr. W. J. Goodhue, superintendent of Emerson Hospital, Kauai, has been appointed medical superintendent of the Molokai Leper Settlement. Dr. Goodhue is thirty-two years old and a graduate of Rush Medical College, Chicago, 1897. He was the unanimous choice of the Hawaiian Board of Health over some forty-five other applicants for the position, and goes to Molokai for special scientific work for the government. The value of photography and *x*-ray treatment will be thoroughly investigated, as well as other curative measures. It is the intention of the new superintendent also to investigate the causes of leprosy and, in connection with this, if possible, discover what part the mosquito plays in the propagation of the disease.—*Southern California Practitioner.*

DULNESS IN APPENDICITIS.

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In the symptom "dulness" I believe that we have an infallible means of differentiating in appendicitis between cases that are operative and non-operative. In four years' observation of forty-one cases this symptom has never failed me; and my experience since I contributed an article to the Medical Record, in February, 1901, on "The Clinical Significance of Dulness in Appendicitis" has only tended to clinch my faith in this symptom. In but one instance did this symptom seemingly fail me, and in this particular instance the dulness had disappeared before the operation. It was in a child five years old. The symptoms were those of an attack of fulminating appendicitis, and on account of the seemingly severe pain a careful examination was impossible. Under anæsthesia the dulness entirely disappeared, and upon opening the abdomen the appendix was found to be in a normal condition.

Every rule has its exception, yet I firmly believe that should we adhere to this symptom of dulness we shall be less likely to err in determining the course to pursue in the treatment of appendicitis. There is one element in the treatment of all diseases which I do not believe any one will ignore, and that is the intuitive knowledge which goes to make the successful diagnostician. Physicians are born and not made. It is this instinctive knowledge which prompts a great many successful practitioners to pursue the proper course. To those who are not endowed with this gift the practice of medicine is strewn with many pitfalls, and, though every day adds to our scientific knowledge of diseases and their treatment, there are men of acknowledged experience who at times lack the power of differentiation and selection. What is a serious case to one is a comparatively simple one to another. And so with the treatment. One says all cases are surgical, another that he never loses a case save by surgical interference. It is a mistake to conclude that every pain in the right iliac region is appendicitis as it is to say that every pain in the side that is relieved is a case of appendicitis cured. It is on record that tonsillitis and pneumonia have been mistaken for appendicitis.

There are not a few of the profession who still believe that appendicitis can be cured without surgical intervention, and who claim that they have never lost a case. Either they have never treated a case of fulminating appendicitis or else the surgeon was called in at the eleventh hour and the patient died under the knife. It is also a mistake to say that every case operated upon is saved. It is a fact that cases of supposed appendicitis have been operated upon in which a normal appendix was found and the patient died. As well might we say that there is no need of a ship ever sinking. When pus is present it is just as necessary to use the knife as it is to resort to food to sustain life. Pus as pus is never absorbed then its presence is a veritable sword of Damocles ready to destroy the victim at any moment. From my own experience I can say, without reservation, that never was a case of appendicitis, in which there was pus formation, cured save by an operation. In only one single instance did I ever know of a case of appendicitis in which the presence of pus was diagnosed, recover without operative intervention, and in this instance the abscess broke into and escaped through the bowels.

When to operate is still an undecided question. We are not all agreed that every case is operable, nor do we believe that all cases can be saved without surgical intervention. I believe that when we have a case of appendicitis without the formation of an inflammatory exudate we can afford to wait, but with the occurrence of dulness it is jeopardizing the life of the patient to defer operative interference. In an acute attack of appendicitis with dulness, persisting from twenty-four to forty-eight hours, and after the bowels have been moved, one should operate, and the chances are that pus will be found. In a recurrent attack of appendicitis with dulness, even if the temperature and pulse are normal and the patient is able to be up and around, one should operate, and one will most likely find an indurated appendix with adhesions around the appendix and cæcum.

In the former case an immediate operation is the only recourse, in the latter the surgeon will by operating anticipate an outbreak with pus formation. In acute attacks of appendicitis without dulness the case should be treated conservatively; should dulness make its appearance and remain, the medical attendant will make no mistake, in my opinion, in advising surgical intervention the probabilities are that if pus is not already formed the operator will find an injected appendix with a plastic exudation and threatening formation.

In forty-one cases coming under my observation dulness was found in twenty-four. In the twenty-four pus was diagnosed by the symptom of dulness in seventeen; verified in fourteen by operation, in two by post-mortem examination, and in one by pus escaping through the bowels, all symptoms of appendicitis at once abating. In one case, second attack, in which dulness covered an area about the size of a hand, and gradually diminished to an area about the size of a silver dollar, all acute symptoms having subsided, an indurated appendix, with possible adhesions, was diagnosed and found. In two cases operated on, in which pain but no dulness was present, an adherent appendix was found. In one, in which dulness was present but disappearing under anæsthesia, a normal appendix was found. In one case with marked dulness, little pain, febrile symptoms, tumor irregular in outline and movable, operation revealed tuberculosis of the cæcum and appendix. In one case with pronounced dulness, no febrile symptoms, tumor regular in outline and freely movable, operation revealed a floating kidney. In one case with no dulness, but intense pain upon pressure, operation revealed adhesions between the ovary and appendix. The remaining seventeen cases had all the classical symptoms of appendicitis, without the dulness, and all have seemingly recovered. In two of these cases there have been as many as three attacks, and it is now over two years and neither has had a recurrence, nor experienced any inconvenience.

Every pus case that I have had was either saved by operation or died from the need of one; or the operation was done too late. In two cases operation was deferred until after septic peritonitis had resulted, death following.

I do not wish the reader to conclude that I believe that in every case of appendicitis with dulness we find pus, but I do believe that in every case with dulness the conditions are such that no mistake is made by surgical interference. Pain in the region of the appendix does not always mean appendicitis, but localized dulness with the associated symptoms of appendicitis always does.

Tuberculosis of the appendix and cæcum is usually a subacute or chronic process. The tumor found in the tuberculous mass has irregular edges, and is, as a rule, freely movable. The pain is dull, while in appendicitis it is acute. Afebrile symptoms differ. When pus forms in the tuberculous mass it is then a difficult matter to differentiate between this condition and an acute attack of appendicitis. The history of the case may assist one in arriving at a correct diagnosis.

In floating kidney the tumor is smooth and has the outlines of a kidney, is freely movable, and at times entirely disappearing. Pain is of a dragging nature and is generally relieved by rest. Febrile symptoms are absent.

Between gallstones complicated with empyema of the gall-bladder it is often a very difficult matter to differentiate, or when the appendix is reflected toward the gall-bladder. Frequently the two conditions co-exist. To operate for appendicitis and find gallstones may happen to any surgeon. In one case in operation for gallstones I encountered the appendix touching the lower border of the bladder and a floating kidney immediately behind it. Pain is referred to the right hypochondrium. Dulness extends to the liver.

In fecal impaction, pain is not marked, but is dull and obscure when present. The tumor presents itself as a doughy swelling. No fever.

In carcinoma the symptoms come on slowly. The tumor is hard and irregular, and movable through a limited space.

In intestinal obstruction, nausea and vomiting is a constant symptom; the matter vomited is first bilious and finally fecal. The temperature generally subnormal.

In pyosalpinx we find pain and a tumor below McBurney's point. The appendix may, however, be involved.

THE DOCTOR AND THE SCHOOL TEACHER, CAN THEY NOT WORK MORE IN HARMONY?

By RICHARD COLE NEWTON, M.D.,
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NOTHING can show more plainly the need of a well-educated, thoughtful, and conservative medical profession than the present status of the question of the education of children. There is no problem of greater importance before the country to-day than this one. And while here and there a physician has distinguished himself by contributing toward its elucidation, the profession in general has been, and still is, backward in making itself felt in this direction.

Apparently nine out of ten family doctors are content to wait until a child actually breaks down in school, and perhaps becomes an epileptic or a consumptive, a neurasthenic or a hypochondriac, or develops some other diseased condition, before interfering. That the foregoing is not an exaggerated statement seems, alas! but too true. Another unfortunate complication of the question lies in the fact that there seems to be a growing antipathy between teachers and doctors. The former are unquestionably too much imbued with the determination to get as much work out of the scholars as possible, while the latter are, frequently, at least, too inconsiderate in ordering all school work stopped and taking the scholars entirely away from their teachers, when oftentimes a partial intermission of the studies, or a variation of them, might be better for the child than complete suspension of mental exercise. In many cases, at least, sloth of the mind is as injurious to the growing child as bodily inactivity, or over-indulgence of the appetites.

To control and direct the growing intellect of a delicate child is a matter of the greatest nicety. In short, so interwoven and inseparable are physical and psychical development, that one cannot be improperly developed without injury to the other. Their growth and expansion must be synchronous and concatenated, or disaster may result.

If these statements are true, and I believe that no thoughtful person will deny their truth, the corollary is obvious that the education of the growing child should be both physical and mental; that his moral, mental, and physical hygiene must be equally considered; and it is just here that the medical profession has failed in its duty.

Teachers have seen the logic of this position, and have steadily improved their courses of instruction by adding physical culture, in various modifications, to their curricula. Yet the nervous and anæmic girls and dyspeptic and hollow-chested boys in every school attest the sad fact that these efforts have been only partly successful. Cases appear constantly in which the scholar has worked far beyond his strength, and that right under the eyes of a careful and conscientious teacher. The reason of this is not far to seek. The teacher is not a clinician, and the signs of impending breakdown in the child have not been observed or have been ignored or misinterpreted. Consequently, the medical profession must fill this gap. Medical men must supervise all forms of instruction and must determine, not alone the best general rules for both mental and physical education, but must watch the individual child and study his or her peculiarities and limitations. Only a skilled clinician can do this, therefore, just here the physician is indispensable, because it is here that the teacher has failed. On the other hand, our profession has not risen to the situation because its members are, as a class, not sufficiently well versed in modern educational methods. The teachers understand their part of the work better than we do ours. They are successful in getting work out of the children, while we, generally speaking, are only able to interfere and stop the course of a child's education after he has done himself an injury, instead of which we should have been able to so direct and modify his studies and course of life that he might have received the education that he needed without injury to his health. In other words, teachers and physicians should work hand in hand. We should be aiding and abetting, instead of antagonizing each other. Both are actuated by a common desire for the child's greatest good, and that there should be any antagonism is not only needless, it is detrimental to the cause in which both are enlisted. Therefore, the profession must shake off its lethargy and take a more active interest in this most important question. It does not speak well for our capacity, nor for our devotion to the interests of our patients, that we should allow any of them to do themselves injury and then try, in our often ineffectual way, to repair the evil, instead of having interfered beforehand to prevent it.

I cannot but feel that it is because our profession has been too lax that these constantly recurring evils of overstudy and overwork, as well as the equally great evils of bad school hygiene and improper methods of life, have become so potent to the injury of children. Again, until our profession shall consist of better-educated men, and men who shall have made a thorough study of educational methods, our opinions on this topic will not receive proper respect from educators or the public. So long as our attitude shall seem to be only one of opposition, without a full understanding of the entire question, our influence in this direction cannot be as powerful as it ought to be. Furthermore, the problems of the education of children will, I believe never be satisfactorily solved until physicians shall have had more to say upon the subject.

The crying need for better physical education for adults and young people who have left school is being more or less fully met by a number of instructors, or teachers, who advertise freely that by ten to twenty minutes' exercise daily, according to the methods they teach, one can become healthy, strong, erect, deep-chested, free from insomnia, nervousness, headache, constipation, torpidity of the liver, obesity, anæmia, etc.

And that they measurably, at least, succeed in their efforts "abundant unsolicited testimonials" seem to bear witness. No doubt any practising physician can cite a number of cases where the exercises taught by these persons, or similar exercises, have been of the greatest benefit. Yet, can any one claim that physicians as a class have taken the pains necessary to inform themselves of what these exercises are, how they are to be performed, and what they may be expected to accomplish? If a tithe of the claims of the so-called "physical culturists" are true, our profession is showing itself very lax if it does not investigate the matter fully, and make itself able to pass an opinion upon every aspect of this form of education. One of these teachers writes that he "makes no tirade against medicine," although "physical culturists have been especially guilty of blackguarding physicians." This shows at least that with this class of teachers, also, the profession has not established that *entente cordiale* which should subsist as well with these as with the school teachers.

In fact while there may perhaps be some diversity of opinion as to how well a doctor should be qualified to pass judgment upon a question of ordinary school work, theoretically, at least there can be no doubt that upon every aspect of physical culture his opinion should be paramount and his judgment indisputable. Can we assert that the profession has fitted itself to pass authoritatively upon these questions? Are doctors thoroughly qualified to discuss the claims of the writer that I have just quoted, who asserts that pulmonary gymnastics are the *sine qua non* for physical well-being? He writes that he has a list of over two hundred athletes who have died from consumption and claims that this was not due to dissipation or assuming undue risks, but to an improper development of the lungs; or, rather, to the fact that these athletes have not taken the proper steps to develop their lungs. Now if this is true at all, it is a statement of the greatest importance. Are we capable of discussing it intelligently with its author? He asserts that he has measured 20,000 persons and finds that, as regards at least half of these, their average breathing capacity is from 225 to 275 cubic inches, whereas the normal should be between 300 and 400 cubic inches, etc. What physician or writer on diseases of the thorax can point to such an extended experience? Our author asserts boldly that "not one person in a hundred has strong lungs and breathes fully."

He claims, also, that the 300,000 persons who, according to the census of 1900, die annually of phthisis and pneumonia in the United States, could have been saved, or at least greatly benefited and that if they had developed their lungs according to his method they would not have contracted these diseases. These are weighty claims but it does not answer them to say pooh! pooh! The writer just quoted is not the only one who claims that "deep breathing," or similar pulmonary exercise, has enormous power for good, and that it has been greatly neglected in most forms of exercise. If the profession is thoroughly competent to discuss these questions, why do we hear so little from physicians in regard to them? It would almost seem that, like the Pharisees of old we are paying tithe of mint and anise and cumin, and omitting the weightier matters of the law.

These important questions should not be left to empirics nor to lay teachers no matter how painstaking and conscientious.

There is no doubt that physical culture will become more and more a part of the education of every child, and will be more and more used in the treatment of various diseased or feeble conditions in adults. Physical development for men and women is in the air. It is even becoming fashionable. Its growth has been constant and rapid, almost marvelous, during the past few years; and it will continue to grow. We must at least fully inform ourselves in regard to it, and be able to give a reason for the faith that is in us.

Let us study this whole matter thoroughly and carefully. The claims of these teachers, whose honesty and devotion we do not question, must be thoroughly sifted. The risks and evils, if any, attending their various methods of instruction must be noted, and made public. The physician of the future must be able to direct both the physical and mental education and development of both adults and children; otherwise, he will fail of one of his greatest and noblest duties, and he will lose, in the estimation of the public much of the prestige and honor now accorded him.

FOREIGN BODIES ACCIDENTALLY LEFT WITHIN THE ABDOMINAL CAVITY; HOW TO PREVENT THE OCCURRENCE.

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NEW YORK
ATTENDING SURGEON TO MT. SINAI HOSPITAL.

THERE is but one absolutely certain way to prevent the accidental leaving of foreign bodies within the abdominal cavity during the performance of surgical operations, and that is to avoid placing any packing or other object entirely within the cavity. I have never found it necessary to insert a whole packing or sponge within the abdomen. No enumeration before and after the operation can be so free from possible error that the accident may not occur. If, however, the gauze is cut in lengths sufficient to permit at least two-thirds of each piece to remain outside of the wound and if no more than one-third of each strip is used as a packing, it is obvious that none can be lost. This has been thoroughly tested by me for more than four years and the fact practically proved. The method is a simple one almost too simple to attract the attention it deserves; yet, when one considers that many human lives have been sacrificed as the result of such mishaps, and that many a carefully planned and well-executed piece of work has been rendered useless through a perfectly preventable cause the full importance of the subject will be realized.

[illegible] MADISON AVENUE

Treatment of Persistent Hiccough.—Dr. William McDonald of Providence, R. I., writes in the *Albany Medical Annals* for September on persistent hiccough and its treatment. He says "if there is anything humorous in the consideration of the subject it is to be found in glancing over the list of remedies which are supposed to have special efficacy. The list is headed by one which is nothing if not a delicate drug, *i. e.* the web of the black spider. Many others are noted, such as musk, camphor, ammonia, wine and spirits, ether and chloroform, by mouth, by inhalation, and as an abdominal spray; strychnine, prussic acid, alkalies, bromides, atropine, opium, valerian, asafœtida, castor oil, quinine, arsenic, turpentine, anise, mint, cloves, Hoffman's anodyne, nitroglycerin, inhalation of Scotch snuff, pilocarpine, cannabis indica, chloral, sulfonal, inhalation of burning paper and of capsicum, salicylates, bleeding, cupping, vomiting, purging, poultice of garlic and hemlock, warm plasters, anodyne frictions, ice applied at various points, galvanism along phrenic nerve, at back of neck and over the epigastrium, static electricity, lavage, depression and regular traction of tongue, pressure upon phrenic nerve, large enemata, suggestion, distraction of attention, fright, etc. Dr. McDonald is of opinion that in certain cases the drug given probably did effect a cure, and of this number some were inadvertent cures, others the result of deliberate aim at the conditions producing the spasm. In a large number of cases, however, the effect ascribed to the drug was neither logical nor accidental. There was simply no relation between the action of the drug and the cure. The troublesome symptom was either self-limited or ceased because of some agency whose action was not taken into account. . . . In all cases we should give rational treatment directed at the cause. If this cannot be discovered then we can use measures which would have an improving effect upon the whole economy. Such would be thorough rest, both mental and physical, massage, hydrotherapy, electricity, care of the diet, and, in a word, general hygienic methods. Failing in this last, one, if he chose, could begin at the top of the list of empirical remedies, traveling down until either his own patience or that of the victim became exhausted. The moral—concludes Dr. McDonald—to be found in the history of hiccough is self-evident. Treat, not the name of the disease, not even the disease, but the patient. Perhaps in all medicine we could find scarcely a disease, condition, or a symptom in which we could trace so easily the faltering, zig-zag footprints of a groping empiricism.

Some Points in Practical Surgery Suggested by the Study of the Life and Work of John Hunter.—Mr. Reginald Harrison, F.R.C.S., took this as the subject of the Hunterian Lecture delivered by him in London on February 26. Rereferring to Hunter's teaching, that to cure urinary fistulæ it is necessary to provide for the urine "a free passage forwards" and an opening "that will readily heal in spite of the urine passing through it." Mr. Harrison speaks of putting this teaching to a practical illustration and says: "My recollections of opening the urethra go back to the time before litholapaxy was invented—that is to say, prior to 1878. We opened the urethra in the median line to explore the bladder digitally and to take stones out of it more frequently than we do now. It rarely happened that a urinary fistula was the result. Whenever I met with such an accident I took some pains to ascertain how it had happened. It was unreasonable to suppose that there was no explanation for this in the face of its rarity. Thus it occurred to me to inquire whether the fistula had any obvious relation with what had gone into the bladder, or what came out of it. Was it due to the method of operating or to some disordered state of the bladder or urine, which rendered healing abortive? I came to the conclusion that it was the former. Because, if the perineal incision opened the urethra immediately in front of the prostate and within the horizontal portion of the urethra, as the patient was in the recumbent position, it seemed impossible to prevent the wound healing when required; whereas if the wound was made anterior to this point in the vertical portion of the canal, it was the reverse, healing was indefinitely postponed. This deduction admitted of easy proof, for assuming the opening to be in the median line of the perineum, though in the vertical portion of the urethra, all that was necessary to secure healing of such a fistula was with a probe-pointed knife to extend the incision in a downward direction, so as to throw the lower angle of the wound into the horizontal portion of the urethra as the patient lay in the recumbent position. Since I made this observation I have never troubled myself about opening the urethra when I thought it necessary either for the treatment of a stricture or the obliteration of a fistula, and other surgeons have verified this point.

Rowing for Women.—Lucille Eaton Hill, Director of Physical Training, Wellesley College, writes in the *Delineator* for August on the healthfulness of rowing for women—she says in part: "The freedom of skiff-rowing is most refreshing to mentally tense or nervous persons, who would chafe under the critical instruction and tire under the exactness of a crew's drill. On the other hand, the alert and rhythmical muscular action, the perfection of response of the muscles to the will in unison with others in the boat, has a fascination which is a real stimulus to those who can profit by crew rowing. The physical benefits which women derive from rowing cannot be exaggerated, provided they are willing to master the rudiments of the sport—for one must strive for good form, deep breathing, strength of back and chest, and wear no tight or stiff clothing about the waist. Correct rowing induces an erect carriage and finely poised head, a full chest and well-placed shoulders. Incorrect rowing disturbs all harmony of the figure. One can row one's self round-shouldered as easily as erect. Indeed, many girls lose the beneficial results they fancy they are gaining by rowing, through ignorance of a few simple fundamental principles of the exercise."

Dogs' Hospitals in Paris.—Such hospitals were first initiated in Paris and have flourished in that city to a greater extent than elsewhere. According to the *New York Herald* of September 21 the Sanitary Council of the Department of the Seine is causing trouble to keepers of dogs' infirmaries. By decree of December 1, 1866, dogs' hospitals were classified as insalubrious and inconvenient, and the opening of a dog infirmary is made conditional upon the accomplishment of certain formalities, including an inquiry to ascertain the views of inhabitants within a five-kilometer radius. This decree was treated as a dead letter as regards dealers, kennels, dogs' homes, and hospitals. Now, however, persons harboring colonies of dogs must conform to the law, the requirements of which are considered excessive.

Danger in Ice Cream.—The medical journals of London have often warned the public of the danger to health lurking in ice cream hawked about the streets. Now, according to the *New York Herald*, the report of the medical officer of health for the city of London abundantly proves the necessity for the regulations which in November come into force in the city for preventing the sale of poisonous ice cream. Out of twenty-three samples recently taken no fewer than twelve were found to be absolutely poisonous. Italians of the class who peddle ice-cream are never distinguished for cleanliness, and it thus may well be that much of that substance sold by them is, if not actually poisonous, at least not conducive to good digestion.

Smallpox in Montreal.—Since the commencement of the year Montreal has had some 500 cases of smallpox, with 11 deaths. Out of this total of 500 cases, 432 were unvaccinated.

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SOIL POLLUTION AND TYPHOID FEVER.

TYPHOID fever is very prevalent at the present time in certain sections of Brooklyn. The outbreak is ascribed, according to the lay journals, to water polluted by drainage from Camp Black, occupied by soldiers during the Spanish-American war. It is thought that there may have been a seepage from the camp into Brooklyn's water mains. Hempstead, in which place Camp Black was situated, is in the center of Brooklyn's watershed, and typhoid was present, to some extent, among the soldiers when stationed there. A fact which makes it seem reasonable to suppose that this may be the correct explanation of the cause of the small epidemic, is that the disease only flourishes in those wards dependent on the regular water system for their supply. In the newer wards, which are independent of this system, the cases of typhoid fever are comparatively few. Thus it would appear as if the water were at fault, and that it may have been contaminated by leakage from Camp Black. Another reason which adds to the force of this view, is that during the past few months there has been an exceptionally heavy rainfall. In the Hempstead watershed are a large number of driven wells bringing the water to Brooklyn, and the rain may have carried the microorganisms of disease by natural methods.

The question of soil pollution by typhoid germs is one, however, by no means as yet clearly understood. Opinions differ as to the length of time the ground will carry typhoid bacilli undestroyed or undevitalized. If it be granted that such germs will live in the soil, with their destructive properties intact, for a period of years, then the theory put forth with regard to the cause of the typhoid fever now prevalent in Brooklyn is eminently reasonable. Further than this, an easy answer will have been given to the question of how many epidemics of typhoid fever have originated.

With reference to this point, "The Annual Report of the Medical Officers of the Local Government Board of Great Britain for Year 1900-1901," recently issued and published in the *Lancet*, gives some valuable information. Among the experiments undertaken none were of more practical importance than those with a view to elucidate the etiology of typhoid fever and the biology of the soil. Of the problems on which information was sought the first was, What are the precise conditions which, in a surface soil otherwise favorable to the multiplication of the typhoid bacillus, determine its prompt extinction when placed therein, in connection with the bacteria natural to the soil? Dr Sidney Martin, F.R.S., has for a considerable time been making extensive and minute researches into the matter, and in the report just issued has set forth the account of a series of experiments in continuation of his former investigations. The chief results hitherto obtained may be briefly summarized as follows: (1) In certain virgin soils the typhoid bacillus neither grows nor lives; (2) after cultivation these soils become capable, "when sterilized" of maintaining the typhoid bacillus for a limited time, (3) cultivated soils that is to say, soils containing organic matter—"when sterilized" support the bacillus for a long period and the bacilli spread through the soil"; (4) "unsterilized" cultivated soil—or, in plain language, ordinary garden soil—is inimical to the bacilli; the microorganism cannot be obtained from such soil after twelve days or so. As a result of his further studies Dr. Martin finds that the typhoid bacillus requires nitrogenous food. When proteids are present in the soil they are very slowly exhausted, and they enable the bacillus to live for a considerable time. Some of the bacteria which live in the soil, he believes, cause the disappearance of the typhoid bacillus. Dr. Martin is of opinion that it ought not to be inferred that the putrefactive bacteria cause the death of the typhoid bacilli "by destroying the nitrogenous matter and so exhausting the natural medium," or, to use more simple language, by starving them out. "Experiments have shown very definitely," he says, "that the products of putrefaction, soluble in alcohol, are very powerful agents in inhibiting the growth and in destroying the vitality of the typhoid bacillus." The bacillus, he maintains, is destroyed by the products of the putrefactive bacteria, which exist in most cultivated soils. The chief and practical point which is taught by these investigations is that the typhoid bacillus has usually a short life in the soil.

Therefore, if Dr. Martin's conclusions be right—and, as one of the greatest authorities on the subject, his opinions carry much weight—the land at Camp Black, to be capable of spreading typhoid fever after being impregnated with the germs of the disease so long ago as 1899, must come under the head of cultivated, sterilized soil—soil containing proteids.

Perhaps the promulgation of the theory that the present outbreak at Brooklyn is due to soil contamination at Camp Black, will spur investigators to look more closely into the question of soil pollution and typhoid fever. If so, the supposition will not have been advanced in vain.

MEDICAL SCIENCE IN THE NINETEENTH CENTURY.

THERE have been published recently, in the *Medical Times and Hospital Gazette*, a series of articles by Mr. W. Roger Williams, F.R.C.S. These form a résumé of medical science in the nineteenth century, and are interesting to a degree. A sketch of the more eminent medical men and pioneers in medical science, is given, together with an *aperçu* of the century's discoveries.

Matthias Schleiden is the first mentioned on the list, and although his fame has grown somewhat dim with the lapse of years, no one is more deserving of a prominent place in this gallery of great men. Schleiden was one of the first to make use of the microscope, and may be regarded as the founder of the cell theory and of vegetable morphology.

Schwann took up and carried on the work initiated by Schleiden, and was a pupil of a yet greater genius, the celebrated Johannes Müller, whom he assisted in the formation of his anatomico-pathological museum in Berlin. Müller was a dominating figure in the world of science, and his many-sidedness may be gathered from the fact that he taught human and comparative anatomy, physiology, embryology, and pathological anatomy, being at the same time director of the Berlin anatomical and zoological museum. Among his pupils were Virchow, Remak, Henle, Du Bois Reymond, and Helmholtz.

So much has been written of late concerning Virchow that it will be needless here to say much of the intellectual giant just dead. Mr. Williams says of him and the cell theory, "That the establishment of the cell theory gave an immense impulse to pathological research, which thus acquired a new and more definite basis; and a vast mass of new data rapidly accumulated." Some years later Rudolf Virchow pounced upon these *membra disjecta*, and, with wonderful insight, skill, and energy, he elaborated them—together with independent observations—into a kind of new cell theory of disease, much of which still survives."

The germ theory of disease is then treated at considerable length, and its origin and evolution is clearly traced.

The writer says: "So much progress has been made by means of modern methods of research, that it now seems probable the specific causative microbes of all communicable diseases will ere long be discovered."

A fitting eulogy is paid to Pasteur, and a list is given of his epoch-making discoveries. Renan's fine appreciation of the dead savant, when he said, "His scientific career is like a luminous trail in the great night of the infinitely little," is also quoted. To a consideration of Koch and his works Mr. Williams has devoted a large part of one of his articles, and gives a well-deserved meed of praise to the distinguished German.

With regard to Lister and the antiseptic treatment, the author remarks: "Thus it happens that out of the Listerian method of treating wounds there has now been evolved a new technique, based on later scientific discoveries, which may be called the aseptic method, since it aims at preventing infective diseases by precautions against the introduction of contagion *ab extra*. This plan has been elaborated in Germany, chiefly in Bergmann's clinic; and it has proved a decided advance on its Listerian predecessor.

Naturally, vaccination is fully dealt with, and in connection with this method Pasteur's remarkably eloquent explanation of the process is given, together with an account of his own discoveries with respect to vaccinating for anthrax, and other modes of "attenuation." Mention is made, too, of the fact that in many infections maladies Pasteur claimed to have proved that the microbe is not merely the means of spreading the infection, but that it is also the maker of the poison whence the morbid symptoms result.

Anæsthesia and its discovery are made the subject of a long article, in which due credit is awarded to the Americans who first found out the method. The oft-told tale of how Simpson discovered and tested the properties of chloroform is once again set forth. With regard to Simpson's selfish appropriation to himself of all the honor as the discoverer of anæsthesia, Mr. Williams says: "Simpson was, for a long time, regarded in Great Britain, not only as the discoverer of the anæsthetic properties of chloroform, but also as the inventor of anæsthesia. It cannot be said that he ever did anything to discourage this amazing display of popular ignorance. Honors and wealth were heaped upon him with more lavishness than discretion. He unhesitatingly took all the credit for his own achievement, as well as all that was due of this sort to Wells and Morton, for their immortal discovery. His conduct in this respect has been very properly stigmatized by Oliver Wendell Holmes as "unworthy of a man of his highly respectable position."

In the opinion of the author, the three greatest discoveries of the century just past were, firstly, the utilization of the microscope, to which we are indebted for the cell theory and the germ theory—the two greatest steps by which the science of medicine has ever advanced; secondly, the discovery of vaccination; and, thirdly, the discovery of anæsthesia. No one will be found bold enough to deny that these three discoveries were the most important made in medical science during the hundred years which ended with 1899. Perhaps the discovery of anæsthesia and of the cell and germ theory have been of the most benefit to the human race. Great, however, as have been the contributions to medical science in the time gone by, it may be confidently anticipated that the future will show results equally good.

Defective Development and Disease.

Dr. M. A. Veeder of Lyons, N. Y., read a paper bearing this title at the meeting of the American Microscopical Society held at Columbus, Ohio, in 1899, and which was subsequently published by that society. The paper, which was one of considerable value and scientific interest, treated the theme with special reference to the curability of consumption and cancer. These are, points out Dr. Veeder, the two types of disease, the one primarily due to defect of development, and the other to specific bacterial infection.

Speaking of consumption, the writer says that although this disease belongs in the class of bacterial diseases, yet, it has its developmental relations, having a marked predilection for the lungs and bony tissue. Referring to the predisposition of cattle to infection by the bacillus of tuberculosis, the writer says that while this is true, it does not affect the lungs in their case so frequently as in the human species, it depending in part, perhaps, upon the manner of their infection, and in part upon their manner of living. Normally, the temperature of the ox is somewhat higher than that of man, so that cattle are more readily infected for this reason. But growth of the bacillus in the lung would be retarded by their outdoor life at certain seasons, so that, as a rule, they succumb to tuberculous disease scattered in other parts of the body. Horses, on the other hand, are immune; their temperature, normally, being somewhat below that of man, and their lungs fully and freely expanded in the open air at frequent intervals, instead of being almost entirely disused, as in the case of cattle confined to their stalls for weeks and months together, and at best only walking slowly about in the open air. As a matter of fact, cattle that run wild on the plains are as free from tuberculosis as horses. Lecturers at dairymen's conventions who tell the farmers that they must keep their cattle warm if they would secure record yields of milk and butter, are responsible for much of the spread of tuberculosis.

Dr. Veeder draws attention to what he and many others consider a serious menace to the general health, namely, the frequency of tuberculosis among the barn-yard fowl, and goes on to say: "The prevalence of tuberculosis among graminivorous birds, whose temperature is normally 105° is very significant from the point of view of the present discussion. Their flesh is not eaten raw, nor do they yield milk, so that there is no great danger to the human species from tuberculosis in fowls, but their droppings falling into the hay and grain become a source of great danger, especially to cattle, whose intestinal tract is most liable to infection from this source. Indeed, this may be the explanation of the reinfection of herds on farms where they have been slaughtered, wholly or in part, in response to the tuberculin test."

This is an ingenious suggestion and reads as if it had the ring of truth, and it may—as Dr. Veeder says—become possible to prevent tuberculosis in cattle, as well as in the human species, by proper outdoor exercise of herds and prevention of infection from such sources as fowls.

THE MEDICAL SERVICE OF THE MERCHANT MARINE.

A correspondence has been carried on recently in the *Lancet* concerning the treatment received by the medical men of the merchant marine. Several letters have passed through the correspondence column of our contemporary, and the expression of views has been interesting, though somewhat divergent. One gentleman states that nearly every international passenger-carrying steamer of certain capacity is compelled to carry a medical officer, who is bluffed by the company into accepting for his services the pittance of $40 to $60 per month on English and American ships, $20 to $50 on German boats, and about the same amount when sailing under other flags, and as they are seldom allowed to charge a fee for their services, their pay barely covers the cost of uniforms and other items of expense. On American ships their position is humiliating, as the engineers, deck officers, and freight clerks receive better wages and are judged accordingly.

Another physician writes to say that he considers medical officers of the merchant marine are well off, that the pay of $50 a month is sufficient, and that, on the whole, their lot is a happy one, while yet another medical man traverses this statement with much vehemence, declaring that not only is $50 a month miserable pay, but that some of the Atlantic lines give but $30 a month in the winter, while an advertisement appeared lately offering a surgeon $20 a month to go to Australia and back. This latter writer recommends that the following conditions be insisted upon by qualified medical men before accepting posts as ship's surgeons: (1) that the surgeon be paid a minimum salary of $50 a month, for which he will attend the crew and steerage passengers; (2) that he will be at liberty to charge fees for attendance on first and second-class passengers; and (3) that he have a stateroom in a suitable place for himself, quite distinct from a consulting room or dispensary.

Undoubtedly, ship surgeons have grave causes for complaint, and the above conditions would be by no means too onerous for the steamship companies to fulfill without placing any undue strain upon their resources.

THE EFFECT OF AN ARCTIC WINTER UPON THE NERVOUS SYSTEM.

In *The Sun* of October 5 Dr. Frederick A. Cook of Brooklyn tells of the manner in which the Arctic night effects the disposition of those who pass through it. He says: "The long Polar night is one of the barriers to the success of every Polar expedition. This night of months, with its low temperature and high humidity, drives men to the verge of desperation. It depresses the spirits and suppresses all of the functions of the body. Now one is melancholy, then one cusses one's self and companions, and again a wave of sleepy dulness covers every human effort. Indeed, this hellish darkness brings out all of the badness of which a man is capable."

The isolation, the monotony, the chilling cold produce a depression of spirits which in some men ends either in madness or a condition bordering on that state. The mind reacts on the body and the body on the mind. It therefore requires a man of exceptionally strong constitution and will, and with sanguine temperament to make a successful Arctic explorer.

De Long, an Arctic explorer at the head of an expedition which went away on the *Jeanette* in 1879 and was ice-bound on her for a year, has left a record in the shape of a diary of his mental sensations and those of his crew. This diary—which survived its writer—is the most realistic and melancholy description of a sojourn under the Polar sky ever penned. It enters fully into every phase of the situation, and toward its close affords practical proof of how an intelligent, educated man, physically sound, can lose his mental poise under the depressing conditions of a year spent in the Arctic regions.

Dr. Cook asserts that if the log of any Arctic expedition be examined before it is revised it will be found that the thoughts of the writer often have no logical beginning and ending.

A body of men who lived together in close companionship for a considerable period of time, knowing that they could not escape each other's company if they wished, would many of them, probably, develop feelings the reverse of amiable toward their companions. There is, then, no need for wonder when we hear that the members of an expedition to the Polar regions become irritable, quarrelsome, and sometimes mentally affected. Physiologically, it is only exactly what might be anticipated, although to a student of human nature the consideration of men placed in such circumstances would be a matter of interest—perhaps, even of instruction.

EXPERIMENTS WITH REGARD TO DIGESTION.

Professor Pawlow has been recently undertaking experiments for the purpose of investigating as to the comparative digestibility of various kinds of food, and has obtained some interesting and remarkable results. Dr. Romme has described these experiments in *La Revue* for August. In the main these were as follows: The gullet of the animal was cut in sections and fixed to the neck, so that when it ate the food merely fell to the ground. The stomach was divided into two parts, one into which no food was allowed to penetrate, while into the other was placed the food necessary to keep the dog alive.

According to the writer in *La Revue*, the experiments showed that the offering to the dog of food which he liked caused an abundant secretion of gastric juice, although nothing had entered the stomach. If he were offered a tid-bit, the flow of gastric juice was much more abundant than if he were given food which he merely liked, showing that appetite is needed to set the gastric juices working properly. Thus, Pawlow's experiments have proved that when eating without appetite the food was either not digested at all or very badly digested.

The investigator also says that he has shown that the brain transmits its orders to the stomach by means of two pneumogastric nerves. These nerves were cut on a specially "prepared" dog. Then the dog was given raw meat, which did not reach the stomach; but no gastric juice whatever was secreted. No method of mechanical excitement produced juice. And, further, if bread or cooked white of egg were introduced, into the stomach—the dog being unconscious that such was the case—the food remained for hours without causing the least secretion of gastric juice. But after administering extract of meat or milk first, the secretion would be provoked. The conclusions which Dr. Romme draws from the foregoing experiments are that in the poorer classes a man lives far more from his muscles than from his brain, hence the desire for food. It is rather a healthy sign to be somewhat greedy. The reason that dyspepsia is so common among men of letters and the like is that their brain is so much occupied with their work that they eat without thinking of the food taken. The pneumogastric nerves have not been called into action, and in consequence the gastric juice is badly secreted. It is, therefore, not conducive to good digestion to be absorbed in a book or newspaper at meals.

In the case of consumptives with little or no appetite and insane persons, who often refuse food, the gastric juice may be set in motion by taking milk or broth an hour or so before a meal.

The Operative Treatment of Appendicitis.

When to operate in appendicitis has been the bone of contention among surgeons, on this and the other side of the Atlantic, for some time.

The recent operation upon the King of England was the means of bringing the subject prominently to the front once more, and the matter has been argued vigorously by the upholders of both procedures.

At the Belgian Congress of Surgery, which opened at Brussels on September 8, one session was devoted to the discussion of the treatment of appendicitis. Dr. Broca (Paris), in conjunction with Dr. Gallet (Brussels), presented a paper dealing with their experience of the disease, and expressing a strong preference for operating, whenever possible, during a quiescent period, and not during an acute attack. The paper, however, which aroused the greatest interest was that contributed by Dr. Sonnenberg of Berlin, who gave the results of 1,200 operations that he had performed, within the past twelve years, at the Moabit Hospital, Berlin.

The most valuable information given by Dr. Sonnenberg was a narration of his experience with regard to the diagnosis of appendicitis. He laid peculiar stress upon the importance of observations respecting the augmentation of the white blood-corpuscles (leucocytosis), which he said bore a remarkable relation to the gravity of the lesions in appendicitis, and to the reaction of the peritoneum. In many conditions, leucocytosis afforded a diagnostic element of great importance, more trustworthy than the pulse and temperature, as an indication when to operate.

Dr. Sonnenberg agreed with Dr. Broca in advocating operation during the quiescent period whenever possible, and the verdict of the majority of the surgeons who took part in the discussion was in unison with these views.

News of the Week

German Hospital, Philadelphia.—Dr. Carl Frese, for fourteen years superintendent, has resigned. Dr. Henry Page is serving as acting superintendent.

University of Pennsylvania.—Dr. J. L. Gates has been elected assistant demonstrator of pathology, Dr. Hidaya Noguchi assistant in pathology, Dr. John T. Carpenter instructor in ophthalmology, and Dr. A. W. Jarman demonstrator of prosthetic dentistry.

Pathological Society of Philadelphia.—At a stated meeting, held October 9, Dr. Charles W. Burr read the address of President, reviewing the work of the society for the fiscal year just ended. He pointed out the change in the character of the work done by the society, the substitution, in a large measure, of histologic studies for gross specimens of morbid anatomy, and to the prominent place taken by investigations in the field of pathologic chemistry. He made an appeal for the exhibition of fresh specimens, which, though they might seem commonplace to the pathologist, would still be instructive and interesting to the clinician, who represented a not inconsiderable and not unimportant contingent of the society. The Recorder, Dr. David Riesman, presented his annual report, in the course of which he recited the successive stages through which the publication of the proceedings of the society had passed. He pointed out the success that had attended the present method of publication in the form of periodic fasciculi, which insured prompt publicity and distribution for the scientific work of the society. Dr. Thompson S. Westcott read the report of the treasurer, showing the state of the finances of the society. The election for officers resulted in the choice of Dr. Charles W. Burr for president, of Drs. Alfred Stengel, Joseph McFarland, Simon Flexner, and Mazyck P. Ravenel for vice-presidents, of Dr. J. Dutton Steele for secretary, of Dr. Thompson S. Westcott for treasurer, and of Dr. David Riesman for recorder.

Philadelphia County Medical Society.—At a stated meeting, held October 8, a symposium on Chronic Nephritis was presented. Dr. James Hendrie Lloyd read a paper on "The Nervous Symptoms in Chronic Forms of Nephritis." These he divided into regional and general. They included together headache, convulsions, paralysis, aphasia, amaurosis, and neurasthenia. He emphasized the importance of systematic examination of the urine, without which no diagnosis could be considered complete. Dr. George E. de Schweinitz read a paper entitled "The Ocular Manifestations in Chronic Bright's Disease." He discussed uræmic amaurosis, retinitis, and neuroretinitis, angiosclerosis of the fundus of the eye, and subconjunctival hemorrhages. Dr. James M. Anders presented a communication entitled "Treatment of the Nervous Phenomena in

Chronic Nephritis." He considered at first the dietetic indications and, subsequently, the symptomatic indications for drugs and other therapeutic measures. Dr. Samuel D. Risley continued the discussion on the ocular manifestations, citing illustrative cases. Dr David Riesman referred further to the nervous manifestations, speaking especially of hemiplegia and aphasia, of transitory uræmic mental confusion, and suggesting the possibility of chronic insanity of uræmic origin. Dr. L. Webster Fox made some additional remarks on the ocular manifestations. Dr Hobart A. Hare referred to the usefulness of venesection and intravenous infusion, and of morphine in the presence of acute uræmia, of the danger of pilocarpin, while he saw no advantage in skimmed milk and no difference between red and white meat in so far as the kidneys were concerned. Dr. Charles W. Burr dwelt on the difficulty in diagnosis of the uræmic and the apoplectic state, and pointed out the variability of the symptoms in the former as compared with the latter. Dr. Augustus A. Eshner referred to cases in which albuminuria, and even tube-casts, could not be found on repeated examination of the urine, and the diagnosis had to be made from the ocular findings and the cardiovascular conditions. He spoke also of cases of renal inadequacy in which the amount of urine and, correspondingly, the amount of urea eliminated were greatly reduced, without the presence of albumin or tube-casts in the urine, and without the discovery after death of the lesions of nephritis. Dr. Charles P. Noble stated that albumin and tube-casts were found in a considerable proportion of the large number of cases that came under his observation, principally for the relief of surgical disorders, but in which other symptoms of nephritis were not present, and did not subsequently appear. He pointed out the frequency with which albumin and tube-casts were found in the urine in the sequence of operations on or about the kidneys.

Vermont Society for the Study and Prevention of Tuberculosis.—Under this name an association was recently established at Burlington, Vt., by a number of physicians and laymen. At the organization meeting a constitution was adopted, resolutions relative to the establishment of a State sanatorium and to supporting the work of the State Cattle Commission were passed, and various phases of the tuberculosis question were discussed. The following officers were elected: *President*, Hon. E. C. Smith of St. Albans; *Vice-Presidents*, Drs. Don D. Grout of Waterbury and C. W. Peck of Brandon; *Secretary*, Dr. H. E. Lewis of Burlington; *Treasurer*, H. L. Stilson of Bennington; *Executive Committee*, Dr. H. D. Holton of Brattleboro, W. N. Platt of Shoreham, Henry Ballard of Burlington, and E. H. Ross of St. Johnsbury.

Discussion on Typhoid Fever at the Academy. At the meeting of the Medical Section of the Academy of Medicine, to be held on Tuesday, October 21, there will be a symposium on typhoid fever, under the several heads of etiology and prevention, symptomatology and clinical diagnosis, laboratory aids to the clinician, the chemical nature of the typhoid bacillus, and treatment. Following these papers there will be a general discussion. The chairman of the section is Dr. James K. Crook, and the secretary, Dr. E. E. Smith.

The Milk Supply of Chicago.—In the Bulletin of the Chicago Health Department for the week ending October 4, it is stated that the milk supply of the city was never better than it has been for the past month. "The week's examinations show only 3.5 per cent. of the samples below the ordinance standard. Watering and the use of formalin as a preservative have become 'lost arts.' The summary sewer disposal of milk thus adulterated has taught all concerned that the practice is not profitable. The most marked improvement has been in the quality of restaurant milk and cream. When the increase of typhoid compelled the department to resort to drastic measures, restaurant samples averaged 17 per cent. of watered or formaldehyded. Last week every sample taken from a restaurant or hotel was sound and fully up to or above the standard."

College of Physicians of Philadelphia.—At a stated meeting, held October 1, Dr. Thomas C. Ely read a paper entitled "Hodgkin's Disease, with the Report of a Case." The patient was a child of three years, and it presented the classical, clinical picture, being remarkable especially for the early period of life at which it occurred. Evidence was presented suggestive of the tuberculous character of the disease. Dr. Charles H. Frazier made a presentation of a patient one year after division of the sensory root of the gasserian ganglion for the relief of tic douloureux; no Recurrence. The operation had been suggested by Dr. Wm. G. Spiller, to obviate the dangers of removal of the ganglion itself. The success of the operation depends upon the failure of the divided sensory root to regenerate. This was first demonstrated on lower animals. Next the technique of the operation was perfected; and, finally, the procedure was applied to the living human subject. The patient was a man who, for several years, had suffered from trigeminal neuralgia, and had previously been operated on by division of the painful nerve. Sensibility and pain recurring, the division of the sensory root was effected, and there has since been no return of sensibility in the distribution of the fifth nerve on the affected side, and likewise no recurrence of pain. The operation is, therefore, looked upon as a success, although not more than a year has elapsed since the performance of the operation.

Philadelphia Hospital.—Dr. G. E. Pfahler has resigned as assistant chief resident physician in the Philadelphia Hospital, and Dr. Wm. M. Capp has been elected to fill the vacancy.

Physical Tests Demanded of Railroad Employees.—At the instance of Dr. B. F. Clark of Cincinnati, chief surgeon of the road, the management of the Baltimore & Ohio Southwestern Railroad has determined upon a more rigid physical examination of the applicants for employment as trainmen. In addition to the usual tests for color blindness it is proposed to establish a standard of physical health approaching, if not equalling, that of the army and navy.

Indiana's Medical Law Sustained.—The Supreme Court of Indiana has decided in favor of the constitutionality of the medical act of 1901. This act goes further than the one of 1897 in defining what constitutes the practice of medicine, and its intent is to suppress the horde of healers and professors and scientists who claimed exemption on the score that they were not medical practitioners.

A Clergyman Fined for Illegal Practice of Medicine.—The Rev. W. N. Ritchie, a Presbyterian clergyman, was recently found guilty of practising medicine illegally, and was fined $75 in Special Sessions. He was secretary of a company formed to exploit an alleged cure of the morphine and other drug habits, which he owned. The prosecution was on the complaint of the Medical Society of the County of New York.

A Contrast.—An American graduate in dentistry, formerly practising in Philadelphia, was the assistant of one of the leading dentists of Vienna up to a few days ago, when the authorities fined him and expelled him from the country for having pulled a tooth. The Austrian law permits a foreigner to act as an assistant to a dentist, but not to perform any operation. At the same time that this occurred, an Austrian surgeon was operating freely in America, and when some one suggested that he was breaking the law, the medical examiners courteously gave him a private examination and presented him with a certificate of qualification.

The Southern Surgical and Gynecological Association will hold its fifteenth annual meeting, under the presidency of Dr. W. E. B. Davis of Birmingham, Ala., in Cincinnati on November 11, 12, and 13, 1902. The railroads have promised a one and one-third rate on the certificate plan. The secretary of the association is Dr. W. D. Haggard of Nashville, and the chairman of the committee of arrangements, Dr. Thaddeus A. Reamy of Cincinnati.

Fined for an Incorrect Diagnosis.—A man in Richmond Borough recently brought suit against a physician in New Dorp for $5,000 damages, alleging that the physician had incorrectly diagnosed the illness of the plaintiff's daughter, as a result of which she died. It was affirmed that when the defendant was called to see the child he said she had bronchopneumonia, but another physician, called later, diagnosed the case as one of diphtheria. The accused physician contended that the first diagnosis was correct, and that the diphtheria was a later development. The court found against him, however, and awarded the plaintiff $500 damages. The case will be appealed.

Cholera and Dysentery in a Transport.—The army transport *Sherman* arrived at San Francisco from Manila on October 10, and was detained in quarantine because of the presence of cholera. There had been some deaths from that disease during the voyage and several from dysentery.

The Plague in Russia.—Some apprehension has been caused by the persistence of the plague in Odessa and other towns in the southern part of Russia, despite the earnest efforts of the sanitary authorities to eradicate it. The disease not only persists, but is becoming more severe, often running its course to a fatal ending within twenty-four to thirty-six hours.

Philadelphia County Medical Society.—At a stated meeting, held September 24, a symposium on typhoid fever was held. Dr. Roland G. Curtin read a paper entitled "Hemorrhage in Typhoid Fever," discussing the cases in which the bleeding takes place from the intestinal lesion and also those in which extravasations of blood take place from numerous mucous surfaces, and into the submucous and subcutaneous connective tissues. In his experience the mortality in cases presenting this complication is lower in private than in hospital practice, and it seemed to him that such hemorrhage is more frequent in patients that have been subjected to cold bathing. In the way of treatment ergot, adrenal preparations, the introduction of ice into the rectum, the administration of opiates and of oil of erigeron were found most serviceable. Dr. Herman B. Allyn presented a communication entitled "The Significance of Abdominal Pain in Typhoid Fever." He recited the various causes of such pain, dwelling especially, however, upon that associated with cholecystitis and with perforation of the bowel. Dr. Robert G. Le Conte read a paper on "The Operative Treatment of Typhoid Perforation." He made a plea for early diagnosis and prompt operation and described the several plans to be pursued in accordance with the conditions present. Dr. Wm. Egbert Robertson read a paper entitled "Feeding in Typhoid Fever." He bespoke a more generous diet than it is the custom of most clinicians to permit, in order the better to combat the toxæmia of the disease, and to avert the wasting and the asthenia, together with complications arising out of them. The discussion was participated in by Drs. G. G. Davis, H. A. Hare, N. Price, J. H. Gibbon, B. F. Stahl, and W. L. Rodman.

Shortage in the Army Medical Corps.—Although there are forty vacancies in the Medical Department of the United States Army, and an examining board has been in session in Washington for some time, only five applicants have been accepted out of all who offered themselves. Complaint is made that the examinations are too severe, and that a man must be above the average of the recent graduate to pass them successfully. It is true that the standard is very high, but it is not so high that men in plenty could not be found to fill the vacancies if there was any temptation for them to enter the army. We have several times discussed the changed conditions in the Army Medical Corps, and now this serious crippling of that corps sustains our contention that Congress made a fatal blunder when it meddled with this all-important branch of the service.

The Medical Society of Virginia.—At the thirty-third annual meeting of this society, held recently at Newport News, the following officers were elected: *President*, Dr. John N. Upshur, Richmond; *Vice-Presidents*, Drs. Wm. F. Cooper, Newport News; R. W. Sanders, Max Meadows, and Junius F. Lynch, Norfolk; *Recording Secretary*, Dr. Landon B. Edwards, Richmond; *Corresponding Secretary*, Dr. J. F. Winn, Richmond; *Treasurer*, Dr. Richard T. Styll, Newport News. Dr. Wm. S. Christian, Urbana, was chosen to deliver the "Address to the Public and Profession" at the next annual session.

Foreign Physicians in Peru—Under date of July 18, 1902, Consul Charles V. Herdliska of Callao, in reply to an inquiry regarding the chances of success for an American physician in Lima, writes as follows: "Before a physician can enter upon the practise of his profession in Peru he must pass a State examination upon medicine, conducted in the Spanish language. Upon being found qualified, a certificate is issued which entitles him to practise his profession in any part of the Republic. The opportunities for American physicians would seem to be good. Both Lima and Callao contain quite a large American and English colony, and the Peruvians themselves appear to have great faith in the American, English, German, and French physicians and surgeons, on account of the advanced state of medical science in those countries."

Professor Adolf Lorenz of Vienna arrived in Chicago last week, and since that time his doings have been widely chronicled in the daily papers. On Sunday he performed the operation for which he was called from Vienna. On Monday he repeated the operation on nine children at a clinic in the College of Physicians and Surgeons, and on Wednesday evening he operated on several more children at the Mercy Hospital, and delivered a lecture on "the principles of the bloodless reduction of congenital dislocation of the hip-joint." According to his statements to the reporters, Professor Lorenz has perfect confidence in the success of his operation, and confidently predicts that all the children with congenital dislocation of the hip, upon whom he performed his manipulations, will be cured of the deformity. "I regret," he said, on beginning the clinic at the College of Physicians and Surgeons, "that I shall not have the opportunity of proving to you that the cases I am about to operate on for unilateral and bilateral congenital distortions of the hip are to be cured permanently by the operation. They are so cured in every instance I have had the opportunity of demonstrating in Rome, Berlin, Moscow, Hamburg, and Vienna, but by the time the little limbs are free of the bandages and fit for use, I shall be back in Vienna." And to the reporters who questioned him as to the outcome of his private operation on Sunday, he said, after giving a detailed description of his method of treatment of congenital dislocation of the hip in general, and of how he had treated the little Armour child in particular, "To-morrow I shall allow her to sit up; in a couple of days I shall require her to take exercise, and that exercise, assisted by nature, will bring about the junction of bone, so that when the cast is removed the hip will be found to perform its function in a perfect manner.. The leg operated on will be exactly the same length as the other, and that hip will then be as perfect as the other, or as that of any normal body."

Obituary Notes.—Dr. Jane K. Carver died at Hill Crest on the South Mountain, at Graffenberg, Pa., on October 9. She was a daughter of the late Judge Francis Kimmel of Chambersburg, Pa., and the widow of Dr. Charles Carver. She had been in charge of the woman's department of the State Hospital for the Insane at Harrisburg for many years.

Dr. ELVIRA RAINIER, one of the leading woman physicians in this State, died at her home in Oswego, N. Y., on October 13, at the age of fifty-five years. She was born at Coldwater, Mich., and was graduated from the Woman's Medical College of Pennsylvania in the class of 1877. She was a member of the Central New York Medical Association, secretary of the Oswego County Medical Society, and consulting physician to the Oswego Hospital.

Dr. EDWIN A. W. HARLOW died at his home in Quincy, Mass., on October 12, at the age of eighty-eight years. He was a member of the Harvard class of 1841. He retired from practice on account of his age several years ago.

Dr. HENRY HORACE LYNCH died at his home in Jersey City, N. J., on October 12. He was born in Woodbridge, N. J., and was graduated from the New York University Medical School in 1878.

Dr. OBADIAH C. BRICKLEY died at York, Pa., on October 2. He was a pension examiner from 1894 to 1898, and served three terms as coroner. He was also prison and almshouse physician for a number of years.

Dr. JOHN PACE MUTCHLER died at Stroudsburg, Pa., on September 29. He was a graduate of the Jefferson Medical College in the class of 1875.

Dr. HARPER B. LACKEY of Scranton, Pa., died in Philadelphia on September 30, at the age of fifty-eight years. He was a graduate of Bellevue Hospital Medical College in the class of 1868.

The Berlin Academy of Sciences has announced that its academic prize of 5,000 marks will be awarded, in 1904, for an investigation of the cathode rays, and in 1905 for an investigation of the theory of functions of several variables which admit of linear substitution. The income of the Cothemus legacy—$2,000—for 1904, will be awarded for investigations of new varieties of grain. The papers may be written in English, and must be presented, without the name of the author, to the Bureau of the Academy, Universitätstrasse 8, Berlin.—*Popular Science Monthly.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE ELECTION—WELL-TO-DO HOSPITAL PATIENTS—NEWSPAPER CORRESPONDENTS—RISKS IN CREAMERIES—PHTHISIS IN ASYLUMS—POISONOUS FOOD—VACCINATION FEES.

LONDON, September 26

SIR VICTOR HORSLEY has been re-elected to the General Medical Council by more than double the number of votes given to his opponent. This shows plainly enough that Mr. Smith had no chance, and to some extent justifies those who inveighed against him for putting the profession to the trouble and expense of an election. But the election also exhibits the apathy of the profession, or its hopelessness of the council. The votes were 7,672 for Sir V. Horsley, and 3,105 for Mr. Smith, a total of only 10,777—a very small poll, considering that the voter had only to sign the paper and post it. There are more than 6,000 practitioners in London, more than 16,000 in the provinces of England, and more than 1,000 in Wales. Scotland and Ireland are not in this election. How is it that, with all the whipping up, less than half the voters will take the trouble to sign a paper?

The subject of well-to-do hospital patients has continued to furnish letters to the newspapers. Perhaps the dead season may account for their admission, as well as some other subjects of medical interest. In this case we may hope that the influence will be beneficial. Too many of the correspondents harp on the high fees expected by surgeons, and when they mention a sum it is invariably one which very few are in a position to obtain. It has been well pointed out several times that the juniors among our hospital surgeons do not expect such fees, but are just as well able to operate.

When a man has reached the highest rung of the ladder, he, of course, considers himself entitled to the highest fees, especially as he can only get through a certain amount of work. He is, in fact, generally obliged to pass on some cases to his confrères. But why should the poor man insist on having the most fashionable surgeon? If he would be guided by his ordinary attendant, he could have the services of a surgeon whose fee he could pay, and one, too, whose hospital duty continually included similar operations. Again, the "well-to-do" patient, as he has been called, need not go to a luxurious or extravagant nursing home. Many would be as well and many better in their own homes, under the eye of their own family doctor, who would conduct the after-treatment. Many of these family practitioners could, indeed, undertake various operations without more help than his neighbor would give. If they desired a consultant's views as to the necessity of operating—well, that could always be obtained from the most eminent surgeons. And here, again, it may be said that the most brilliant operator is not necessarily the person whose surgical judgment is most trustworthy.

Unquestionably, many minor operations, which should fall to the general practitioner, pass away to consultants and the nursing homes which they recommend. Some of these are very luxurious and very costly. Many are not only recommended, but practically owned by surgeons. As to this, I was told a story the other day, which might teach a lesson to some:

A patient, who had returned cured from one, told me he did not go to the one he formerly resorted to. Asked if it were unsatisfactory he said no, but it seemed to be run by the surgeon, and, therefore, he would not go, as he did not approve of eminent surgeons carrying on the commercial element.

I notice that the correspondents who write to defend surgeons' fees and nursing homes are content to use a *nom de plume*. On another subject, which has crept into the newspapers, "cancer research" several take care to give their names and addresses—no doubt "as a guarantee of good faith," as editors say. Could you suppose any other motive for airing very opposite views? But the "views" of most of these writers are scarcely worth attention.

The Annual Report of the Irish Local Government Board contains further illustrations of the part played by milk in disseminating disease. During the year there were five outbreaks of typhoid fever in different districts in Ireland, traced to creameries. This confirms what has been the result of previous investigations.

The milk sent to the creameries is mixed. If that from one dairy is infected, the consequence is serious to the various families sending their milk to the creameries, among whom the "separated milk" is afterward distributed. In the appendix to the report, Professor MacWeeny, bacteriologist to the Board, has a paper on the subject, in which he urges the necessity for the Pasteurization of creamery products.

A committee was appointed by the Medico-Psychological Association, some two or two and a half years ago, to inquire into the prevalence of phthisis in asylums. The report has just appeared, and states as "a fact beyond contradiction, that phthisis is prevalent in our public asylums to an extent which calls for urgent measures." The committee further state that many patients contract the disease after admission to the asylums.

The character of the population of the asylums has much to do with this acquired phthisis, for the death rate from this disease is twice as high in those filled from urban than from rural districts.

Many of these patients are discharged every year, and a great number of the staffs migrate from place to place, and the committee suggests that there is a risk of dissemination of the disease by these persons. The prevention of overcrowding, and the isolation of phthisical cases are obvious precautions.

An outbreak of poisoning, traced to eating pork pies from a shop in Derby, has caused much uneasiness. It was supposed, at first, to be due to ptomains, and Professor Delépine's report was looked forward to with interest More than 200 persons were affected in various parts of the country, to which pies were sent or taken from one particular batch. An adjourned inquest on one of the fatal cases was concluded on Tuesday, when Professor Delépine reported that he found bacilli in deceased's stomach, which might produce all the symptoms from which the various victims suffered. He found these bacilli also in the pork pie submitted to him. He believed the meat was good, but became contaminated during preparation, and that it would be impossible for the vendor to notice anything wrong.

Dr. Howarth, M.O.H. for Derby, testified that the vendor was a careful tradesman, as to whom no complaint had ever been made. As the outcome of the inquiry, he should make some recommendations to the corporation with a view of minimizing such risks. The jury returned to the effect that deceased died through eating contaminated pies, and exonerated the maker from all blame. The bacillus detected by Professor Delépine belongs to the colon group, but differs in some respects from Gaertner's bacillus. Perhaps it may be the same as that which caused an outbreak of meat poisoning at Friedeberg. It may have been conveyed in dust for some distance, but there is a suspicious place rather near. It was fatal to animals, and found in their blood. It multiplies very rapidly at ordinary temperatures, broth being rendered turbid by it in two hours. It was found in the jelly of the pies, and this is naturally the most dangerous ingredient, as it is usually poured in last, and it melts at a low temperature, thus providing a fertile soil for bacillary growth It makes no change in the taste or smell of food contaminated with it. Clearly this case is not properly spoken of as ptomain poisoning. Further, it shows the dangers that lurk in small, private slaughter-houses, and suggests their closure.

Local authorities are finding out that neglect of vaccination does not pay. The Edmonton guardians on Wednesday resolved to petition the Local Government Board to reduce the fees of public vaccination, though their chairman told them that possibly, if the acts had been properly carried out, the expenditure of £10,000 to £12,000 in dealing with the smallpox might have been saved. It was said that about £3,850 had been paid to four public vaccinators, one of whom received £1,110 Similar object lessons will, no doubt, be talked of, and may prove useful.

In contrast with the foregoing it is pleasant to report a case of appreciation of a medical officer of health: The Lambeth Council on the 18th of September unanimously voted to Dr. Priestley an honorarium of 100 guineas in recognition of his energy and skill in combating the epidemic of smallpox.

Improvement of the Condition of the Insane. At the conference on the improvement of the insane, which met recently in Antwerp, the following resolutions were adopted: (1) That the confinement of the insane henceforth be abandoned, except in the case of those recognized as dangerous; (2) That the system of boarding insane persons with families be carried out whenever possible; (3) That it is expedient to renew the wish formulated at the congress at Paris for the establishment of schools for special classes of the mentally weak under medical supervision; (4) That the manner of placing patients be left entirely to physicians; (5) That forcible restraint should be condemned.—*Science.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 9, 1902.

The Modern Operation for Radical Cure of Umbilical Hernia.—W. H. Conant says that umbilical hernia in children, as a general rule, gets well with the use of a truss. Strangulated umbilical hernia is to be operated on like any other hernia. Radical umbilical hernia is to be operated on if the patient will give consent. Otherwise, a well-fitting truss should be worn day and night. Irreducible hernia is to be operated on unless there is some marked contraindication, like serious kidney or heart lesion. Age and size of tumor need be no bar to an operation. The operation is to be preferred which will combine rapidity with diminution of shock, both by diminishing the hemorrhage and also the length of time that the patient has to be under an anæsthetic. Where ether is contraindicated, cocaine should be used.

Ultimate Results of Operations for Appendicitis.—Homer Gage states that he has been able to trace the subsequent history of 228 out of 300 cases operated on by him for appendicitis. Forty-two have complaints of some kind to make—thirteen of discomfort or soreness, two of the non-closure of fecal fistulas, nineteen of a hernia through the scar. Among the favorable replies, sixty found their general health and digestion very much improved since the operation. In one this improvement did not begin until three months after the operation, in one it was observed a year later, and in a third was not marked until three years later; the last two cases probably belong with the great majority who were relieved of their immediate difficulty, and whose general health remained as before the appendix became inflamed. Their late improvement was very likely wholly independent of their surgical experience.

Massage in Fracture Treatment.—Edward A. Tracy says that in cases of fracture the surgeon commences by removing what he can of obstructive material. To do this he begins at the end of the swollen tissues nearest the heart, grasping the limb in his two hands and giving the tissues a gentle but firm squeeze. He relaxes his grasp, and again grasps and squeezes about a half inch below, and so on until the lower border of the swelling is reached. After this has been repeated two or three times consecutively, the limb can be held at its distal extremity by one hand, while a pressure stroke along the limb is made with the other hand in the direction of the blood flow. Massage may be applied from the commencement of attendance on a fracture case. It removes obstruction to the circulation, hastens the absorption of exudates and tissue detritus, increases proliferation of cellular elements by the stimuli of increased nutrition, prevents muscular atrophy for the same reason, and speeds the reunion of the bony fragments. A wood-plastic splint moulded upon the parts is in every way superior to plaster-of-Paris.

Journal of American Medical Association, October 11, 1902.

Uræmic Aphasia.—D. Riesman offers the following conclusions: (1) Aphasia may occur in uræmia, and is, at times, the sole expression of that state. (2) It may be a precursor of uræmic convulsions or coma. (3) It is frequently associated with right-sided motor paralysis, hemiplegic or monoplegic in character. (4) It is usually of a motor type, but may be sensory. There may be word blindness and word deafness. It may be associated with agraphia, even when there is no paralysis of the limbs. (5) It is comparatively frequent in children, particularly in cases of post-scarlatinal nephritis. In adults it may occur in any form of Bright's disease. (6) It is generally transient and has a marked tendency to recur. (7) When paralysis is present the two may disappear simultaneously; the aphasia usually disappears first. (8) The features of uræmic aphasia are, *per se*, not characteristic of the causal condition. (9) The most important diagnostic features are the transitoriness of the aphasia and the presence of other uræmic symptoms or of signs of nephritis. (10) In every case of sudden aphasia the possibility of its being renal in origin should be considered, and careful studies of the urine and of the system at large should be made with this thought in mind.

The Surgery of Rickets.—H. L. Taylor offers the following rules of procedure: (1) Subcutaneous osteotomy of the shaft is a safe and certain operation for the correction of knock-knees and bow-legs. (2) It is nearly always to be preferred to cuneiform osteotomy, osteotomy into the joint (for knock-knees), or operation by the open method. (3) The risk of non-union of bone or other accidents, with asepsis and an experienced operator, are slight, and not increased in rickety subjects. (4) The commonest errors are imperfect correction, especially failure to overcome inversion of the feet, and relapse from improper dressings, or from operating before the subsidence of the rachitic process. (5) Plaster-of-Paris makes an excellent splint, completely controlling the position of the fragments when properly applied. Plaster or other splints should be worn for some months. (6) Subcutaneous osteotomy may be likened to subcutaneous tenotomy. (*a*) In its simplicity, certainty, and freedom from complications; (*b*) In the advisability of correction of the deformity at the time of operation, in the facility with which union occurs and gapes are filled up, in the importance of careful and intelligent postoperative treatment, and in the permissibility of locomotion before firm union has occurred, provided the parts are perfectly controlled by splints. Each is indicated when the structures involved can not be permanently corrected by stretching in a reasonable time, and both mark a distinct advance in the treatment of certain deformities and are worthy of wider recognition.

The Successful Treatment of Gonorrhœa and All Inflammatory Diseases of the Urethra by Packing with an Antiseptic Oil Dressing.—S. T. Rucker carries out the usual preliminary irrigation, and then passes the packing tube (a special variety of which is figured) about four inches in anterior gonorrhœa and back to the neck of the bladder in posterior gonorrhœa and prostatic troubles. The urethra is then lightly packed with one inch continuous gauze strips, or better, a loosely-spun cotton cord saturated in 95 grains of iodoform rubbed up with three and one-half ounces of castor oil, to which mixture half an ounce of Peruvian balsam is added. This makes practically an odorless mixture—or we may employ ichthyol and resorcin in the oil and balsam (formula given). The instrument is gradually withdrawn as the dressing is pushed through, and when it emerges from the meatus the cord dressing is clipped with scissors, leaving about one-eighth inch of the cord outside of the meatus, which can be taken between the fingers when the cord is to be removed. A small piece of cotton is placed over the head of the penis and treatment is complete. The patient is now instructed to go as long as he possibly can before urinating, when the cord is slowly removed. The average patient will go from five to eight hours before urinating without much discomfort. The patient can wear the packing all night. It is to be renewed daily, at night, until discharge ceases. During the day, the author employs various injections in much the usual way. So much detail of treatment is mentioned over and above the packing that it is difficult to accurately determine just what the effect of the latter really is and how much it facilitates recovery.

Medical News, October 11, 1902.

An Instance of Accidental Vaccination.—Geo. W. Kosmak reports an interesting case of this kind. A mother was vaccinated, and the pock ran a normal course and was not protected by any dressing. Her little girl of fifteen months slept in the bed with her. About two weeks after the mother's vaccination a small red spot appeared on the baby's cheek, and ran the normal course. There was a slight infection, and the neighboring lymphatic glands were somewhat enlarged and tender. There were no signs of any skin eruption, and the child, undoubtedly, inoculated itself through the healthy skin, probably by scratching. An unsightly scar will be left on the child's cheek.

How Much Do We Positively Know about Tuberculosis? A Plea for the Tuberculous.—F. C. McGahey declares that we are ignorant as to the cause that makes an individual susceptible to tuberculosis. Syphilis and gonorrhœa are more infectious than tuberculosis, as they are contracted by those having no especial susceptibility. The writer relates various instances in which individuals have been exposed to tuberculosis, but have not contracted the disease. He states that these facts undoubtedly prove that it takes more than an atmosphere loaded with bacilli to produce the disease. As to whether the tendency to tuberculosis is inherited, the history of the Indians answers both "no" and "yes." The writer does not combat the use of any antiseptic measure for the prevention of the disease, but he fears that our precautions often accomplish little or nothing at all. He believes that although ordinances against spitting are very good, a better one would be that exacting a heavy fine from women wearing skirts which are not at least two inches from the ground. This would be a protection against other infections as well. Although separate cars for consumptives may be desirable, still more so are leather coverings instead of plush for seats, and linoleum for the entire floor. The car could then be cleansed after each trip with an antiseptic solution. Plush and carpets ought not to be in any public building, whether church or theater. Those who seem susceptible to tuberculosis should shun all crowded, ill-ventilated, carpeted, and soft-cushioned places. Our public schools demand many antiseptic measures, and here practical instruction in antiseptics could be given.

The Etiology of Shock.—H. H. Stoner states that it is clear that the phenomena of shock are manifested through the agency of the sympathetic nervous system. A direct relation exists between shock and the activities of the sympathetic nervous system. Shock may result either directly from injury to the sympathetic system, or indirectly as a result of disturbed metabolism. Shock, as usually seen, presents itself under one of two clinical forms. It may be attended with great excitement or with utter prostration. Blows over the sympathetic plexuses or upon organs richly supplied with sympathetic nerves produce a condition of shock identical with that of incised or lacerated injuries. This is due to the injury to the sympathetic nerves. Abdominal operations are especially productive of shock. This is undoubtedly due to the chilling to which the sympathetic nerves of the viscera are subjected. Hemorrhage is a fruitful cause of shock. In this case the stimulus which induces the shock originates directly in the bodily tissues. When the blood supply is suddenly withdrawn, retrograde metamorphosis immediately ensues in all parts of the body, and the stimulus—the demand of the starving tissues—incident thereto is sufficient to set up the sympathetic disturbances. Prolonged anæsthesia is often alone sufficient to induce a profound degree of shock. The different effects of shock are explained on the assumption that these symptoms are produced by the effects made upon the cerebrospinal nervous system. In the cases of excitement the metabolic stimulus is such as to affect the psychical apparatus, so that an emotional state is produced. In the cases of torpidity the metabolic activities are retrograded, so as to nearly detroy the tonicity of the cerebrospinal system. The flush of shame and the pallor of fear are produced through the agency of the sympathetic system. The same agent that produces the flush of shame is the same that causes the flush which attends the state of shock. No doubt both are due to an impression acting upon the vasomotor system which dilates the walls of the capillary blood vessels. Shock, then, and the activities of the sympathetic nervous system are directly related.

New York Medical Journal, October 11, 1902

The Constitutional State vs. Catarrhal Deafness.—S. F. Snow calls attention to the necessity, in addition to local treatment of the ear and nose, of looking after the functions of the skin, liver, stomach, and bowels. Unless we do this, local treatment will fall short of its possibilities. Regular bathing, friction of the skin, vigorous exercise—all must be insisted upon. Dyspeptic or intestinal disturbances, as well as uric acid and intestinal troubles, produce an irritability of the mucosa lining the head passages quite sufficient to call for connection before we can expect the Eustachian tubes to remain patent. It goes without saying that necessary operative work within the nose must be done, and done thoroughly, for no one with a projecting nasal spur or pressing middle or prolapsed lower turbinate has proved to me that the reason why many attempts to relieve chronic catarrhal deafness result in failure is principally because constitutional factors have not been appreciated.

The Silent Forms of Epilepsy. According to W. P. Spratling, such attacks come from frontal lobe disturbances. They may be of two kinds: (1) The psychomotor epileptic equivalent and the psychical attack pure and simple, the former being more violent, more commotional in character, and having a general motor disturbance, but no regular convulsion; the latter (often unrecognized) always quiet and unobtrusive and free from motor disturbance of any kind, but surely destructive, in the end, of the mental faculties. These patients are generally remote. They have a feeling that something is wrong; they are apprehensive, restless, nervous, given to sudden impulses, solicitous, unable to act or think logically in a well-balanced and connected way, and, above all they have a bad memory, because new impressions are so often destroyed by swiftly changing conditions in the brain that lead to disorganization of the brain cells that hold the function of memory. It is difficult for them to grasp things pointedly and clearly, and at times, when the seizure is present, although they may seem to be in a normal state, their perceptive senses are like camera plates that have been exposed—the recording surface is clouded over, dead to new impressions.

The Indications and Limits for Operation by the Vaginal Route.—According to C. C. Thienhaus, the advantages of this method are as follows: In operating by the vaginal route there is less danger of infection and shock, drainage in suitable cases is established through the lowest possible part of the body, there is no visible scar or possibility of ventral hernia, the convalescence after operation is usually smoother, simpler and shorter, in vaginal shortening of the round ligaments of vaginal suspension of the uterus, for instance, only from eight to twelve days. For cases of permanent abscess lying in the posterior cul-de-sac and for cases of parometritic and paravesical abscesses with and without pyosalpinx and pyovarium, the vaginal route is the method *par excellence*. Not all cases of simple pyosalpinx are attainable by this route, nor is a permanent cure effected by mere vaginal *incision and drainage* through the vault. In case of unilateral involvement of the appendages while those on the other side are perfectly normal, the author prefers the abdominal route. Extrauterine pregnancy with hæmatoma may call for both incisions, while, with the latter alone, the vaginal route will usually suffice. In cases of retrodisplacements, unless contraindications exist in the shape of extensive adhesions and serious disease of the adnexa, the vaginal route is to be preferred. So, also, it is preferable in prolapse of the uterus with or without cystocele. For surgery by the vaginal route two requirements are necessary: (1) Greatest care in diagnosis and judgment in the selection of cases. (2) Absolute familiarity, as well theoretically as practically, with all *abdominal* operative procedures on the female sexual and adjacent organs, because the necessity may arise (though very seldom in the hands of experts) of resorting to the combined vaginal and abdominal methods of operation.

American Medicine, October 11, 1902.

Brewers' Yeast in Therapeutics.—Julius Ullman states that brewers' yeast, because of its ferments, nuclein, nucleinic acid, and phagocytic action, is a remedy of value in therapeutics; its use is not confined to any one disease, but wherever an increased resistance of the organism is required. It has proved itself of value in furunculosis, carbuncles, diabetes, tuberculosis, bronchitis, bronchopneumonia, enteroptosis, habitual constipation, cancer, and other affections. Used in cases of advanced tuberculosis, an improvement in symptoms, indicative of secondary pyogenic infection, was noted. The therapy with fresh brewers' yeast is applicable only in such places where it can be obtained fresh from a brewer, and it must be obtained daily.

An Additional Case of Typhoid Spondylitis.—Albert H. Freiberg reports this case. The patient was a boy of fifteen years, admitted to the hospital on February 18, 1901, with typhoid fever. The illness had begun a few days before. On March 29 he was allowed to be on his feet, but he complained of pain in the lumbar region, which continued after he resumed his recumbency. On April [illegible] he was put to bed again, because the pain in his back had grown much worse and more constant. It was most severe at night, the spine tender on pressure, but there was no elevation of temperature. The pain grew worse till morphia, in ordinary dose, was only slightly effectual in quieting the nocturnal pain. The writer made an examination of the patient, and noted a decided projection backward of spinous processes involving the eleventh and twelfth dorsal and the first and second lumbar vertebræ, at the height of which the greatest tenderness was found. There was a diffuse swelling, extending both laterally and vertically beyond its limit, also sensitive to pressure. This required fairly deep pressure to make it evident. The back muscles were rigidly contracted. The tendon reflexes were somewhat exaggerated at the knees, and there was slight ankle clonus. No impairment of sensation was noted. A plaster bed was made for the patient, with the spine in a hyperextended position. There was great relief. On May 8 a plaster jacket was substituted for the plaster bed, and the patient was allowed to go about. He was discharged from the hospital on May 23. There was still considerable stiffness of the spine, the bony deformity was unchanged, but the swelling of the soft parts had entirely disappeared. In February, 1902, the deformity at the lumbodorsal junction was about the same. The spine was freely mobile, except in this region. He has had no symptoms of any kind since his discharge from the hospital, and, though working steadily, he is the picture of health. The writer believes that an inflammatory lesion, with circumloss of bone, had existed.

The Pathology of Chronic Specific Dysentery of Tropical Origin.—Charles F. Craig describes acute specific dysentery, in contradistinction to the more common form occurring in the Philippine Islands, which is due to the amœba, and is known as amœbic dysentery. This report is based up on the autopsy findings in 103 cases. There are three classes of these cases: follicular, diphtheric, and gangrenous. Undoubtedly all of these different pathologic lesions belong to one process, beginning as follicular and ending in the gangrenous form. However, there may still be separated these three distinct classes, from a pathologic standpoint, each having its own peculiar lesions, and each to be studied separately. The writer then considers the subject as follows: First, the character of the dysenteric stools. Much can be learned as to the type of dysentery present by a careful examination of the fæces. The fæces of the follicular stage vary greatly in number, usually from three to twenty during the twenty-four hours. As a rule, they are of semi-fluid consistence, and show little blood. They are not very offensive. During quiescent periods of the disease, the stools are often formed. Numerous pus cells are found in a majority of the cases. A large majority show numbers of mucous corpuscles imbedded in stringy mucous. The epithelial cells are abundant. There are fragments of undigested food. The bacterial flora is varied, and extensive. In none of these cases was the amœba of dysentery observed. The stools of the diphtheric stage are very different. They are made up of a serous body, in which are suspended shreds, strings, and pieces of pseudomembrane, cells, and small portions of intestinal mucous membrane. There is a mixture of blood, pus, mucous, and undigested particles of food. The color varies from slate to red. The odor is horribly offensive. Immense numbers of bacteria are present. No amœbæ of dysentery were found. In the gangrenous stage the stools are a thin, slimy syrup, of a slate-brown or black color, in which are pieces of necrosed mucous membrane, undigested food, and greenish pus. The odor is very offensive. There are many blood and pus corpuscles, and bacteria. This stage is an intense diphtheric infection. The next point considered is the gross and microscopic pathology of the three stages. In the follicular stage the intestines are, as a rule, dilated with gas. The external color of the large intestines is generally a dull gray, or slate; that of the small intestine varies from almost white to a bright pink. The jejunum and ileum are excessively thin. The region around the ileocæcal valve is the part of the large intestine most often involved. Microscopically, the most characteristic lesions are found in the solitary follicles. Many leucocytes are gathered round the follicles. The process consists essentially in a necrosis and ulceration of the solitary glands, or follicles, of the large intestine, with an extension of the process to the mucous and submucous coats, and sometimes to the muscular coat. Atrophy and loss of function of the tissues affected finally occur. In the diphtheric stage the lesions are divided into involvement of the mucosa, without any diphtheric deposit, involvement of the mucosa and a deposit of diphtheric exudate upon the surface of the membrane, involvement of the mucosa, submucosa, and even the muscular coat, with coincident diphtheric deposits upon the surface of the mucous membrane. The gangrenous stage may, perhaps, be regarded as a very intense type of the diphtheric stage, or the further development of that stage. The writer has not been able to obtain cultures of Shiga's bacillus in most of the cases coming to autopsy, but he has used pure cultures of this bacillus in testing the action of the blood-serum of these cases, and in all has obtained a marked agglutination. This reaction has not been present in the cases of amœbic dysentery, according to his work; thus he believes these cases to be the chronic form of the acute specific dysentery prevalent in the Philippines. The term "tropical dysentery," as denoting dysentery due to infection with the amœba, is unwarranted in the sense that amœbic dysentery is the only type occurring in the tropics. All of these cases originated in the tropics, and are as really tropical as amœbic dysentery.

Philadelphia Medical Journal, October 11, 1902.

The Infraspinatus Reflex; a Question of Priority.—William Pickett calls attention to the German contribution by Professor Steiner of Cologne in the *Neurologisches Centralblatt*, September 16, 1902, the title being "The Infraspinatus Reflex: a Hitherto Unknown Reflex of the Upper Extremity of Man." This reflex was described by the writer in a paper on the scapulohumeral reflex of Bechterew, based upon work done at the suggestion of Dr. Dercum, read before the Neurological Society nearly two years ago, and published in the *Journal of Nervous and Mental Disease* May, 1901. This reflex, under consideration with the pectoral reflex, and another mentioned in the writer's paper, were all considered at the time of discussion, as modifications of von Bechterew's reflex, since the motion of the arm is similar in all, and the spinal center of each is in the same segments of the cord, with the possible exception of Mills' "pectoral" reflex.

Severe Burn of the Eye and Face by Nitrite of Amyl, with Loss of the Eye.—Edward A. Shumway reports this unusual case. The patient was accustomed to use nitrite of amyl as soon as he experienced an aura, which was the forerunner to convulsions to which he was subject. On one occasion the convulsion came too quickly, and he threw a portion of the contents of the bottle of amyl nitrite into his eye, accidentally. As a result, there was a deep burn of the cornea and conjunctiva, which extended to the skin of the right side of the face. Despite prompt treatment, the cornea sloughed and the eye was destroyed. The explanation of this effect of the drug was finally made: The patient had been supplied with nitrite of amyl which, by repeated exposure to light and air, had decomposed, and at the time of the accident, probably consisted largely of a mixture of nitric and nitrous acids, to which the severe burn was due. He gives the following suggestions as lessons to be learned from this case: (1) Nitrite of amyl should be supplied to patients, for inhalation, only in the form of glass pearls; (2) When in quantity it should be kept in small, well-sealed, glass-stoppered bottles, in a cool, dark place; (3) A specimen which has been used a number of times should be tested very carefully, and if, on examination, it is found to have a decidedly acid reaction, it should be at once discarded.

Gastroptosis: a Method of Suspending the Stomach in a Hammock Made of the Great Omentum. R. C. Coffey describes two of these cases. The first patient was a woman, aged forty-four years. Examination showed the abdomen so tender that a thorough examination could not be made, and a digital examination per vaginam revealed a retroflexed uterus, with an adherent ovary back, and to the left side of it. A blood examination showed 20 per cent. diminution in hæmoglobin. A satisfactory diagnosis was possible only under an anæsthetic, or more probably an exploratory incision would be necessary. This proved to be true, and when the incision was made no small intestines were visible. The entire pelvic cavity was tented over by the omentum, which had become adherent by strong adhesions to the peritoneum lining the anterior brim of the pelvis. The lesser curvature of the stomach was almost two inches below the umbilicus. The appendix and cæcum were included in the adhesions. The stomach was fixed and could not be brought out of the wound until the omental adhesions had been separated from the pelvic peritoneum. The stomach was then pushed up out of the way. The ovary, which was adherent in the cul-de-sac, was removed, the uterus stitched to the abdominal wall, and the appendix removed. The problem then arose how it would be possible to protect the stomach from again being drawn into the pelvis by a readhesion of the omentum, for the tendency of the stomach was to come down into the wound, even though the adhesions had been broken up and the patient was still in the recumbent posture. Finally, the omentum was stitched to the abdominal peritoneum, about an inch above the umbilicus, by passing chromicized catgut sutures through the omentum about an inch below its attachment to the stomach. Three sutures were placed in this case about an inch apart, the line of sutures running transversely. In this way the stomach was out of the way and firmly in place. The abdomen was closed and the patient put to bed, with the lower extremities elevated. She was kept in the recumbent position, with her head lowered, for nearly five weeks, feeling almost entirely well. She went home during the eighth week. A bandage was fitted, and the patient was instructed to lie down an hour after each meal, and exercise very cautiously. Within a few weeks she could eat anything she desired without distress, and she felt that her condition was absolutely cured. She is now doing her own housework.

The Lancet, October 4, 1902.

Notes on Three Cases of Inoperable Cancer of the Breast Treated by Removal of the Ovaries.—The histories of the cases related by D'Arcy Power may be summarized as follows: Case 1.—Single woman of fifty-two years with ascites and fungating breast; axillary and supraclavicular glands so enlarged and fixed that removal was impossible; removal of breast and ovaries; general studding of intestines with cancerous nodules; patient lived six months. Case 2.—Widow of forty-two years; cancer involved right breast, axillary glands, and infraclavicular fossa; ovaries removed and found cystic and cancerous. A few months later the mammary region was much less swollen and general health was greatly improved. Case 3.—Woman of fifty-five years with cancer of left breast, removal of ovaries, which were free from disease; mammary region became much softer, but later hardened up again; in other words, the removal of the ovaries in the patient, who had not passed the menopause, was followed by an arrest and apparently a retrocession of the cancerous disease, while in the other two the operation was not followed by any benefit.

Myelopathic Albumosuria.—By this term T. R. Bradshaw designates a group of cases characterized by albumose in the urine and some affection of the bone marrow. The cause is unknown. The changes in the skeleton consist in the invasion of certain bones by a soft mass of new growth, the osseous tissue proper undergoing absorption. The new growth is red, soft, and gelatinous, looking like red marrow. It shows chiefly round cells with little or no intercellular substance. In structure and course of development it resembles sarcoma. The urine contains a proteid closely resembling albumin, but differing from albumin in certain particulars, of which the following are the most obvious: (1) It coagulates at a remarkably low temperature, viz., 58° C., (2) the coagulum is, to a great extent, dissolved at the boiling point and reappears on cooling; (3) the coagulum which forms on treatment with cold nitric acid also dissolves on boiling and returns on cooling; and (4) it is readily coagulated by hydrochloric acid. The symptoms are those of progressive asthenia accompanied by pains in the back and side suggesting rheumatism or neuralgia. The pains shift their position and vary in intensity. Swellings are found on the bones—or they are yielding to manipulation, and the *x*-ray may show an interruption of continuity. The prognosis is always bad. Concerning the peculiar substance, in the urine, we only know that it resembles albumin. As regards the mode of formation of the substance, three different views have been put forward: (1) The old view was that it is derived directly from the proteid constituents of the food, which, for some reason, fail to undergo the normal metabolism. This view ignores the fact which lies at the root of the whole problem, viz., the association of the albumose with disease of the bones and marrow. (2) Another view is that the albumose is produced by some abnormal metabolism taking place in connection with the new growths in the bones. How this could happen is at present a matter of pure conjecture, but it might conceivably take place through the action of a ferment. (3) Finally, it has been suggested recently that the formation of the albumose takes place as the result of the loss of some function of the bone marrow, owing to the destruction of the latter. Bradshaw believes that the second of the theories best explains the phenomena of the disease.

The Medical Treatment of Appendicitis, with Notes of Three Illustrative Cases.—The histories of the cases are given by J. Burnet. In addition to the general and careful nursing, reliance was placed on fomentations keeping the bowels open by cascara, belladonna, etc.; stimulants, if necessary, and the avoidance of opium. All recovered, but their subsequent history is not stated. As to when the surgeon should be called in, the author thinks that such aid should be summoned only when, in spite of the careful carrying-out of the treatment already indicated, the patient's condition is evidently becoming worse. In dealing with appendicitis we are apt to expect too much in the way of improvement from day to day. During the satisfactory progress of many of these cases the improvement is sometimes hardly perceptible, but if it is observed after a careful estimation of every factor involved, then we are warranted in persevering with our medical treatment rather than in summoning a surgeon to our aid. He has no hesitation in saying that many cases of appendicitis are operated on which would have made a good and even a speedy recovery under medical treatment pure and simple. Surgeons urge that there is less risk in operating while the patient's strength has not yet been exhausted than in letting the disease run its course. All this is, to a certain extent, true, but we can do a great deal to carry the patient through his illness and to prevent complications setting in by careful attention and by intelligent medical supervision. Treatment during convalescence, too, is of great importance. When the temperature and pulse have remained normal for about a week the patient may be gently lifted on to a couch for a few hours each day. At the end of a month or six weeks he should be sent to some bracing, but quiet country place. During this period the greatest care in dieting is necessary, as is also the avoidance of constipation. Nothing that is in the least likely to upset the digestive organs should be taken, and the bowels must be made to act once a day. The convalescent should be warmly clad, woollen underclothing being most essential, and be careful to guard against chills.

British Medical Journal, October 4, 1902.

Discussion on the Prevention of Scurvy.—Alexander Turnbull declares that lime juice must only be considered as the most valuable adjuvant in the prevention of scurvy, and not as an absolute and complete substitute in itself for a proper antiscorbutic diet. The writer has carefully studied this subject, and concludes that the presence of some toxic material in the food is the exciting cause of scurvy, afloat and ashore, and that lemon or lime juice has been erroneously accepted as a certain preventive to the neglect of requisite precautions in provisioning. The true antiscorbutic is purity of food.

The Treatment of Abdominal Wounds in War.—Charles Roberts concludes that: (1) As a rule, the conditions in a field hospital are not suitable for performing laparotomy. Moreover, many patients with penetrating abdominal wounds recover without operation, and in the majority of those who die the nature of the injury is such that death must result whatever be the conditions of operation, and an exploratory laparotomy may add a fresh danger to the patient. (2) When occasions arise in which the conditions of operation approximate to those in civil practise, laparotomy should be undertaken for increasing intraperitoneal hemorrhage endangering life, and when there is evidence that perforation of the stomach or bowel probably exists, provided that the patient is seen early enough.

Consumption in the Navy.—Gerald Sichel says it may be confidently assumed that in the navy, as elsewhere, the lungs are *par excellence* the favorite sites both for infection of the individual patient and for propagation of the disease to others. Tuberculosis costs the English navy £20,000 per annum. The question of ventilation is of the first importance so far as the cure of consumption is concerned. The remedy for this disease is in prevention rather than in cure; that is, in prompt diagnosis. Careful microscopical examination probably affords the surest and earliest method of making a reliable diagnosis. On the other hand, exceptionally, the bacillus can only be demonstrated after prolonged and frequent search in cases in which physical signs point to advanced disease. Once tubercle bacilli have been demonstrated, the only proper course is to at once invalid the man out of the service. The writer concludes by emphasizing two important practical points: (1) We should consider it our earnest duty, more particularly on board ship, to carry out the needful simple examination of sputum systematically. (2) Every medical man, whenever he gets the opportunity, should urge the necessity for compulsory notification of tuberculosis throughout the country.

Deutsche medicinische Wochenschrift, September 18, 1902.

Nutrition During Hot Weather and in Warm Climates.—Felix Hirschfeld says that during hot weather and in warm climates meat should be very largely restricted in the diet. Voits' idea, which has been adopted by most physiologists, that 118 grams of albumin is the minimum amount required by the body for its proper nutrition, is entirely erroneous. The author, in a series of experiments conducted upon himself, has shown that this amount may even be reduced to 39 grams during hot weather, without in the least interfering with proper nutrition, and with much benefit to the physiological processes generally. The deficit is to be made up by an increased amount of fats and carbohydrates. Such a marked restriction in meat is not, however, to be advised for all persons during hot weather, but only in those who experience a loss of appetite while eating the usual amount of meat during such a period. Much observation has shown that under such circumstances a marked reduction in the meat diet leads to an increase of appetite and an improvement in the general condition.

Practical Results of the Forensic Serum-Diagnosis of Blood.—Uhlenbuth has endeavored to demonstrate the practical value of his method of serum-diagnosis of blood, by obtaining from legal sources various specimens of blood, the sources of which were unknown to him. These specimens were tested with known specific sera and the diagnosis of the origin of the bloods thus made. In all, twenty-one specimens were examined, and in every instance the diagnosis of the origin made by Uhlenhuth corresponded with the known origin as obtained from the legal authorities. Hitherto all of the examinations which have been made along these lines have been so conducted that the examiner himself knew the source of the blood before he made the examination, so that it might be thought possible that his judgment might be influenced thereby. The examinations here reported are void of this objection, and fully demonstrate the practical legal value of the method. It must not be supposed, however, that this method, valuable as it is, does away with the chemical or spectroscopic examination of fluids or spots which are submitted for diagnosis. First of all, it must be shown that the specimens are blood. Only the chemical or spectroscopic examination can establish this. The specific sera give positive reactions, not only with the albumin of the blood, but also with all other albumins from the animal against which they are specific. Thus a serum specific for human blood gives a positive reaction, not only with human blood, but also with human seminal fluid, human urine containing albumin, and human hydrocele or ascitic fluid. The chemical or spectroscopic examination should, therefore, always precede that which is to be made by means of a specific serum. For the reliable execution of this method, several precautions are necessary: (1) The specific sera used must be of very high power; (2) In all cases such sera before use must be tested with the blood against which they are specific, and their activity thus demonstrated; (3) Opalescent sera should never be used, as confusing reactions are frequently given thereby; (4) In carrying out the examination, controls should always be made; (5) No reliance should be placed in the results unless the examination has been conducted by one who has had extended experience along these lines.

Berliner klinische Wochenschrift, September 22, 1902.

Multiple Hereditary Exostoses.—Jungmann reports three cases—a father, son, and daughter. The father was thirty-nine years of age, and the son and daughter nine and six years respectively. In none of the cases were the tumors congenital. In all they were more or less symmetrical in their arrangement. The son showed the greatest number of tumors. They had first made their appearance when the patient was about three years of age. In all of the patients the tumors were painless and occasioned no inconvenience. Similarly, as in other reported cases, certain of the tumors, which had been previously present, had isappeared. Considerable discussion has taken place concerning the relations existing between these tumors and rickets. Of these three patients only one—the boy—showed any symptoms of rickets. Even here the only suspicious sign was the peculiar formation of the chest, which somewhat reminded one of that so frequently met with in rickety children. Certain authors attach importance to the shortening of the bones, which possess the greatest number of tumors. While this may, as a rule, hold true, it is evident from these cases that such is not always present. In all of the cases many of the bones which contained no tumors were much shorter, proportionately, than normal, while some of the bones which contained many were of the usual length.

Transference of Human Tuberculosis to Cattle.—Johannes Fibiger and C. O. Jensen report the results of observations with respect to this subject. The patients chosen for examination were those in which primary intestinal tuberculous infection was proven on the ground of the clinical symptoms and post-mortem appearances or in which, for the same reasons, such was extremely probable. In all, five patients were examined. Of these, two were adults and three were children. The two adults were in all probability cases of primary intestinal infection, although that such was the case could not be absolutely demonstrated. A calf was inoculated intrapleurally with portions of the tuberculous mesenteric glands of the first case. The animal never developed any symptoms of tuberculosis, and remained in good condition. It was killed in about six months from the time of inoculation. At the site of inoculation on the pleura, there were found two miliary tubercles. This is to be regarded as a negative result. Another calf was inoculated intraperitoneally with portions of the tuberculous spleen of a guinea-pig which had been subcutaneously inoculated with portions of the tuberculous mesenteric glands from the second case. This calf developed no symptoms of tuberculosis, and was killed in about three months. On the peritoneum there were found numerous recent, typical tuberculous deposits. The lungs, liver, spleen, and kidneys were normal. The result, therefore, here was positive, although it is evident that the virulence of the bacilli inoculated was very slight. In the case of the first child, a calf was inoculated intraperitoneally with material obtained in a similar manner to that obtained in the case of the second adult above noted. About three weeks later the animal showed a slight elevation of temperature, which lasted several weeks. After three months it was killed. Numerous typical tuberculous lesions were found on the peritoneum and in the spleen and liver. Portions of the tuberculous mesenteric glands of the second child were inoculated subcutaneously into the side of the neck of another calf. An ulcer developed at the site of inoculation, and the neighboring lymphatic glands became swollen. The general condition of the animal remained good. It was killed after four months. The right lung, liver, spleen, and kidneys showed numerous typical tuberculous lesions. The mode of procedure in the case of the third child was similar to that carried out in the previous case, except that two calves, each about ten days old, were inoculated. One of these calves died in about nineteen days from a putrid embolic lung lesion. The ulcer at the site of inoculation contained numerous tuberculous bacilli. The other calf died in twenty-one days of a septic pleuropneumonia. The ulcer at the site of inoculation contained numerous tuberculous bacilli. Portions of the cervical glands of the second calf were inoculated subcutaneously into the right side of the neck of a third calf. This calf developed a temperature and emaciated rapidly. It was killed in about two months. Numerous tubercular lesions were found in the lungs, liver, spleen and kidneys. A cow, ten years old, was similarly inoculated with glandular material from the first calf. This animal developed a temperature. The ulcer at the site of inoculation contained numerous tuberculous bacilli. It was killed in three months, and typical tuberculous lesions were found in the lungs, liver, spleen, and kidneys. As the result of this work, it is certain that calves are susceptible to infection with tuberculous bacilli obtained from human cases of primary intestinal tuberculosis, and it is extremely probable that the bacilli causing these lesions in the human being are frequently of bovine origin. Koch's view that tuberculous bacilli of bovine origin are harmless for man is, therefore, erroneous.

Munchener medicinische Wochenschrift, September 23, 1902.

Habitual Use of Large Doses of Digitalis. C. Schubert reports the instance of a patient who developed a mitral insufficiency as the result of a rheumatic attack, and who was ordered to take digitalis for the relief of the symptoms resulting from the cardiac non-compensation. This drug was given in the form of the infusion, of which two to three teaspoonfuls were taken three times a day. This dose was gradually increased until from eight to twelve ounces were consumed weekly. This was continued for about six years, when death occurred. During this time compensation was fairly well maintained. A careful estimation showed that during this period the patient had taken at least 500 to 600 grams of digitalis.

Traumatic Nephritis.—H. Curschmann, Jr., reports a case which he regards as a traumatic nephritis, and, in particular, belonging to that variety of this condition described by Stern in which albuminuria and cylindruria are the only symptoms present. Albumin was first detected in the urine about nine months after the reception of the injury, which consisted essentially of a crushing and contusion of the back. At several subsequent examinations no albumin was found. A recurrence, however, occurred about six months after the initial detection. At both of the positive examinations the amount of albumin present was very small. The case first came under the observation of the author about eighteen months after the injury. At this time the urine contained albumin and hyaline and granular casts in small amount. Several subsequent examinations showed a similar find. Absolutely no other symptoms of a nephritis were present. Especially should it be noted that the heart and circulatory apparatus were entirely normal. The diagnosis of a traumatic nephritis is based upon the history of the patient, who negatived the previous occurrence of all diseases, the sequel of which might be a nephritis, and the fact that following an injury in the region of the kidneys there developed an albuminuria and cylindruria which was unaccompanied by any other signs of a nephritis.

Pathogenesis of Typhoid Fever.—H. Schottmüller, having previously published his results with respect to the isolation of typhoid bacilli from the blood of typhoid patients, now summarizes the same with regard to their value in the diagnosis, prognosis, and a clearer understanding of the pathogenesis of this disease. The fact that such isolation tests were successful in 80 per cent. of the cases examined shows that their value as a means of diagnosis is second to none. Especially is this apparent when it is stated that many times the bacilli were so isolated from the second to the fifth day of the disease before the Widal reaction was positive. A critical review of the results also shows that the number of bacilli isolated, and the intensity of their cultural growth, corresponds closely with the intensity of the clinical symptoms present, so that, as a rule, severe and fatal cases show the largest number of bacilli and the most rapid cultural growth. In all instances, as the case progresses toward recovery, the number of bacilli lessen and their cultural growth becomes weakened. In no instance were typhoid bacilli obtained from the blood after the temperature had reached normal. In many instances a relapse was preceded by the appearance of bacilli in the blood. Sex does not seem to exert any influence upon the presence or number of bacilli present in the blood. As a rule, children gave more negative results, and a fewer number of bacilli in positive cases, than did adults. From all of these facts it is certain that typhoid fever is to be regarded as a bacteriæmia, the symptoms being directly due to the presence of typhoid bacilli in the blood. It is not as yet entirely clear whether or no the bacilli multiply directly in the blood. It is very probable, however, that such is the case in all instances in which anti-bodies are not present in the blood in sufficient amount to prevent such multiplication. The lymphatic structures throughout the body are locations to which the typhoid bacilli are predisposed entirely, similarly as in other diseases certain microorganisms find favorite locations. That in the lymphatic structures typhoid bacilli multiply with greater rapidity than in the blood is certain. It is probable that the typhoid bacilli gain entrance into the system through some lesion of the intestinal tract, and are carried by the lymphatic vessels into the general circulation whence they are transmitted to the lymphatic structures generally, in which they find especially favorable conditions for growth. According to this view the lymphatic lesions in this disease are to be regarded as metastases, and not as primary lesions. It has now been definitely shown that in many instances typhoid bacilli are to be found in the lymphatic structures long after they have disappeared from the blood and the clinical symptoms have subsided. Relapses are due to the readmission of such bacilli into the general circulation.

French and Italian Journals.

A Case of Thomsen's Disease Due to Cerebral Lesion. Giuseppe Rizzuti reports the case of a soldier suffering from this disease, characterized by disorders of mobility and by spastic rigidity of the muscles. The attacks were not always of equal severity, and not always present. At the age of twelve years, the patient's skull was fractured by a falling implement, and after healing was wounded again in the same place by a blow. Examination showed a longitudinal depression along the sagittal suture for about four centimeters length on the top of the skull. Careful research excluded all other causes of the disease, and the author concludes that the affection was due to traumatism.—*Giornale Medico del Regi Esercito*, August 31, 1902.

The Influence of the Bile in the Resisting Powers of the Red Corpuscles.—G. Viola and B. Jarugi have found, as a result of their experimental researches (1) That resistance is not always, but is usually, increased in both acute and chronic icterus. (2) The increase of resistance affects all three forms (minimum, medium, and maximum resistance) only occasionally, leaving out the minimum form which may even be decreased while the other two are increased. (3) There are some cases of icterus in which there is no increase in any of the resistances, but diminution of the minimum resistance. (4) Finally, a case has been seen in which there was increased medium resistance alone. The matter is seen to be anything but simple.—*La Riforma Medica*, September 16 and 17, 1902.

Primary Medullary Carcinoma of the Lung.—A. Pitini and F. Mercadante reports a case in which a diagnosis was made of some intrathoracic tumor. At autopsy the left lung was found to contain many scattered nodules, the size of a walnut. The upper lobe of the right lung was composed of one solid mass, while the middle and lower lobe were filled with nodules. Histological examination showed that the mars and the nodules were typical epithelioma. Nothing during life had indicated the existence of these nodules; there was no characteristic sputum, no hæmatopsys, no hemorrhagic effusion into the pleura, not even cachexia. There had been cough and dyspnœa, and abolition of vocal fremitus on the right side, with resistance in the right supra- and subclavicular regions. Death was preceded by fever, purulent expectoration, and pleural and pericardial effusion.—*La Riforma Medica*, September 10, 1902.

Contribution to the Study of Sialorrhœa in General Paralysis.—E. Marandon de Montyel gives various conclusions on this subject, among which are the following: Salivation was twice as often observed during the crises of agitation as in the periods of calm. It is the syphilitic paralytics who have furnished the largest proportion of salivation and of an excessive degree. It is in the early general paralysis, from twenty-five to thirty years, and in the late, from fifty to sixty years, that salivation has most often been determined, still it is the first that has given the greatest number of cases of moderate degrees of it. The seasons have no sensible influence. Salivation was determined six times more often with excessive motor troubles than in those of light degrees, but the degree of intensity was in inverse rate to the degree of frequency. Salivation has never manifested itself only once in the patients studied, it has always continued, and has never presented the intermittent type. This trouble more often lasted about five months, though its duration varied. Salivation may begin in a moderate degree, pass on to an excessive stage, and then disappear suddenly, or it may begin in an excessive degree, and finish in a moderate one.—*Gazette des Hôpitaux*, October 2, 1902.

The Impetigo of Bockhart and Its Treatment.—Balzer states that this affection in acute cases in general disappears soon after the simple application of a calomel ointment 1-100 or 1-50 in strength. Treatment may be begun by applying moist compresses, wet in boiled water, or in sublimate 1-5,000, before applying the ointment, or white precipitate. If the eruption has been irritated by such agents as oil of cade, iodine, etc., the causes of irritation should first be suppressed which have facilitated the inoculation of the staphylococcus. In certain cases, lavage with a phenic solution 1-200 is efficacious. The Germans recommend the following method: After having taken off the crusts, the places are disinfected with a small brush dipped in a strong solution of 10 per cent. resorcin in alcohol; a pomade of resorcin from 3 to 5 per cent. is then applied. The writer has also applied with success a solution of methylene blue, 1-250, advised by Brocq. The patient is recommended to wash with a decoction of panama wood and neutral soaps, in which may be incorporated a small quantity of resorcin. Tar soap should be avoided and all other irritating substances. The general condition should be looked after in the chronic forms, as it nearly always needs more or less attention. Tonics should be given as the phosphate of soda, or lime, and phosphoric acid, iron, and arsenic.—*Le Bulletin Médical*, October 4, 1902.

The Heart in Diphtheria.—According to Joseph Girard, the best prophylactic treatment of cardiac paralysis consists in the early employment of antitoxic serum. It is best to keep the patients in bed until convalescence is clearly established. The pulse should be watched very carefully, the appearance of even a slight weakness of the pulse or of rhythmical disturbances, of premonitory signs of accident as pallor, vomiting, or prostration, should be sufficient to keep the patient perfectly quiet. All effort should be avoided, every movement, for fear of syncope, which should always be anticipated. In case of actual accident, various methods of treatment have been employed without great success. The cardiac tonics, especially caffeine, are often employed, but Girard is sceptical of their action. The vasoconstrictor action of ergotine can be used in vasomotor paralysis. Strychnine is advised by various writers. Guthrie recommends the injection of a combination of sulphate of strychnine and sulphate of atropine. Injections of ether, and camphorated oil are also employed. The subcutaneous injections of artificial serum are of service. In cases in which there is considerable lowering of blood pressure, recourse can be had to venous injections. Their efficacy has been determined by Enriquez and Hallion in dogs at the point of death (following diphtheritic intoxication). Finally, faradization of the precordial region has appeared in some cases to be truly efficacious.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 2 1902.

When and How Should Operations Be Performed in Appendicitis?—A. Gallet reviews this subject and completes his paper by a table, in which he sums up the principle points: When a case of appendicitis is taken at the very start, within the first twenty-four hours, intervention should be immediate. This is rather theoretical than practical, as may be readily seen. There are two methods of procedure: Laparotomy, resection of the appendix, without drainage. Or Laparotomy, and if there are difficulties in consequence of former attacks, no resection, but tamponnage and drainage. In cases of appendicitis with localized peritonitis, the form most frequently observed, the operator, should wait unless there is a development of symptoms which denote the presence of a clearly purulent focus, or symptoms which indicate a peritoneal propagation. Then intervention should be immediate. Treatment may consist in favoring the tendency to encystment and to resolution by medical treatment. Or laparotomy and opening of the abscess may be undertaken. The appendix is not searched for; it is resected if it presents itself. Drainage is instituted. If there is generalized peritonitis, intervention is immediate, by the opening and drainage of the various foci. In cases of septic diffuse peritonitis, intervention is immediate. Multiple incisions are made in the abdominal cavity, with drainage. The cavity is washed out with hydrogen peroxide. In cases of appendicitis between attacks, intervention is strongly advised. Laparotomy with resection of the appendix is employed but no drainage. This method is sometimes attended with difficulties on account of the remains of adhesions and of inflammatory tissues.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 2, 1902.

The Edinburgh Medical Journal, October, 1902.

On the Treatment of Gangrenous Bowel in Strangulated Hernia.—George G. Hamilton reports two cases. The first was a femoral hernia. The patient being too ill for suture or even Murphy's button to be thought of, the author enlarged the femoral ring in every direction, chiefly with the finger, so that the bowel moved freely above the pinched portion. The loop of dead bowel was excised, and two small glass tubes tied tightly in. Death was expected in a few hours, but, to the doctor's amazement, the patient, a woman of seventy years, was pretty well the next morning, the tubes came away on the fourth day, and the tissues cleaned up. But on the tenth day the patient contracted bronchitis and died. In another case Murphy's button was used to unite the bowel after a gangrenous loop with a perforation in it had been removed. An uninterrupted recovery followed, and the button was passed on the tenth day.

Divison in Hand of Deep Branch of Ulnar Nerve.—George G. Hamilton reports the case of a young engineer who had received what was considered a trivial stab in the hand with a piece of glass six months previously. All the interossei were paralyzed, and the fingers contracted. The scar was below and a little to the palmar side of the pisiform bone. Sensation was normal. The diagnosis was forced upon the author that the deep branch of the ulnar nerve had been severed soon after it left the main trunk, and this proved to be the case when he cut down and found the two ends. These he brought together as well as he could with the finest silk suture. Within three months the patient was able to use his fingers for most kinds of small movements, his intermetacarpal spaces filled up, and when the author last saw him, he said he thought his hand was as good as it had ever been.

Two Cases of Tuberculosis of the Heart and Pericardium.—W. Maule Smith reports two cases found a autopsy to be cases of tuberculous myocarditis and pericarditis Such cases are rare, especially of myocarditis. The muscular system generally, and the cardiac muscle in particular, seem to be able to withstand tuberculosis markedly better than any other tissue in the body. The cause of this is not well ascertained. The disease usually manifests itself in tissues which are in a state of comparative rest, or where the blood stream is slowest. There is no other situation in the body where there is such frequent movement as in the heart muscle. The rate of the blood flow through the coronary arteries is considerably greater than in parts more removed from the heart. The two conditions are, therefore, inimical to the settlement and proliferation of the bacilli. In addition to these, the pure state of the blood, the products resulting from the muscular contraction and the simple mechanical action must all be against the tubercle bacillus obtaining a lodgement and setting up tuberculosis in the cardiac substance. When the length of time the bacillus requires before it can grow and multiply is taken in conjunction with these facts, it is scarcely surprising that the disease is so rarely found affecting this organ.

The Obstetrical Aspects of Idiocy.—William Gillespie considers the following conclusions justified by his investigations: The more frequent use of forceps with the object of preventing asphyxia, will tend to decrease the percentage of idiots to the general population. Some cases of congenital deafness are due to injury during parturition, and the percentage can, no doubt, be lessened by the rational management of labor. In children who have inherited a neurotic tendency, idiocy may follow an injury which would not have had such serious consequences in one that was descended from more stable stock. It is imperative that obstetricians not only study carefully the conditions which call for the use of the forceps, but that they acquire the skill and judgment necessary for their application, for there can be no doubt that in exceptional cases injury from forceps may cause mental defect or infantile cerebral palsy. Their judicious use, however, constitutes our best preventive treatment.—*The Cincinnati Lancet-Clinic.*

Shall We Make Our Consumptives Social Outcasts?—J. Howe Adams writes that in a region of the Adirondacks where, until two years ago, consumptives were treated with consideration and kindness, they are shunned and ostracized, and many hotels are announcing that no consumptives are taken. The feeling is not confined to the Adirondacks. We find legislatures of States seriously considering the exclusion of foreign consumptives; we find railroad directors studying the idea of separate cars for consumptives. Before we know it we shall have this unfortunate in the same class with the leper. The author suggests that local boards of health find the unsanitary spots, the unhealthy houses in the various cities, watch them; have them rebuilt and improved—register places, and not people. Too much stress has been laid on expectoration as practically the sole source of infection. Caged animals in zoological gardens are peculiarly liable to tuberculosis, and yet they are not spitting animals.—*The Medical Age.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 2, 1902.

Robert F. Weir, M.D., President.

The Wesley M. Carpenter Lecture; Relations of Physical Chemistry to Medicine.—Dr. John H. Huddleston delivered this lecture. He said that physical chemistry was practically a new science, and advances made in it had been very rapid. Medicine was chiefly concerned with it because of its bearing upon solutions. A solution is defined by physical chemistry as "a homogeneous mixture which cannot be separated into its constituents by mechanical means." Recent research had shown that wherever a solid is brought into the presence of a liquid, some of the solid dissolves; even a platinum vessel dissolves to a slight extent in the solution contained in it. Experiments made largely with the "semi-permeable membranes" had demonstrated the nature and degree of that part of the phenomenon of osmosis now known as osmotic pressure. By the electrolytic theory of dissociation was meant that certain substances when dissolved break up into fractions of molecules, called ions. An ion may be an atom or a group of atoms, but in any case it is a mass charged with electricity, either positively or negatively. The electricity borne by the atom may change many of its characteristics. It had long been known, the speaker said, that a dissolved substance lowers the freezing point of the solvent. An ion and a molecule lower the freezing point to some extent. Solutions of the same osmotic pressure have the same freezing point; hence, the osmotic pressure may be inferred from the freezing point. Solutions of equal osmotic pressure have the same boiling point, and the osmotic pressure may, therefore, be inferred from the boiling point. These relations had been thoroughly established experimentally, as well as demonstrated theoretically. For practical purposes the actual osmotic pressure of a solution was much less important than the relative osmotic pressures of different solutions.

The vegetable cell of the tradescantia is surrounded by a strong wall, lined on the inside by a semi-permeable membrane, which, in its turn, contains the colored contents of the cell. By starting with a solution whose osmotic pressure is greater than the cell, as shown by the contraction of the cell, and continually diluting it, a solution is finally obtained in which the cell will preserve its natural form. This solution then has the same osmotic pressure as the contents of the cell. Again, certain cells in the body may be assumed to be influenced by osmotic pressure in the same way. Red blood-corpuscles can be used as standards in a similar way, the test being a solution of a strength in which they just settle to the bottom. The number of ions and the degree of dissociation can be measured by three methods, the best of which is the conductivity method. When completely dissociated the conductivity is at its maximum. The percentage of dissociation is the actual conductivity of that solution divided by the maximum conductivity. The actual determination of this conductivity was by means of the Wheatstone bridge.

A study of dissociation showed that, as a rule, it increased up to a certain point with the dilution. For example, in a solution of 58.5 grams of sodium chloride in 1,000 liters of water it would be found that only 2 per cent. was dissolved as salt, the rest being sodium and chlorine. Direct experiment and theory both showed that the solubility and the dissociation of any salt was diminished by the addition of the solution of another salt yielding an ion in common. For example, the percentage of ions in a solution of sodium chloride was lessened by the addition of potassium chloride with its common chlorine ion, or of sodium nitrate, with its common sodium ion. Where dissociation did not exist, chemical activity probably did not exist. The vast difference between the chemical activities of different substances was familiar to all. It could be measured in various ways, as by the volumetric change resulting from the activity, but it could be best measured by measuring the amount of dissociation. As physiological activity might be fairly assumed to be based on chemical change, the physiological activity must be measured by the percentage of ions. To summarize: The determination of the freezing point of a solution gives the concentration and the osmotic pressure, and the determination of the electrical conductivity gives the amount of dissociation; that is, the percentage of ions—in other words, the chemical or physiological activity of the solution.

That almost all of the tissues of the body are semi-solid and bathed in fluids was a familiar fact, as also the fact that there is a continuous interchange of water, of dissolved material of both organic and inorganic material. This interchange may follow physical laws or be dependent upon, in part, at least, vital energy. It should be borne in mind that solutions are not comparable by percentages in dealing with the properties of bases and acids, for it is necessary to compare equimolecular solutions.

Absorption from the Intestine.—The intestinal wall, separating as it did two solutions, the blood and the fluid intestinal contents, was naturally considered to be a good place to study osmosis. Although the uninjured membrane will pass various organic materials from the intestine to the blood, experiment had shown that it would not pass them in the reverse direction unless injured—in other words, it was not a perfect semi-permeable membrane. The rates of absorption of different ions from the intestine were found to be in proportion to their characteristic physical weights.

Absorption from the Stomach.—Absorption from the stomach differed from absorption from the intestine, in that both salts and water were excreted into the stomach. Fluids swallowed were brought by osmosis to a pressure lower than the osmotic pressure of the blood, and one varying between comparatively narrow limits, and this took place before absorption began. The cause of this phenomenon was unknown. A certain amount of acid was loosely bound up with proteid and other material, and was, therefore, not free, though easily available for digestion. It was not, therefore, desirable to determine the amount of free hydrochloric acid, but the amount of physiologically available hydrochloric acid. It was, therefore, important to learn the concentration of the acid ions. This could be done by comparison with a solution of hydrochloric acid of known strength. This was done by ascertaining the electrical conductivity. It was interesting to note that Congo red produced its well-known reaction by virtue of its dissociation. The origin of the hydrochloric acid was supposed to be not in the glands themselves, but upon the free surface of the stomach wall, and was conditioned only by the irritation from the presence of the free chlorine ions there. This theory did not, however, take account of the relation of nervous influence to the quantity of hydrochloric acid.

Examination of the Blood.—The osmotic pressure of the blood was affected almost exclusively by the salts of the blood. Careful experiment had shown that the osmotic pressure in the maternal and the fetal blood was the same, and that in the body, milk, and other fluids are in equilibrium. The red corpuscles, the lymph spaces, and the kidneys are the chief factors in maintaining this standard. The red corpuscles had been proved to act like a solution in a semi-permeable membrane, *i. e.* they take up certain materials and exclude others completely. The internal pressure might become so great as to cause rupture of the corpuscle and the extrusion of the contained hæmoglobin. The effect of osmotic pressure upon the passage of matter through the lymph spaces was still doubtful, but it was probable that vital activity was here the controlling factor. The normal freezing point of the blood had been determined to be 0.56° C. below zero.

The Kidney.—It was of interest that solutions of salts to possess the same power of causing diuresis must have the same osmotic pressure. Urine was distinguished from the other secretions by having a different osmotic pressure from that of the blood. In the case of disease of the kidney on one side, the ordinary methods of examination, including catheterization of the ureters, had sometimes failed. Here, the determination of the freezing point of the urine might be of service in showing the functional activity of the kidney.

The Colloidal Solutions.—It had been very recently shown, the lecturer said, that the character of a solution was not lost if the particles were much larger than the molecules. Colloidal solutions were those in which the particles were of such size that, by their magnitude, they imparted certain physical characteristics to the solution. Thus, the colloids are viscid and form tenacious films; they form froth on agitation and separate on standing. Membranes had been made through which even ions could not pass, yet some membranes would pass some ions and refuse passage to others. Many substances, such as proteids, which had seemed hopelessly complex, may owe their complexity to some of these peculiar characteristics of their solutions. It had been found that albumin, albumose, and pepsis do unite with sodium hydrate and phosphate, but not with sodium chloride. It was not improbable that the therapeutic activity of a drug may, at times, be markedly influenced by the nature of the solvent employed. Physical chemistry had pointed out that bicarbonate of sodium, lithium salts and piperazine cannot have any directly solvent action on uric acid or the urates, although by exciting diuresis they might favor the elimination of these products. Dr. Huddleston said that he had made experiments to ascertain the disinfecting power of bichloride of mercury, bromide of mercury, and cyanide of mercury, each one of these mercurial solutions containing the same quantity of mercury. It was found that the bichloride had the greatest and the cyanide the least disinfecting power, as determined by the action upon certain spores. Other experiments showed that the greater the addition of ammonium chloride to mercuric bichloride the less the disinfecting power of the latter. The addition of sodium chloride to a watery solution of carbolic acid had been found to increase the disinfecting power of that acid.

NEW YORK ACADEMY OF MEDICINE.

Section on Pediatrics.

Stated Meeting, Held October 9, 1902.

Rowland G. Freeman, M.D., Chairman.

A Case of Infantile Stridor.—Dr. Charles Herrman presented an infant of three and a half months, who, a short time after birth, had developed a peculiar croaking inspiration. The intensity of the sound was not constant, and was most marked at times of excitement, or when suckling. The general health was good, and there was no cyanosis. The speaker said that by some authorities it was supposed to be the result of a congenital deformity of the larynx, an exaggeration of the infantile type of larynx. Postmortem examinations on one or two of these children dying of some intercurrent disease had shown no enlargement of the thymus or of the glands in the mediastinum. The condition usually disappeared spontaneously by the second year.

Dr. W. P. Northrup said that he had just seen the counterpart of this case in a child of five months. At the end of the first month the infant had developed this peculiar inspiratory sound, called by the French "the croaking of frogs." According to the mother, the sound had gradually increased in intensity, until it had become so loud when the little one was asleep, as to make it an annoyance in the house. The baby was free from rickets and, apparently, from adenoids, and was healthy in every other respect. He was disposed to accept the theory that the folds of mucous membrane becoming congested, especially the arytenoepiglottidean folds, are drawn over into the larynx, and then break away, thus giving rise, mechanically, to this peculiar whistling inspiration. The fact that the infant just presented could instantly control the sound would seem to negative the view that had been presented by one author, that it was paralytic in origin.

Some Observations in the Children's Hospitals of Paris and London.—Dr. L. E. La Fetra read this paper. He said that one defect of these hospitals was the very large number of patients. Both London and Paris were much better supplied with hospital accommodations for children than was New York City. In the three principal London hospitals for children it was noted that there were more physicians on the staff than here, thus allowing of better work being done. The work in the out-patient department was worthy of special notice, chiefly because of the number of clinical assistants, and the arrangement of the rooms so as to facilitate a thorough yet expeditious examination of the patients. Printed directions with regard to feeding and care of the children were given to the mothers. The hospitals of Paris were found to have an abundance of air, light, and ground, and to be laid out on the pavilion plan. The responsibility for the out-door work was shared in turn by the visiting physicians of the hospital. Each student or visitor was provided at the gate of the hospital with a gown, and an additional gown was worn in each pavilion for contagious diseases. Antitoxin was the routine remedy for the curative and prophylactic treatment of diphtheria. Scarlatinal nephritis was found to be very rare here, and this was attributed to the great care taken in cleansing the mouth, the idea being that this nephritis is due to a special streptococcus, but, the speaker added, that it was well known that scarlatina in France is very mild. There seemed to be a great need in Paris for a milk commission to raise the standard of the milk supply. The value of percentage feeding did not seem to be recognized. It should be remembered, however, that wet nurses are easily obtained there in private practice. The hospital physicians give a great deal of time to their work in the hospitals. Students are assigned to work up special cases in the wards, thus lightening the work of the house staff at the same time that the students are interested and instructed.

Dr. W. P. Northrup said that the intubation tubes used in France were very different from those devised by Dr. O'Dwyer, being short and having a large bulge, and this explained the facility and popularity of the method of "expressing" the tube. It was quite remarkable that many of the portable isolating rooms used in the hospitals were made of partitions which did not reach fully up to the ceiling. The upper part of the partition is glazed so as to let in sufficient light and allow of the supervision of all the isolated patients in the ward.

A Review of Some of the Older Writings on Infant Feeding.—Dr. Samuel McC. Hamill of Philadelphia was the author of this paper. Regarding maternal milk, he said that for the past two centuries all authorities had agreed that this was the best of all foods for infants. There were three principal varieties of substitute feeding, viz., wet nursing, direct nursing from animals, and the use of artificially-prepared foods. Direct nursing from animals had many repellant features, to say nothing of inconveniences, which made it an almost impracticable method. The goat, the ass, and the cow were the animals which had been chiefly used in this way, and it had been found that the goat was the most manageable because, in time, it became attached to its nursling. The first author who had given definite directions about the modification of milk, was Morse, who, in 1794, recommended one part of cow's milk to be mixed with two parts of water. This was the same dilution recommended by the elder Meigs in

1850. It was shown that the older writers had recommended the use of gruels for the distinct purpose of breaking up the hard curd of cow's milk. As long ago as 1825 Dewees had recommended the use of fresh milk from one cow, two parts with one part of water, and had directed that the milk should be heated and prepared separately for each feeding. Up to 1853, when the older Meigs had published his well known mixture of cream, milk, gelatin, and arrowroot, most writers had followed the directions of Dewees. Dr. Cummings, a physician of Williamstown, Mass., had published in 1859, a book on infant feeding, in which the first really scientific effort at milk modification and percentage feeding was made. This author appreciated the necessity of varying the dilutions at different ages, and insisted that, as cow's milk must be diluted in order to reduce the proteid sufficiently, there resulted a marked deficiency of fat, which was to be made up by the addition of cream. Dr. Hamill said that in 1786 the nursing bottle of glass had been invented. Prior to that time a cow's horn, capped with a piece of parchment, or with a heifer's teat for a nipple, had been in vogue. The first reference found to a rubber nipple was in a book by Tanner, published in Philadelphia in 1861.

Dr. W. P. NORTHRUP said that at the present time in Naples, it was common for young infants to nurse directly from goats, while the older children were fed on goat's milk of full strength.

The Recent Meeting of the Pediatric Section of the British Medical Association.—Dr. W. P. NORTHUP gave, in a brief and interesting talk, his impressions of this meeting.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held October 7, 1902.

JOSEPH COLLINS, M.D., PRESIDENT.

A Case of Generalized Scleroderma.—Dr. B. SACHS presented a lady, twenty-four years of age, with ordinary hypochondriacal neurasthenia, whom he had first seen six years ago. When next seen, last year, she stated that during the past few years she had noticed that the upper and lower extremities had begun to be stiff and more or less painful on movement. She was not aware at the time that there was anything especially wrong with her face. At present the face shows a very marked form of scleroderma, and she also has distinct sclerodactyly. Six months ago there was so much retraction of the upper lip, as a consequence of the retraction of the skin, that the gums were constantly exposed. The hands showed marked tenseness and glossiness of the skin, attenuation and clubbing of the fingers, and an apparent subluxation of the middle finger at the metacarpophalangeal articulation. An *x*-ray photograph showed that the latter was due to the wearing away of the bone under abnormal pressure. There was also a general scleroderma in this patient, extending from the forehead to the middle of the abdomen. The lower extremities were only sclerodermatous in certain areas. There were also some areas of leukoderma. The speaker said that this woman had shown a certain amount of improvement under thyroid medication. She had taken as much as eighteen grains a day without detriment, and had also had warm baths and exercises with the object of improving the condition of the integument and underlying tissues.

Dr. GEORGE W. JACOBY said that he had been one of the first to act upon Dr. Sachs's suggestion regarding the use of the thyroid extract, and he was convinced that this treatment accomplished something. About a year ago he had himself reported two cases, in children, in which the skin had become almost perfectly pliable as a result of thyroid treatment. The changes in the fingers had been very much more marked than in the case now under discussion. Of course, these pathological conditions did not retrograde. He did not think the pressure of the retracting skin was sufficient to explain the marked bony changes observed. In his opinion the thyroid treatment was the only one that held out any prospect of success, and it was particularly useful in children.

Dr. JOSEPH FRAENKEL said he believed there were two types of scleroderma, the localized and the generalized. The latter appeared to him to be an expression of a rheumatic tendency. For the last four months he had had a case under observation which had done very well under antirheumatic medication, particularly with the use of the salicylates. Ordinarily, the thyroid medication seemed to be the best method.

Dr. JOSEPH COLLINS said that he had had some experience with the thyroid treatment, and, while he had observed improvement, the results were not at all comparable with those reported by Dr. Sachs and Dr. Jacoby. All that he thought the thyroid did was to diminish the subcutaneous fat. This, of course, made the skin much more pliable over the affected area, and reduced the mask-like appearance of the face. In his opinion scleroderma was a disease of the spinal cord and of the sympathetic fibers and cells within the spinal cord. The symmetry, chronicity, course, and termination were all explicable on this theory. He hoped soon to have an opportunity of making a post-mortem examination upon a marked and advanced case of general scleroderma. In that patient sensory changes were occurring, which pointed strongly to involvement of the conducting pathways of the spinal cord. As young persons have a marked accumulation of subcutaneous fat, and this fat could be very readily increased or diminished, it was easy to explain the good results just reported by Dr. Jacoby.

Dr. SACHS said that in the patient he had just presented there had been an extremely disagreeable appearance of the face a few months ago, resulting from the attenuated state of the nose, a part having very little subcutaneous fat; yet this part had very decidedly improved under the thyroid medication. He would be greatly surprised if scleroderma proved to be an affection of either the spinal cord or of the sympathetic system. The disease seemed to be diametrically opposite to two other diseases—acromegaly and myxœdema. He was inclined to think that scleroderma was possibly a general glandular affection, involving not only the skin but the subcutaneous tissues, and even the bones.

A Case of Myotonia.—Dr. EDWARD D. FISHER presented a young man who had first come to his clinic about one week ago. The man was twenty-four years of age, an electrician by occupation. He was apparently well up to the time of enlistment in the Spanish-American war. Over one year ago the left foot began to twitch on attempting to walk. In February, 1902, the right leg became involved, and later the muscles higher up, even in the back. At present all of the muscles below the ribs become more or less contracted on attention. There is no loss of sexual power or loss of sensation. The electrical reactions are normal. On standing up there is a twisting of the body and spasm in the feet, the latter causing him to walk on the outer borders of the feet. The process had lately extended upward, so that there was now a mild affection of the muscles of the hands and arms. The diagnosis seemed to rest between myotonia and some functional disorder.

Dr. B. SACHS said he had had an opportunity of examining this man about two weeks ago, and had been impressed with the possibility of its being a hysterical condition. He had examined the muscles electrically, and had found them abnormal. There were distinct evidences of a myotonic reaction, a long-continued wave which started in one part of the muscles and spread up slowly between the electrodes. Moreover, with the object of excluding hysteria he had at first applied a current which was very mild, not letting the patient know that he was doing so. As the current was gradually increased up to the point which should produce a muscular contraction this wavelike contraction was observed.

Dr. J. Fraenkel remarked that he had seen this patient at the clinic, and that Dr. J. Ramsey Hunt had been unable to obtain the myotonic reaction.

Dr. George W. Jacoby said that these cases emphasized the difficulty of making the differential diagnosis between myotonia and hysteria. He had presented a case of myotonia acquisita to the American Neurological Association. All of the myotonic symptoms were present, and there were the electrical and mechanical reactions characteristic of myotonia. A microscopical examination, however, yielded results that were difficult to reconcile with this diagnosis. Dr. Jacoby said he made a bad prognosis, and had subsequently learned that the man, after winning a lawsuit against a railroad company, became perfectly well.

Dr. Collins thought if the diagnosis of hysteria major was to be made there should be present more stigmata than merely myotonia.

Dr. E. D. Fisher said that the general aspect of the patient had led to the suspicion of a neurosis, but after careful examination the diagnosis of myotonia had been made. The electrical examination had been made last June, and at that time no electrical changes were observed. The man's appearance was certainly that of a neurotic individual.

Radiographs of a Tumor of the Brain.—Dr. George W. Jacoby presented some *x*-ray pictures from a recent interesting case. He said that he had been taking these pictures in such cases for a number of years, but until now the results had been very disappointing. The diagnosis in the present case was a tumor of the brain in the mid-Rolandic region, and the patient had been operated upon about two hours ago. The tumor had been found in the position diagnosed, and corresponding to that indicated by the radiograph.

A Case of Brain Tumor (?).—Dr. William M. Leszynsky presented a man, thirty-one years of age, first seen a few weeks ago. Ten years ago he began to have attacks of headache followed by vomiting. At first, there was only one attack each month, but more recently they had recurred about once a week. Six months ago the headache became more intense, and was associated with vomitin and vertigo, and he was in bed for three weeks. On getting up he had diplopia, and three months ago he became blind, and since then had been unable to walk. There was now moderate general headache and vertigo. There was no history or evidence of syphilis, and no history of alcoholism or of infectious disease. Examination showed no tenderness on percussion over the skull. There was some rigidity of the muscles of the back of the neck; both pupils were dilated and immovable, not reacting to light or to convergence. Reflex winking was absent on the left, but well marked on the other side. There was paralysis of both right and left abducens nerves, paresis of both internal recti and an inability to converge. Vision was completely absent in both eyes, and there was marked neuroretinitis on both sides, but no choked disc. There was partial paralysis of the seventh nerve and of the orbicularis palpebrarum. There was an actual deviation of the tongue tó the left. The grasp was good on both sides. There was no paralysis of the lower extremities, yet he was absolutely unable to stand. There was no apparent weakness of the trunk muscles. The case was presented for diagnosis. The question arose as to whether there was a tumor of the cerebellum originating in the vermis, or one that had extended to this part from the corpora quadragemina. If the pyramidal tract were not affected it was possible that there might be a secondary meningitis.

Dr. B. Onuf suggested that there might be a tumor of the pons.

A Case of Tabes with Marked Bulbar Symptoms.—Dr. I. Abrahamson presented a man of forty-four years, seen at the clinic in the latter part of September. There was a history of marked alcoholism. The present illness dated back to last spring, when diplopia developed, quickly followed by ptosis and lachrymation. The man had lost thirty pounds since that time, and difficulty in mastication and in urination had developed, along with hoarseness and various paræsthesiæ of the throat. The temporal arteries were tortuous, the patient was badly nourished and presented evidence of degeneracy. The Romberg symptom was present, and the motions of the eyes were restricted. There was marked wasting of both temporal and masseter muscles, with greatly diminished reaction to both electrical currents. The optic nerve showed beginning white atrophy. The knee-jerks and Achilles reflex were absent on both sides, while the bulbar reflexes were lively. Tactile sensibility was nearly normal. The chief feature of the case was the extensive cerebral and nuclear involvement. The case was evidently one of tabes with very marked bulbar symptoms.

Differential Diagnosis of Multiple Sclerosis.—Dr. B. Onuf presented a paper on this subject. He quoted from the literature to show that it was probable that this term, multiple sclerosis, referred to a symptom complex, representing most varied pathological processes. The diseases most apt to be confounded with it were diffuse sclerosis, pseudosclerosis, cerebrospinal syphilis, general progressive paresis, and a number of other diseases, such as tabes, ataxic paraplegia, and transverse myelitis. Diffuse and pseudosclerosis had a symptomatology so similar to that of multiple sclerosis that he did not feel the differential diagnosis could be clearly made. The multiplicity of the lesions of cerebrospinal syphilis and the recurrence of the symptoms after intervals of comparative freedom from them bore a close resemblance to multiple sclerosis. It was evident, therefore, that the diagnosis must be founded on a complete clinical picture rather than on one or two individual symptoms. The value of antisyphilitic treatment was great as a diagnostic aid, but the results were not wholly reliable, particularly when marked improvement was not noted within a period of about two weeks. Spasticity was just as frequently observed in syphilis, and the intentional tremor he had seen very typically developed in a case of undoubted cerebral syphilis. Fairly developed nystagmus pointed very strongly to cerebral syphilis as against disseminated sclerosis. Scanning speech was a strong symptom in favor of disseminated sclerosis as against syphilis. There were two symptoms which he considered of great importance: (1) the facial expression, and (2) an emotional state, associated often with marked euphoria. These two symptoms were relatively rare in syphilis. Optic neuritis was present in a large percentage of cases of multiple sclerosis, and was often the only symptom in the early stages; however, optic neuritis was very common in cerebral syphilis, though it was more apt to be attended by retinal hemorrhages. The fact that multiple sclerosis was often ushered in by some acute disease was a point of some diagnostic importance. The speech disturbance in general progressive paresis was often quite marked; indeed, this affection should not often be confounded with multiple sclerosis. The number of spinal diseases that might be simulated by multiple sclerosis was very great. In doubtful cases the presence, besides the spinal manifestations, of symptoms pointing to multiple cerebral involvement would speak in favor of disseminated sclerosis, as would also the symmetry and regular distribution of the spinal symptoms. The speech of bulbar palsy might be very much like that of multiple sclerosis, and the patient might also be distinctly emotional.

Dr. Fisher thought multiple sclerosis was most likely to be confounded with cerebral syphilis and general paresis, and yet it was only at certain stages that even here any difficulty existed. The tendency to stupor and attacks of prolonged sleep, and the ocular palsies were characteristic, and were not observed in insular disease.

In general paresis the flattening of the face the tremor, and the articulation were quite similar, but the mental state was quite different. At times multiple sclerosis might be confounded with hysteria. The disease being very slow in its progress, years might elapse before the true diagnosis of insular sclerosis could be made. It should be borne in mind that insular sclerosis sometimes occurred in young people, at the age of sixteen or eighteen years, a point of differentiation from cerebral syphilis.

Dr. Onuf agreed with Dr. Fisher that the tendency to somnolence was ordinarily a strong symptom in favor of syphilis, and admitted that it was sometimes difficult to distinguish the disease from hysteria.

Arterial Disease in Comparatively Early Life.—Dr. E. D. Fisher read a paper with this title. He said that if one had not established one's self in some definite line of work by the age of forty, one would rarely succeed. This was the law of life. Having excluded syphilis, kidney disease, diabetes, alcoholism, and old age, there would still be a number of cases of arterial disease having a different etiology. He was of the opinion that cerebral hemiplegia was more than ordinarily common at the present period of our national development. There was an intensity in the pursuit of an object in the Anglo-Saxon race not present in the Latin races; this led us to a very large consumption of tissue. He believed that the so-called "strenuous life" led to fatty degeneration of the cardiac and arterial muscular tissue. If this view were correct, then the means of prevention were obvious and important. Our social system in the large cities was one of anxiety and overwork. There should be less straining after living, as is the case with the very rich, and a stronger desire for culture and moderation.

Dr. W. B. Noyes raised the question as to whether, in the treatment of so many diseases of the nervous system with strychnine, physicians were not committing a grave error. The effect of this drug on the arteries was not closely studied, and it had occurred to him that in cases like those described in the paper, in which there was, in his opinion, arterial disease, the persistent use of a drug like strychnine, which increases the arterial pressure, was actually harmful, and more than counterbalanced the beneficial action of the remedy upon the peripheral nerves. He believed that many of those present could bear him out in the statement that iodide of potassium frequently benefited many cases in which there was no syphilitic taint, probably by its effect on the vascular system. He would like to hear from others regarding this view that strychnine and iodide of potassium are,to a certain extent, antagonistic in their action on the vessels.

Dr. Leszynsky said he could not agree with Dr. Fisher in the contention that the so-called strenuous life produces cerebral and arterial degeneration, unless this was accompanied by alcoholism, syphilis, or some other toxic cause. He had never seen a patient under forty years of age with a cerebral hemorrhage or endarteritis unless there was some discoverable cause which would lead one to the belief that such conditions had previously existed.

Dr. Sachs said it was interesting to consider whether there was really arterial disease in early life sufficient to lead to apoplectic attacks. Personally, he could not recall a single case of cerebral hemiplegia which was not due to arteriosclerosis, syphilis, or embolism, or was the accompaniment of renal disease. There was only one other vascular degeneration occurring early in life, *i. e.* a fatty degeneration of the artery, and which explained the very early apoplectic attacks in children. When he had been able to exclude embolism, renal disease, and syphilis he had always come to the conclusion that the case was one of early arteriosclerosis.

Dr. Joseph Collins said that he found it very difficult to talk upon arterial *disease*—not sclerosis. He was thoroughly convinced that chronic degeneration of the tunica media, arteriosclerosis, was a disease of the strenuous life, and that alcoholism, rheumatism, syphilis, and the so-called metabolic diseases had very little to do with this. A deficient heredity was one of the contributing causes. Another was chronic indigestion of any kind and a third was worry with work. These were more potent causes of arterial degeneration than syphilis, alcoholism, and bad habits. The last-named conditions caused periarteritis and endarteritis. A second great class of cases was dependent upon infections; some would put these as the first and more important class. We had been taught as students that arteriosclerosis was a disease occurring in those past fifty, but he maintained that this was not true, and that when the disease began at that time it was nothing more than a natural process at that age. A person of sixty-five or seventy years of age becoming ill with an infection like pneumonia usually had the disease in an exceedingly mild form. He would further contend that arteriosclerosis was, at the present day, the scourge of humanity, and that here was no organic disease of the nervous system that could compare with it in its effect upon the production of disease.

Dr. Leszynsky thought the last speaker had begged the question with regard to young subjects. If the strenuous life reacted upon digestion and interfered with assimilation it caused an intoxication or an infection, and in this way set up an arteriosclerosis. He did not think any proof could be adduced to show that the strenuous life alone produced arteriosclerosis.

Dr. Fisher, in closing, said that a man over forty years of age would rarely start out in a new line of work, although he might continue to do much very good work in old channels up to quite late in life. If he had understood the remarks of Dr. Collins, he did not think their opinions were very much at variance on this topic. By arterial disease he meant any morbid condition of any part of the arteries.

Albuminuria Following Severe Exercise in Healthy Persons.—T. P. Dunhill and S. W. Patterson examined the urine of a number of young men engaged in racing. Analysis of the results obtained showed that as the severity of the exercise was increased, the urines of those members which had previously contained traces of albumin showed larger amounts, and urines which had previously been free contained proteids. After the contest itself (two miles) every man passed urine containing over .05 per cent., except one, whose urine had .02 per cent. That albuminuria occurs with greater readiness in some individuals than in others, was clearly shown. In a few cases during training the urine passed in the morning contained a trace of albumin. This was most obvious the day after the exercise on the river had been particularly severe. A further point, which was incidentally discovered, was that in different urines the sensitiveness of boiling, and ferrocyanide of potassium with acetic acid, as tests for proteid, varied considerably. Some samples gave distinct indication of the presence of proteid with the one and not with the other.—*Intercolonial Medical Journal of Australasia.*

Tubercle Bacilli in the Nail-dirt of Children.—In the *Berliner klinische Wochenschrift*, May 17, Kornel Preisich and Aladar Schütz give an account of the examination of the nail-dirt of sixty-six children with a view to discovering the frequency of the occurence of tubercle bacilli therein. In fourteen cases, or 21.2 per cent., this was accomplished. The children were not selected from tuberculous surroundings. Of the fourteen cases in which tubercle bacilli were found nine gave a history of hereditary tuberculosis, and in every case where a history of hereditary bone tuberculosis was given, bacilli were found. These investigations would seem to demonstrate the importance of the nail-dirt of children in the spread of tuberculosis.

Clinical Department.

ACUTE INTESTINAL AUTOINTOXICATION WITH SYMPTOMS RESEMBLING THE ONSET OF CROUPOUS PNEUMONIA.

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The literature of recent years has added materially to our knowledge of the various phases of intestinal autointoxication, but, as far as I have been able to determine, it contains no reference to a series of symptoms at once so startling, so sudden, and so violent in nature as to be suggestive of the onset of an acute infection, more particularly, croupous pneumonia. While acting as resident physician in the Philadelphia Hospital I met with four such cases within as many weeks. At the time few definite notes were taken concerning the various cases, and the following account is drawn largely from memory:

Case 1.—The patient was a man, about fifty years of age, of muscular proportions, and was admitted to the surgical wards by Dr. G. E. Pfahler, the assistant chief resident physician during my service as night interne. At the time of Dr. Pfahler's first examination, which was made in the receiving ward about eight hours before the appearance of the symptoms noted below, there was nothing which pointed to the existence of any form of pulmonary disease. The patient complained of nothing more serious than an obstinate leg ulcer, chronic in character, and unattended by any acute inflammatory or suppurative process. Consequently he was referred to the surgical side, where, shortly after nightfall, he developed a violent chill lasting about three-fourths of an hour. The axillary temperature was elevated perhaps 3° or 4° F., the pulse was rapid and full, the patient extremely restless and actively delirious. The face and chest were bathed in perspiration. The respirations were about fifty to the minute. Dr. Pfahler examined the patient's chest as thoroughly as the circumstances permitted. He was able to detect a limited area in the left lower scapular region, over which there was distant bronchial breathing. Croupous pneumonia, central in origin, was suspected. Morphine gr. $\frac{1}{4}$ and hyoscine hydrobromate gr. $\frac{1}{100}$ were administered, hypodermically. A house enema, known and used in the Philadelphia Hospital as a "glycerin-mag" enema, and composed of a concentrated solution of magnesium sulphate and glycerin, was given, and a free passage followed almost immediately. Supporting treatment was ordered throughout the night, as indications arose. The patient soon became quiet, the symptoms retreating with surprising rapidity. I saw him repeatedly throughout the balance of the night, and early the following morning he was sleeping soundly, respirations, pulse, and temperature were normal, and the above-described symptoms, at first so alarming, had given place to rest. There was no return.

In this case the left leg revealed an ulcer, apparently of several years' duration, and there were no signs of pus formation to account for the disturbances present. The prompt, almost instantaneous and permanent relief which followed the use of an enema, together with the stimulating and quieting effects of the hyoscine and morphine, seemed to point almost conclusively to autointoxication of intestinal origin as the sole disturbing factor.

Case 2.—The patient was a woman about eighty years of age, pale, weak, and emaciated. She was confined in one of the detention wards awaiting an examination as to her sanity. The mental condition was plainly one of senile dementia. Early one morning, after a night during which a number of the patients had been most tryingly demonstrative, she evaded the scrutiny of the nurses on duty, and, in attempting to arise from bed, fell, striking her forehead and sustaining a short, lacerated wound in the region of the left angular process. A single stitch of silkworm gut was inserted, the wound was dressed, and the patient was returned to bed. During the course of the succeeding night, about eighteen hours after the receipt of the injury, I was called to see her, and found her, in a severe chill, propped up in bed, extremely dyspnœic. Her pulse was rapid, intermittent, and irregular, filiform in character rather than full, and the vessel itself was atheromatous. The skin was hot and dry, and the thermometer in the axilla registered 3° or 4° F. above normal. The heart was beating abortively. The second aortic sound was accentuated, and the muscular tone seemed impaired. No murmurs were detected. A careful examination of the lungs disclosed dulness at the left apex, anteriorly. Auscultation at this point revealed the presence of numerous small "sticky" râles, so characteristic of the lung which is undergoing the degenerative changes incident to advanced tuberculosis. Posteriorly the breath sounds were universally bronchovesicular in type, but no râles were heard in this region. The wound on the forehead was perfectly clean.

Stimulant and eliminative treatment was ordered, the latter in the form of the house enema of magnesium sulphate and glycerin. About an hour afterward I saw her again. She was greatly improved. Later in the day the siege was over, the respirations and temperature were normal, the heart was acting more evenly, and the pulse was lower and of a better tone, the general aspect of the case being one of comparative quiet. An examination at this time confirmed the original diagnosis of tuberculosis of the left apex, and added signs of beginning infiltration of the right.

At first glance the symptoms looked not unlike those of pneumonia. The apical involvement suggested some form of beginning bronchopneumonic phthisis. The subsequent course of the case, however, and the physical examinations, negatived both ideas, while the result of treatment seemed to support the view that the condition was neither more nor less than a sudden and severe constitutional reaction dependent upon the rapid absorption of the toxic products of intestinal decomposition.

Case 3.—The patient was a man, seventy-seven years of age, an inmate of the insane pavilion of the Philadelphia Hospital, suffering from senile dementia. I saw the case with Dr. Walter S. Patterson, the assistant physician in this department. The patient was a thin, weak old man, whose arteries were markedly atheromatous. One morning he was found in the midst of a violent chill, huddled up in bed with the sheets drawn closely around his chin, limbs crouched together, teeth chattering violently, the face and fingers deeply cyanosed. The skin was hot, dry, and rough to the touch. The thermometer in the axilla registered a temperature of 103° F. The respiratory movements were abbreviated and rapid, numbering fully 50 to the minute. The pulse was thin and 120 to the minute, the vessel hard, incompressible, small, and extensively beaded by atheromatous deposits. An examination of the lungs disclosed decided dulness at both bases, not reaching, however, the intensity of flatness. The patient's mental condition would not permit the determination of the degree of vocal or tactile fremitus, in that he would not speak above a whisper. Auscultation revealed distant breath sounds. Liver dulness did not extend to any depth below the costal arch, in the right mamillary line. The heart was not markedly displaced. There were, however, evidences of hypertrophy. No murmurs were detected. In view of the stated facts, and because of the bilateral distribution of basal dulness, pleural effusion was regarded as improbable, if not impossible. At this time the urine was not examined, although later albumin and tube casts were found to exist. There was no surface œdema and no valvular lesion in the heart. For these reasons, and because of the character of the physical signs at the bases of the lungs, bilateral hydrothorax was eliminated and a thickened pleura determined upon as the cause of the dulness and the distant breath sounds.

Stimulants were ordered, and a glycerin-magnesium enema, with the result that the patient almost instantly subsided into his accustomed state after the lower bowel had been emptied by the enema. The chief attendant in the ward told me later that he had seen the same patient suffer precisely similar attacks on previous occasions, the storm arising suddenly, raging furiously for a few hours, only to pass away, leaving behind no evidences of its existence save, perhaps, a more pronounced degree of weakness than before. He could not say definitely, however, if, in every instance, free bowel movements had produced the same prompt cessation of symptoms, but his impression was that such had been the case.

CASE 4.—I saw this patient with Dr. E. H. Bainbridge, who, at the time, was the interne in charge of the Gynecological and Obstetrical Division of the Philadelphia Hospital. The patient was a well-developed woman, about forty years of age. Seven days previous to the onset of the symptoms described below she gave birth to a healthy child. Her labor resulted, however, in rather an extensive laceration of the perineum, which Dr. Bainbridge immediately repaired. The patient was proceeding, apparently, to recovery when, about 1 o'clock on the morning of the seventh day, she suddenly developed a series of severe chills. The respirations rose to 40 or more to the minute. Her pulse was rapid, full, and bounding. Her cheeks were suffused in a typical mahogany flush, both pupils were dilated, the eyes were clear and bright, and the facial expression was one of intense anxiety. The axillary temperature was a trifle above 104° F. The patient was very restless, and her skin was hot and dry. An examination of the lochia did not reveal any particularly disagreeable odor. The lungs showed a normal degree of tactile fremitus over the anterior chest. Posteriorly, tactile fremitus was universally but mildly exaggerated. The percussion note over the entire posterior chest was clear and high-pitched, almost the tympanitic note of pulmonary engorgement. Auscultation developed harsh breathing over both lungs, anteriorly and posteriorly. There was no suggestion of râles. Partly in view of the general symptoms, and partly because of the interpretation of the physical signs referred to the chest, a provisional diagnosis of croupous pneumonia was made, a more positive opinion being reserved until the further development of physical signs and the disclosures of a vaginal examination.

Dr. Bainbridge at once ordered active eliminative treatment addressed to the kidneys and bowels, the latter in the form of a "glycerin-mag" enema. In addition he prescribed supporting treatment. The case was carefully watched during the balance of the night. The patient responded well to treatment, and within an hour or so her temperature fell to normal, her pulse resumed a quieter tone, the chills ceased, the respiratory movements were normal in depth and frequency, and the entire outlook was complacent and in every respect promising. The chest examination at this time was negative.

Several hours after the subsidence of these symptoms a vaginal examination disclosed a quantity of pus at the site of the perineal stitches, and a soft, boggy, cervix. The patient was prepared for operation, the cervix dilated, and the uterus thoroughly curetted, emptied of a quantity of putrid material and drained, the vaginal stitches were removed, and the mucous surface rendered as clean as possible. The patient made an uneventful recovery.

The appearance of this patient was at once suggestive of the onset of croupous pneumonia—the flushed face and anxious expression and the rapid respiratory excursions. A more detailed investigation of both signs and symptoms seemed to lend color to this view. The discovery of putrefactive matter, however, was one of more than passing import. Here, again, active eliminative treatment resulted in the rapid relief of all symptoms—a relief extending over a period of several hours. Whether or not these symptoms, including the violent dyspnœa, would have been counterfeited had not operative procedures been instituted and well carried out, is a question. Those who describe sapræmia and true septic conditions do not speak of dypsnœa as a symptom. That it occurs in intestinal autointoxication, which, after all, is but a form of sapræmia, seems certain. Therefore, it appears reasonable to assume that this case represented intestinal autointoxication reenforced, it may have been, by the products of putrefying areas, existing in the birth canal under pressure, and, perhaps, by toxins from the pus-bearing area around the perineal stitches. It is probable, however, that the greater portion of these toxic agents was absorbed from the large intestine, since complete and thorough evacuation of this viscus resulted in prompt relief, the improvement having been maintained up to the time of operation, and the operation itself having assured more or less immunity from similar seizures by removing the contributing elements. It also seems probable that sapræmic symptoms, depending upon the absorption of toxic products arising in the birth canal, would have manifested themselves at an earlier date.

Conclusions: 1. From a study of these cases it appears that intestinal autointoxication is capable of producing symptoms urgently suggestive of the onset of croupous pneumonia.

2. In the absence of definite physical signs of pneumonia, diagnosis should be deferred until after the bowels have freely moved. For example, we have only to await the result of such treatment, and, if the symptoms persist, a pneumonia, originally central, may display itself at the periphery.

3. This form of intestinal autointoxication, if unrelieved, may be capable of so reducing the vital resisting powers of the pulmonary tissues as to permit the implantation and multiplication of those organisms commonly regarded as active in the causation of pneumonia. In other words, it is to be considered, in isolated instances, a contributing factor in the production of this form of pulmonary disease—a view which finds support in the statement that ordinary sapræmia tends to cause congestion in various organs. (J. C. Da Costa, "Modern Surgery," p. 137.)

4. The dyspnœa is to be accounted for in one of two ways, possibly by a combination of both. First and most important in its production is the irritating action of toxic materials upon the respiratory

center in the medulla oblongata, as in the dyspnœa which sometimes attends uræmia and diabetes. A second and closely allied explanation refers a similar property to the warm blood of the febrile state, which, according to Landois, is a direct irritant to the respiratory center. While it is admissible that this action obtains in some cases, it cannot, in the vast majority, be regarded as more than a contributing element, for there are many condition in which high temperatures prevail without any marked interference with the function of respiration. On the other hand, both pyrexia and toxæmia may exist without dyspnœa, so that here there is a discrepancy to be explained. In this instance it may be that the toxic elements are not sufficiently irritating to disturb the equilibrium of the respiratory center. One need not trespass beyond the bounds of reason to assume that certain toxic materials may be so altered upon exposure to the elevated temperature of the blood as it exists in the febrile period, to be rendered innocuous. So, too, one has but to follow the same line of thought, and it becomes equally reasonable to assume that other chemical bodies, comparatively, if not entirely harmless in their original state, may, when injected into warm blood, be changed into toxic substances sufficiently irritating to produce marked disturbances in the delicate structures which govern the vital functions.

5. The result of treatment in such cases as I have described depends, first, upon the fact that the enema removes from the large bowel those particles by virtue of whose decomposition by putrefactive bacteria toxic substances are generated, and thence carried into the general circulation; and, second, that stimulant drugs support the vital centers until these poisonous bodies are eliminated or destroyed, after which the organism finds and maintains its accustomed state.

In closing, I beg to return my sincerest thanks to Dr. D. E. Hughes, chief resident physician in the Philadelphia Hospital, for his kindness in permitting me to publish these cases and for valuable suggestions.

ATRESIA OF THE VAGINA.

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Recently there came under my professional care a little girl, four years of age, who presented rather an unusual condition; that of atresia of the vagina. The child had been suffering with "falling spells," as the mother termed it, for the past eighteen months.

The case presented the following brief history: Minnie S., aged four years, of robust appearance. Mother neurotic; father healthy and strong; had suffered for a year and a half from slight spasms. She would begin turning around, and suddenly, with a cry, throw the arms above the head and fall, sometimes on her face, but generally upon the back. In a few minutes she would recover, look dazed, arise, and walk away, staggering as she went. She was never known to sleep directly after an attack. She had been treated with nerve sedatives by several physicians, without permanent relief.

After hearing this brief history, I suspected some organic derangement. Having the mother strip the child, I went carefully over her, beginning at the head; meantime, securing no history of a fall or trauma of any consequence. Upon investigating the genitalia, I was greatly surprised to find a complete occlusion of the vaginal outlet and canal; however, at the upper commissure I found a pin-like opening, from which there dribbled a viscid substance. I attempted to introduce a very small probe, but owing to severe pain produced thereby, I forewent further procedure, and stated to the parent the seat of the nerve trouble lay here. Operation was readily assented to. The labia minora had disappeared entirely, or rather they were not distinguishable. The outer lips, however, were very much atrophied and irregular.

The operation performed was rather unique, and I have been unable to find anything advised like it. Separating the inner lips with a curved blunt-pointed bistoury, that I might introduce a pair of scissors, I slit the tissue down to the posterior fourchet. With dull dissection, practised with my index finger, I broke up what adhesion existed down to the vault of the canal. Cutting away the tissue of the labia minora, and trimming it smoothly, I inverted the labia majora as far down in the cavity as they would reach, and stitched them to the lateral walls of the canal, the attachment being practically at the bottom of the vaginal outlet. An uninterrupted catgut suture was employed on both sides. I next packed the entire canal with a sterile tampon of wool, anointed with carbolized vaselin, which was held in position by a large wad of sterile gauze and a T-bandage tightly drawn up and against the parts. I especially made no provision for passing the urine, as I felt this could do no harm in the face of the complete inunction which I gave the parts prior to the outer toilet.

The wound was dressed every other day for nine days, precisely as above. On the eleventh day I examined the parts thoroughly, and, much to my delight, no adhesions existed; no pain was experienced upon inserting the finger, and, all in all, the little girl is progressing nicely.

In regard to the growth of hair to be expected, I do not believe this will be a matter of much moment, for if we stop to study the anatomy of the surrounding parts, the growth of hair is practically confined to the upper and outer edge of the labia majora. I look also for some gradual stretching of the parts as the child grows older, and the tendency will be, in my opinion, upward and outward. The clitoris, which was somewhat obscured beforehand was detached, and is now perfectly free, with a natural hood. The child, from late reports, has had no return of the spasms, and the operation was done nearly three months ago. While a great many authors do not lay much stress upon an adherent clitoris causing nerve derangement in children, it certainly appears to me it did so in this case.

It might be added that the operation did not cause very much shortening, as regards the depth of the vaginal route.

The secretion from Bartholini's glands at times causes some irritation, but this can always be relieved by a hot douche.

Epistaxis in the New-born.—D'Astros writes in the *Archives de Médecine des Enfants* concerning the literature upon this subject, and concludes that it is on all occasions symptomatic of systemic infection. Hereditary syphilis, either accompanied by local nasal lesions or not, being the most frequent cause. The etiological factor in some instances is a septic infection, while frequently there is both syphilis and sepsis. In obscure cases careful examination may still reveal signs of latent syphilis. So-called idiopathic cases rarely, if ever, occur. The amount of the hemorrhage is not usually large, nor is it dangerous. The underlying cause constitutes the danger, and treatment should be directed toward its removal as early as possible.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Genito-Urinary Diseases and Syphilis. By Henry H. Morton, M.D. 8vo, 372 pages. Illustrated. F. A. Davis Co., Philadelphia, Pa.

Medical Directory of New York, New Jersey and Connecticut, 1902. 12mo, 982 pages. Published by The New York State Medical Association, New York City.

A Compend of Human Physiology. Eleventh Edition. By Albert P. Brubaker, M.D. 12mo, 270 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, 80c. net.

A Guide to the Practical Examination of Urine. By James Tyson, M.D. 12mo, 297 pages. Tenth Edition. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.50 net.

General Paresis, Practical and Clinical. By Robert Howland Chase, M.D. 8vo, 291 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.75 net.

Transactions of the Medical Association of Georgia, 53d Annual Session, 1902. 8vo, 486 pages. Illustrated.

Disinfection and Disinfectants. By M. J. Rosenau, M.D. 8vo, 353 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $2.00 net.

Diseases of Infancy and Childhood. By L. Emmett Holt, M.D. 8vo, 1161 pages. Illustrated. Second Edition. D. Appleton & Co., New York. Price, cloth, $6.00. Half leather, $6.50.

The Practical Series of Year Books. Volume X. Skin and Venereal Diseases, Nervous and Mental Diseases. By Drs. W. L. Baum and Hugh T. Patrick. 12mo, 245 pages. Illustrated. The Year Book Publishing Co., Chicago, Ill. Price, $1.25.

The Nose and Throat in Medical History. By Jonathan Wright, M.D. 8vo, 244 pages. Illustrated. The Laryngoscope Co. Price, $2.00 net.

Practical Obstetrics. By Edward Reynolds, M.D., and F. S. Newell, M.D. 8vo, 553 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

Progressive Medicine. By Hobart A. Hare, M.D. Volume III. 8vo, 431 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Text-Book of Histology and Microscopic Anatomy of the Human Body. By Dr. Ladislaus Szymonowicz. 8vo, 435 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

Physical Diagnosis of Diseases of the Thoracic and Abdominal Organs. By Dr. Egbert Lefevre, M.D. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

Transactions of the Medical Society of the State of New York for 1902. 8vo, 528 pages. Illustrated.

Twenty-fifth Annual Report of the Board of Health of New Jersey and Report of Vital Statistics, 1901. 8vo, 459 pages.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription-Writing, and Medical Latin. By William Schleif, M.D. Edited by Berno B. Gallaudet, M.D., Second Edition. 8vo, 389 pages. Price, cloth, $1.75 net. Lea Brothers & Co., Philadelphia, Pa. Limp leather, $2.25 net.

Anatomy and Histology of the Mouth and Teeth. By I. Norman Broomell, D.D.S. Royal octavo, 500 pages. Illustrated. Second Edition. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $4.50 net.

Diseases of the Organs of Respiration. By Samuel West, M.D. Vol. I and Vol. II. 8vo, 915 pages. Illustrated. Charles Griffin & Co., Ltd, London. J. B. Lippincott Co., Philadelphia, Pa.

The Mattison Method in Morphinism. By J. B. Mattison, M.D. 8vo, 40 pages. E. B. Treat & Co., New York City. Price, $1.00.

The Treatment of Tabetic Ataxia by Means of Systematic Exercise. By L. Freyberger, M.D. Royal octavo, 185 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $3.00 net.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 11, 1902:

	Cases.	Deaths
Measles	45	..
Diphtheria and croup	252	25
Scarlet fever	85	7
Smallpox	1	1
Varicella	23	..
Tuberculosis	210	149
Typhoid fever	138	29
Cerebrospinal meningitis	..	4

Bacillus of Shiga in Relation to Dysentery.—Contract Surgeon Charles F. Craig, Director of the Bacteriological Laboratory, U. S. General Hospital, Presidio, San Francisco, Cal., speaks thus of bacillus of Shiga in his report of last year: "I have continued my observations upon a bacillus separated from the intestine at autopsy in cases of dysentery, and it has proven to be the same as that discovered by Shiga in Japan, and studied very carefully by Flexner and Strong in Manila. This bacillus has proven to be the cause of the acute specific dysentery prevalent in Japan and the Philippines. Cultural peculiarities and the morphology of the organism has been so fully described by the observers quoted that I shall not enter into a description here. I have devoted the most of my attention to the agglutination test, and to the effect of the bacillus upon animals. As regards the latter, I may say that the results have been so contradictory that I have been unable to draw any positive conclusion from them. It has been found that this bacillus, which much resembles that of typhoid, will agglutinate when placed in the blood serum of a patient suffering from certain forms of dysentery, designated as an acute specific dysentery. Using the same method as is used for the Widal test and substituting this bacillus, I have tested the blood serum of seventy cases of dysentery. In making the test I have used a dilution of 1 to 10, and have allowed a time limit of fifteen minutes. The cases tested were all diagnosed as chronic dysentery, and of the seventy cases twenty showed the amœbæ in the fæces, and were, therefore, amœbic dysentery: (1) Of the twenty amœbic cases only one gave a reaction, which was very slight. This case came to autopsy, and was found to be a typical case of amœbic dysentery. It was impossible to ascertain whether or not the patient had previously had an attack of the specific variety. (2) Of the fifty remaining cases twenty-one gave a positive reaction and twenty-nine negative. Of the positive cases five came to autopsy, and the pathological conditions present were those of severe diphtheritic dysentery, the ulcerations were very superficial in character, and the entire large intestine was lined with a thin necrotic membrane covering the ulcerations. As a result of these examinations, I am inclined to believe that the agglutination test of Shiga's bacillus is comparable in accuracy with the Widal test. Perhaps this conclusion is a little premature, but the fact that the bacillus does not react in cases of amœbic dysentery is very significant."

Water Is a Thermo-Regulator.—The *American Review of Reviews* for September quotes largely from an article on the functions of water in the human body by Professor Karl B. Hofmann, which first appeared in the *Deutsche Revue.* A highly important function of water, says the professor, is that of regulating the temperature of the body, cooling it by evaporation from lungs and skin, and by perspiration. Bodily comfort depends on this regulation. Persons who do not perspire easily suffer more from heat. An increase over the normal temperature of

98 per cent. cannot be endured for any length of time. In high fever the bodily heat becomes unbearable on account of the disturbed regulation, and relief is experienced on perspiration. "We should appreciate the economic importance of water more," the writer concludes, "if it cost as much as the food we prepared in it." It is fully appreciated only by the traveler in the desert, who must carry it along for himself and his animal.

Blood-Letting in Gynecological Cases.—Bedford Fenwick has employed this form of treatment in more than a thousand cases. His conclusions are: (1) That when the cervix uteri is rendered by disease congested, deep-red bluish, or purple in color, local depletion by scarification generally gives immediate relief (2) When this congestion is caused and kept up by flexion of the uterus obstructing the return of the venous blood from the cervix and causing chronic enlargement of the uterine veins generally, local depletion allows a pessary to be inserted with safety and comfort to replace the organ, which almost certainly could not otherwise be tolerated. (3) The possibility of the patient being pregnant must, of course, be investigated before scarification is accomplished. (4) In cases of subacute ovaritis, or obscure throbbing pain in the pelvis, cupping or leeching externally frequently gives immediate relief. (5) In cases of vaginismus from inflamed hemorrhoids or other rectal congestive conditions, leeches around the anus give rapid relief or cure. (6) Scarification is the simplest and safest method of abstracting blood from the cervix.—*The Medical Times and Hospital Gazette.*

An Endeavor to Estimate the Value of Certain Doubtful Lives for Life Assurance.—F. Le M. Grasset thus sums up his study of the subject: (1) If a man has strong evidence of arteriosclerosis in his family history, and also in his person, he is not insurable on any terms; (2) If there is no family history of the disease, but if he has it in important organs like the brain, the kidney, or the heart, he is an undesirable risk, and most companies would do well to leave him alone, or to take him on some short endowment only, depending on the gravity of the lesion found; (3) If arteriosclerosis is shown markedly in the family history, but no evidence is present in the applicant by a rigid examination, an endowment terminating before or about the period in which this proclivity is most shown, might be offered, but not a whole life; (4) If the family tendency seems weak, or possibly even moderate in the direction of arteriosclerosis, but the personal examination is good, perhaps a life policy paid up in ten, fifteen, or twenty years might be offered, but before doing so, special care should be exercised in each case.—*The Medical Examiner and Practitioner.*

On Recrudescence of Inveterate Latent Syphilis after Acute Febrile Disorders.—Heinrich Oppenheimer says that it is a well-known fact that under the influence of weakening factors of any kind relapses are very liable to recur. But his experience has convinced him that febrile disorders are more frequently than other causes instrumental in imparting fresh activity to syphilitic residues in the system which have been in a dormant condition for many years. These unexpected manifestations do not break out on the height of the fever, but belong to the stage of convalescence, and to the period immediately following the latter, when the patient, to all external appearances, is quite well again. Cases of a mild and abortive type seem to suffer most frequently in this peculiar way, probably on account of the insufficient and unsatisfactory treatment with which they are too often content.—*The Clinical Journal.*

Recovery of a Needle Which Had Entered Patient's Body Many Years Before.—A. Mansfield Holmes reports the case of a patient who, from pain in the lungs, with slight hemorrhages, was suspected of tuberculosis. The tuberculin test gave no reaction. The patient was seized with excruciating pain in the pelvic region, which continued for several hours. A large fragment of a sewing needle was passed per vaginum with the menstrual flow, after which all pain ceased. Two weeks later the patient was seized with a paroxysm of coughing, which removed a solid mass, within which she found the remainder of the needle embedded. The two parts of the needle fitted perfectly. After the removal of both fragments all symptoms rapidly disappeared, and the patient has enjoyed excellent health ever since. She remembered having swallowed a needle about six years previously.—*The Colorado Medical Journal.*

The Press and Crime.—The suggestion has been made several times of late that the press is responsible for much of the crime that is apparently so prevalent nowadays, and it seems that it may contain the elements of truth. Dr. Icard, a distinguished French physician, is convinced that the yellow journals of France have had much to do with recent crime. He declares that women are especially apt to follow a certain kind of pernicious example. The French physician is strongly in favor of a law being passed making the publication of certain police cases illegal. The article of Dr. Icard, which appeared in the second April number of the *Nouvelle Revue,* is a well-written impugnment of the worst features of modern yellow journalism.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending October 11, 1902:

SMALLPOX—UNITED STATES.		CASES.	DEATHS
Colorado, Denver	Sept. 20–27	3	..
Illinois, Chicago	Sept. 27–Oct. 4	3	..
Kentucky, Covington	Sept. 20–Oct. 4	11	..
Maryland, Baltimore	Sept. 27–Oct. 4	..	1
Massachusetts, Boston	Sept. 27–Oct. 4	10	3
Fall River	Sept. 27–Oct. 4	2	..
Michigan, Detroit	Sept. 27–Oct. 4	18	..
Nebraska, Omaha	Sept. 27–Oct. 4	1	..
New Hampshire, Manchester	Sept. 27–Oct. 4	2	..
Nashua	Sept. 27–Oct. 4	21	..
New Jersey, Hudson County	Sept. 28–Oct. 5	1	..
Newark	Sept. 27–Oct. 4	7	2
New York, New York	Sept. 27–Oct. 4	1	..
Ohio, Ashtabula	Sept. 27–Oct. 4	1	..
Cleveland	Sept. 27–Oct. 4	50	10
Dayton	Sept. 27–Oct. 4	1	..
Hamilton	Sept. 27–Oct. 4	3	..
Toledo	Sept. 13–27	15	3
Pennsylvania, Altoona	Sept. 27–Oct. 4	2	..
Erie	Sept. 27–Oct. 4	1	..
Johnstown	Sept. 20–Oct. 4	33	4
McKeesport	Sept. 27–Oct 4	5	1
Philadelphia	Sept. 27–Oct. 4	3	..
Pittsburg	Sept. 27–Oct. 4	24	6
Reading	Sept. 22–29	2	..
South Carolina, Charleston	Sept. 27–Oct. 4	2	..
Tennessee, Memphis	Sept. 27–Oct. 4	2	..
Wisconsin, Green Bay	Sept. 21–28	1	..
Milwaukee	Sept. 27–Oct. 4	8	..
SMALLPOX—FOREIGN.			
Austria, Prague	Aug. 30–Sept. 20	5	..
Barbadoes	Sept. 1–15	266	11
Canada, Amherstburg	Sept. 27–Oct. 4	1	
Ecuador, Guayaquil	Sept. 6–13	..	4
Great Britain, London	Sept. 13–20	4	3
Newcastle-on-Tyne	Sept. 13–20	2	..
Sunderland	Sept. 13–20	1	..
India, Bombay	Sept. 2–9	..	3
Madras	Aug. 30–Sept. 5	..	2
Italy, Palermo	Sept. 13–20	5	1
Russia, Moscow	Aug. 31–Sept. 6	1	..
Odessa	Sept. 6–20	3	1
Warsaw	Sept. 6–30	..	5
Spain, Barcelona	Sept. 1–15	..	2
Straits Settlement, Singapore	Aug. 16–23	..	3
Switzerland, Geneva	Sept. 6–13	1	..
YELLOW FEVER.			
Colombia, Panama	Sept. 22–29	4	2
Mexico, Coatzacoalcos	Sept. 20–27	4	.
Vera Cruz	Sept. 20–Oct. 4	25	14
CHOLERA—FOREIGN.			
Egypt, Alexandria	Aug. 31–Sept. 20	612	460
India, Bombay	Sept. 2–9	..	1
Calcutta	Aug. 31–Sept. 6	..	15
Madras	Aug. 30–Sept. 5	..	1
Japan, Nagasaki	Aug. 31–Sept. 10	46	22
PLAGUE—UNITED STATES.			
California, San Francisco	Sept. 23	2	2
	(One case from Oakland.)		
San Francisco	Sept. 26	2	2
PLAGUE—FOREIGN.			
Egypt, Alexandria	Aug. 31–Sept. 20	6	2
India, Bombay	Sept. 2–9	..	41
Calcutta	Aug. 31–Sept. 6	..	16
Karachi	Aug. 24–Sept. 10	10	8
Turkey, Smyrna	Oct. 4	present.	

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Original Articles.

THE URINE FROM EACH KIDNEY.

By FERD. C. VALENTINE, M.D.,
NEW YORK.

CORRESPONDING MEMBER SOCIÉTÉ FRANÇAISE D'UROLOGIE; SECRETARY AMERICAN UROLOGICAL ASSOCIATION; SECRETARY GENITOURINARY SECTION, NEW YORK ACADEMY OF MEDICINE; ETC.

THE value of obtaining separately the urine from each kidney, is now too thoroughly appreciated to merit discussion. The manner of securing this most important aid to definite diagnosis is, however, still undecided. Ureteral catheterism, indisputably best, has its limitations, and also a goodly number of opponents.

Harris' and Downes' methods at first glance seem to overcome the difficulty. As, however, both are dependent upon the production of a "watershed" within the bladder, their applicability is essentially for the female. Although inexperience may cause an unfair criticism, it is risked by offering that Kelly's and Pawlik's methods appear easier, safer, and more effective for the purpose.

To obtain the urines separately from each kidney in the male, none of the methods hitherto employed can be effective, except ureteral catheterism by the Nitze, Casper, or Albarrán cystoscopes, or some of their modifications. These, however, require a bladder which has a capacity of at least 50 c.c., which is not bleeding, or into which one or the other kidney is not pouring blood too rapidly for the irrigating cystoscope to wash away; bladder walls which are not desquamating large shreds, ureters large enough to admit, at least, the smallest catheter, and other conditions evident upon a moment's thought. Moreover, ureteral catheterism demands continual practice, the greatest possible skill, acute vision, and most delicate manipulative tact.

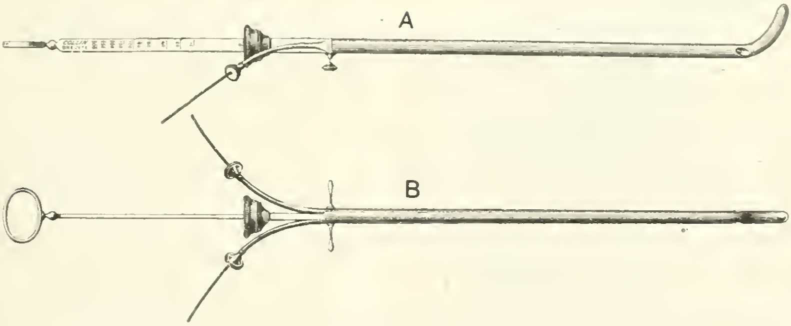
The purpose of this paper is to describe an instrument which at present seems to overcome all the difficulties that ordinarily attend efforts to obtain the urines separately from each kidney.

The instrument, in its present form, is due to Fernand Cathelin, adjunct chief of clinic at the famous Necker Hospital of Paris. It is to this most competent follower of our great master, Guyon, that I am indebted, not only for instruction in the use of his instrument, but also for the privilege of employing it, in the large material at his disposal.

Cathelin enjoyed the signal distinction of having his instrument presented before the Paris Academy of Medicine by Professor Guyon, on May 20, 1902. In his first publication[*] Cathelin attributes the originality of the idea of intravesical separation of the urines from each kidney to Alfred Neumann of Gruben. Neumann's instrument, however, entails insertion of a finger into the vagina to make the same water-shed which Harris and Downes accomplish by means of an intravaginal lever.

Cathelin's divisor is based upon pushing into the bladder a soft rubber membrane, which adapts itself to the walls, and which is grasped by the bladder, thus dividing the viscus into two halves.

In a subsequent article[†] Cathelin found that the originality of making two compartments of the bladder is due to Lambotte of Brussels, whose instrument was constructed in 1890[‡]. As, however, Lambotte's instrument was offered to the profession only as an experimental device, time need not be consumed now in discussing it.



FIGS. 1 and 2.—Cathelin's Vesical Divisor, closed. A. Lateral view B. Seen from above

Cathelin's graduated vesical divisor consists of a cylindrical tube (caliber 25 F.), shaped at one end like a short-beaked catheter. Figures 1 and 2 show the instrument laterally and from the top. Its distal extremity has a central orifice and two lateral catheter-carriers, each of the three closing with a screw-nut with washers, to prevent the escape of urine otherwise than through the catheters when the instrument is in use. The central orifice allows the easy propulsion of a shaft whose handle is graduated to the varying vesical capacities from 10 grams (ounce) to 300 gr. (f ℥ x). The two lateral catheter-carriers transmit each a catheter.

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[*] Cathelin: "Le diviseur vésical gradué."—*La Presse Médicale*, June 14, 1902.

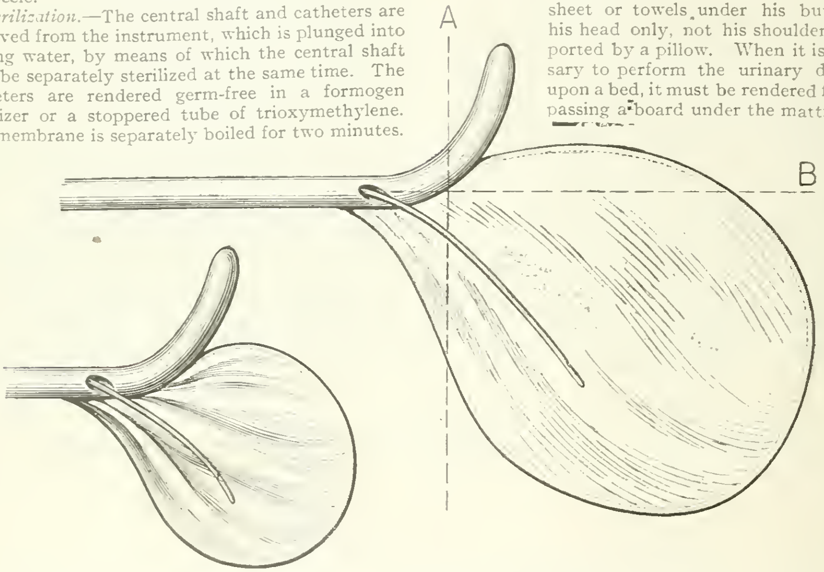
[†] Cathelin: "Les urines des deux veins."—*Annales des Maladies des Organs Génito-urinaires*, July, 1902.

[‡] Lambotte, in *Annales de Médecine et de Chirurgie du Cercle d' Etudes Médicales de Bruxelles*, p. 47, 1891.

The other essential part of the instrument is a very soft rubber membrane, set within a delicate steel spring. This membrane and the other parts of the instrument will be more minutely described when detailing the employment of the divisor.

The intravesical end of the divisor is guttered so that when the membrane is projected within the bladder it cannot otherwise than maintain a vertical position. It thus invariably centrally divides the bladder and the end of the posterior urethra into two parts. This fact enabled the author to obtain the urine from each kidney separately in a case of cystocele.

Sterilization.—The central shaft and catheters are removed from the instrument, which is plunged into boiling water, by means of which the central shaft may be separately sterilized at the same time. The catheters are rendered germ-free in a formogen sterilizer or a stoppered tube of trioxymethylene. The membrane is separately boiled for two minutes.



Figs. 3 and 4.—Intravesical part of Cathelin's Divisor. The larger figure shows the membrane expanded in a bladder of 300 grams capacity; the smaller one in 40 grams. Line A bisects the "neck of the bladder"; B the central line of the instrument. It is seen that the division extends to the posterior urethra.

Mounting must naturally be done with sterilized hands. The steps are as follows:

1. Open the screw-nuts of the catheter-carriers and insert into each a catheter; close the catheter-carriers just enough to permit their easily sliding through and beyond the lateral eyes of the instrument. Inject sterile water through the catheters to prove their permeability. These catheters are then withdrawn until their first gilded mark is at the screw-nut, leaving the other marks outside the tube; this places the catheter-tips just within the eyes of the main tube.

2. Insert the central shaft until its tip projects from the central tube. Fasten it there by means of the screw at the bottom of the tube (see Fig. 1). The projecting part of the shaft has a small spring; open this with a finger-nail and insert therein the stem of the membrane, pushing it in as far as possible. Release the spring and it will firmly grasp the stem. The membrane has neither top nor bottom; therefore, the only care necessary is to see that it is placed vertically in the median line (Fig. 3, B) of the instrument.

3. Dip the beak of the instrument, with the membrane attached, into a vessel at least four inches in diameter, and eight inches deep, containing sterilized olive oil.

4. Draw back the central shaft until it has carried the entire membrane into the tube, *i. e.* when zero on the graduation of the shaft is at its nut. It is well to project and withdraw the membrane several times, holding the tip of the instrument with the left hand and pressing the left index finger upon the lower margin of its orifice, as the membrane comes from and returns to the tube.

5. Fasten the retaining screw at the bottom of the tube and place the whole instrument into the vessel containing the sterilized oil (*vide* 3 above).

6. The cover of the box containing the instrument and its accessories has a support with two lyres (see Fig. 5). The upper lyre is for use in the male; the lower one is for female patients. Screw the support into the hole provided in the lid of the box.

Preparation of the Patient—1. He should lie preferably upon an operating table, a folded sheet or towels under his buttocks; his head only, not his shoulders, supported by a pillow. When it is necessary to perform the urinary division upon a bed, it must be rendered firm by passing a board under the mattress, to prevent its sagging, and to maintain the body in the horizontal posture.

2. Wipe the prepuce, glans, coronary sulcus, and meatus with cotton tampons soaked in mercuric bichloride 1-6,000; wash the urethra with warm boric acid 4 per cent., either by means of an irrigator or a syringe.

3. Irrigate the bladder with boric solution until the fluid that comes therefrom is entirely clear.

4. Measure the vesical capacity by very slowly injecting through a catheter, with a Guyon or Albarrán vesical syringe. When the first, slight desire to urinate is experienced, the minimal vesical capacity, as Cathelin calls it, is reached; when the desire becomes imperious, the same author designates it the maximal vesical capacity.

5. Allow the fluid to escape and inject 10 grams fresh solution, which will aid in establishing syphonage when the instrument is inserted, and save the need of aspiration, which is but exceptionally required.

The final injection is unnecessary in a polyuric patient; when the bladder is irritable, however, a larger injection than 10 grams will be required.

6. Introduce the instrument in the same manner as a lithotrite is inserted. In case the patient has a resistant urethra, it will be well to leave a retention-catheter *in situ* over night, or, at all events, for several hours preceding the division.

7. Hold the instrument in an almost horizontal

position and project the catheters according to the vesical capacity, previously ascertained (*vide* 4 *supra*), *i. e.* for a bladder holding 100 grams, insert the catheters to the second mark on the catheters; for a bladder able to hold 250 grams, push the catheters to the fourth mark, etc. Then close their screw-nuts to render them water-tight.

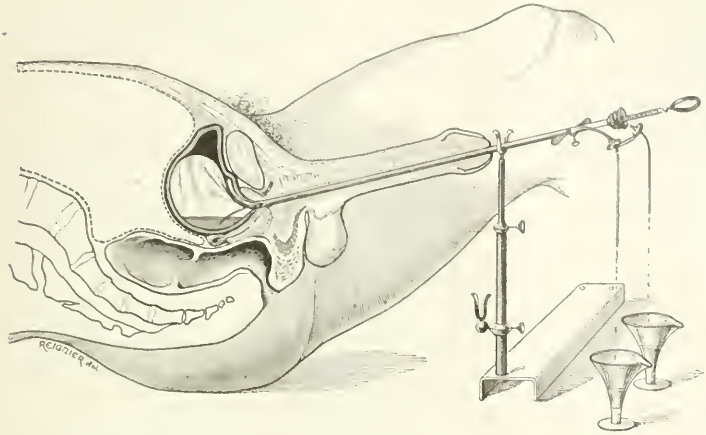


Fig. 5.—Cathelin's intravesical divisor *in situ*. The light intravesical part is the soft rubber septum, dividing the bladder into two chambers; the catheter is shown projecting into the right chamber, close to the ureteral opening, automatically syphoning the urine therefrom.

8. The bladder contents soon begin to drop from the mouths of the catheters; then draw the instrument horizontally outward until its beak is arrested by the posterior aspect of the pubis.

9. Release the fixing screw at the bottom of the instrument (see Fig. 1), and gently, slowly push the central shaft inward until the index thereon shows that it has penetrated to the bladder's minimal capacity, or a trifle less. Tighten the fixing-screw, to hold the shaft firmly.

10. Raise the instrument a trifle above the horizontal, and fix it in the movable lyre, which is attached to the upright that has been screwed into the lid of the instrument's case. This lid rests upon the table in front of the patient's buttocks (Fig. 5).

Notes on the Instrument. — When the membrane is projected from the central tube, it assumes an elliptical form; the posterior bladder-wall, however, gives it a spherical form, and fits it to all the normal and such pathological irregularities as the viscus may have. (See Figs. 5 and 6.)

Before attempting to collect any of the urine which comes from the catheters, the 10 grams of fluid that were injected before the instrument was inserted should be allowed to escape. To be sure that the specimens taken for examination are not mixed with boric acid, it may be well to exceed Cathelin's instructions and allow 20 grams of fluid to escape before collecting the specimens.

The urine then coming from the catheters may be received in clean glass dishes or test-tubes, or graduates placed beneath the mouths of the catheters. When the instrument is acting, it should not in any manner be disturbed, lest the relations between it sparts be disarranged.

If, however, urine ceases to flow from one side, Guyon's instillation syringe may be gently used as an aspirator, or several drops of water injected through the catheter which does not act.

Should the above-mentioned measures fail, the inactive catheter may be withdrawn and a new one inserted in its place, without removing the apparatus.

Removal of the Instrument. — When sufficient urine from each kidney has been obtained, the instrument is closed in the following manner:

1. Release the screw-nuts which close the catheter-carriers and withdraw the catheters.

2. Release the fixing-screw at the bottom of the tube and draw out the shaft until its marking shows O (zero) at its orifice.

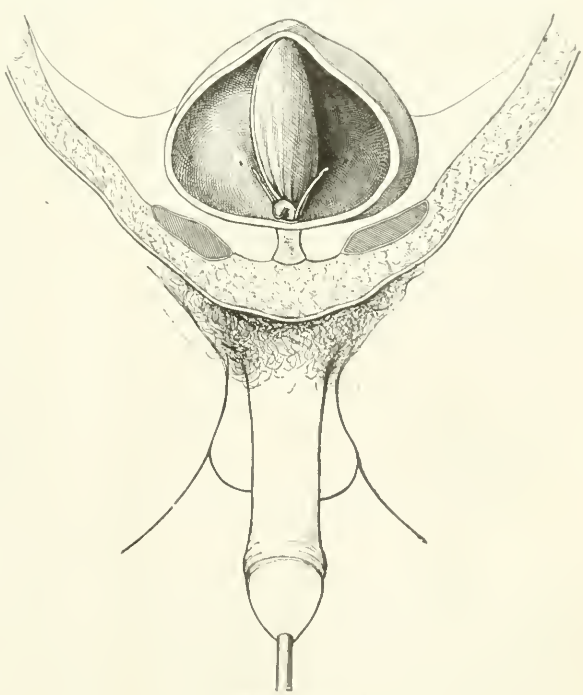


Fig. 6.—The membrane dividing the bladder into two compartments; each of the two catheters in its respective chamber.

3. Remove the entire instrument in the same way that any other rigid instrument is withdrawn from the bladder.

4. Wash the bladder with warm boric-acid solution, 4 per cent.

To Cleanse the Instrument.—1. Rinse the entire divisor in warm water.

2. Release the membrane in the same manner as it was fastened to the shaft.

3. Unscrew the caps of the catheter-carriers and force water through them.

4. Wash the membrane with soap and water; then with warm water, and dry it by pressing it between flat pieces of gauze. It is well to not employ a membrane more than once, but to cover the event of an emergency, it will be well to save membranes that have not suffered any injury from previous use. All membranes should be kept well powdered with finely pulverized talc.

5. The channel for the central shaft may be cleansed by repeatedly pushing cotton through it with the shaft itself.

Practical Applications.—The clinical manifestations in pyæmia or hæmaturia, in the majority of cases, suffice to give very fair presumption regarding the source of the pus or blood. The epithelia found microscopically in the urine serve almost infallibly to establish whether the pus or blood comes from the bladder or the kidney.* But neither the symptoms nor the microscope are able to show whether the blood or pus comes from the right or left kidney. Cystoscopy and ureteral catheterism, when possible, will establish this. But when, as in a large number of cases, not even cystoscopy can be performed, the divisor outlined fully, subserves the purpose, without a dangerous exploratory operation.

Facility of Employment.—That this divisor can be successfully employed by a person without extraordinary manipulative dexterity is shown by the fact that, after seeing Cathelin demonstrate it in five cases, I found no difficulty whatever in its use. In the past ten days I have obtained the urine separately from each kidney in eight patients. In each case I secured more than enough urine for chemical and microscopical diagnosis. In four of the patients the disease was located in the bladder. The largest bladder (female) which I examined had a capacity of 650 c.c.; the smallest was in a male whose maximal vesical capacity was 55 c.c. In this case there was the additional difficulty that the patient was unable to flex his left leg, because of ankylosis of the thigh and knee. Of the other cases, the right kidney was found diseased once and the left in the remaining three.

Of the patients mentioned three were females and five males.

The average time required for obtaining these urines was, in my inexperienced hands, as follows:

Mounting the instrument	2 minutes.
Preparing the patient	3 "
Obtaining sufficient urine from each kidney	10 "

No cocaine or other anæsthetic was employed in any of the cases. Two of these had irritable bladders.

Pain.—Of the eight cases, roughly noted, five had not been examined before. These five include the two with irritable bladders. None of them complained of more than the ordinary discomfort which is experienced on inserting an instrument into the bladder. One went to sleep about two minutes after the instrument was inserted. None of the patients experienced any discomfort after the use of the divisor.

Deeming, even after the little observation and experience mentioned herein, that Cathelin has opened the way to an effective, safe method, one that is also within the reach of the general practitioner, I submit this rough outline of the instrument.

31 West Sixty-first Street.

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*Heitzmann: "Microscopic Urinalysis." Wm. Wood & Co., New York.

THE MOST FREQUENT FORM OF VAGINAL HERNIA; ITS ETIOLOGY AND TREATMENT.

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While they do not constitute affections menacing the life of the patient, vaginal herniæ, especially the two common forms, are often associated with annoying symptoms, conditions, and states. Their origin, prophylaxis, importance, and treatment are not subjects of general agreement. Dependent as they are on the injuries and lesions consequent on labor, and evidencing their presence, as a rule, long after the same, various views as to the origin of certain vaginal herniæ have been based on the presence of uterine displacements and evident lacerations, while theories of an uncertain character have served to settle the etiology of other forms.

The connection between perineal lacerations and rectocele, for instance, is generally discussed without due attention to the important muscular lesions which produce this affection. Therefore, the frequency with which decided perineal lacerations are not accompanied by rectocele must have been noted by all close observers. For a long period the value of the perineum and the relation of its injuries to the condition known as cystocele have also been erroneously estimated. Most striking, from a clinical aspect, is the disproportion between the evident affection and the symptoms in numerous cases. External evidences afford no criterion as to the state of the deeper tissues of the pelvis or as to the annoyance the patient feels or may feel later on. The so frequent correction of these external herniæ without the attention to the real injury; the correction of uterine malpositions without preliminary or subsequent treatment of the other pelvic states which may not be characterized by digitally evident lesions, are therefore not always attended with satisfactory results.

The term *prolapsus vaginæ* is used to cover numerous pathological conditions affecting the wall of the vagina, and, as a consequence, its entity, as a distinct affection, is often hazily understood. An interrelation between prolapsus vaginæ, in its generally used sense, and displacements of the uterus is considered by many to exist. Küstner believes that the uterus cannot leave the pelvis or the vagina if situated in physiological anteflexion. He considers that it must first come into a position in which its axis has almost the same direction as that of the vagina. A retroversion or retroflexion then permits abdominal pressure to cause a descensus of varying degrees. The nearer the portio approaches the vulva, the more is the vaginal canal shortened, and so finally lies outside the vulva as a prolapsus vaginæ, a condition so often combined with a retroversio-flexio. He thus considers prolapsus of the uterus and vagina to result from the retroversio-flexio.

Any pronounced descent of the uterus is accompanied by a descent of the vault of the vagina, but it is impossible, however, to understand why, if a causal relation exists, the lower end of the vagina should so often protrude with a descensus uteri.

Although the presence of a retroflexion may make the origin of a prolapse of the vagina easier, yet Veit considers prolapse of the vagina an independent affection, and considers the vaginal wall to be the factor which pulls the uterus out of its normal position. Against this latter view it may be said that anatomical considerations and surgical experience prove that the parametria, when normal, are of such a character that a prolapse of the vagina is, of itself, incapable of pulling down or displacing the uterus.

Descensus uteri or hysteroptosis, and prolapse of the vagina, though often combined, are two independent affections. The fact that the two are so often co-existent, is no proof that one is the result of the other. Each, however, may occur independently and is due to the same cause, *i. e.* injury during labor and subinvolution. Atrophy or degeneration of certain tissues about the vagina may cause the mucous membrane to lie in folds, as is so frequently the case at climacterium, when there is a resorption of fat and a change in the connective tissues, a disappearance of active elastic fibers, and a loosening of the various relations. Such changes not infrequently occur, too, in younger women. In addition there is a frequent congenital malformation, whereby the lower end of the vagina, the hymen, and the external genitalia, extend beyond the rami of the pubis, constituting a congenital elongation of the vagina. This form, mild in nulliparæ, and often greatly increased in multiparæ, must be distinguished from true prolapsus vaginæ.

Just as hysteroptosis and prolapsus vaginæ should be, in a causal way, considered affections independent of each other,although their etiology is the same, so prolapsus vaginæ and the various forms of vaginal hernia should be differently viewed. The name cystocele is generally applied to any protrusion of the mucous membrane of the anterior vaginal wall extending through the external opening of the vagina, and which is either externally visible or which actually extends beyond the external genitalia. Such a condition, however, may be a congenital elongation of the vagina, a prolapsus vaginæ, or a true cystocele, A close distinction is rarely made, and the two latter terms are usually applied indiscriminately.

Prolapsus vaginæ and cystocele must be distinguished, for a cystocele constitutes simply a hernia of the bladder, as may be seen from a study of the anatomical conditions. Cystocele, too, is independent in its origin of uterine displacements. I am reminded of a recent case of decided cystocele, in a woman fifty-five years old, which had pulled down the anterior vaginal fornix and the vaginal covering of the anterior wall of the cervix, so that this area, too, was a part of the cystocele covering. Tension had elongated the anterior lip of the cervix at least one inch, and yet the uterus was in normal position and not descended. On the upper portion of the cystocele wall intestines could be felt, for the bladder connections with the cervix were entirely loosened. No rectocele was present and no descent of the posterior or lateral vaginal walls.

We may have (1) Cystocele with a normally situated uterus; (2) Cystocele with a hysteroptosis; (3) Cystocele with a retrodeviated uterus; (4) Cystocele with a hysteroptosis plus a retrodeviation of the uterus. In addition we may have cystocele with or without rectocele.

The diaphram of the pelvis is formed of the levator ani and the musculus coccygeus and is perforated by the rectum, the vagina, and the urethra. The rectum is the only one of these three canals really united to the levator ani.

A muscular connection for the urethra and the vagina begins only when they pass through the trigonum urogenitale.

The vagina at its outlet is surrounded by the musculus bulbocavernosus, which is attached posteriorly to the centrum perineale, and which anteriorly surrounds the corpus clitoridis. It is called the constrictor cunni. The pars anterior of the musculus trigoni urogenitalis is situated at the sides of the vagina, its fibers crossing anteriorly in front of the urethra, forming the compressor urethræ. The pars media of the muscle consists of circular fibers arranged about the vagina and the urethra. Higher up the fibers do not unite behind the vagina, but do unite about the urethra alone.

The vagina penetrates the diaphram of the pelvis in the middle of its own length. On its upper surface is the vesicovaginal septum of connective tissue and its close connection with the urethra, the urethrovaginal septum. Laterally, it is bounded by a a vessel plexus and connective tissue, and *by the levator ani.* Only at its lower end has it the above-mentioned intimate relations with muscle fibers. The important relations of the vagina are with the trigonum urogenitale and its muscle, the perineum, the septum urethrovaginale, *and especially with the levator ani.*

The urethra in its lower two thirds is firmly connected with the vagina. Laterally, on either side, passes the levator ani. Lateral to it and surrounding it are the musculus trigoni urogenitalis and the musculus bulbocavernosus. Anterior to the urethra are the plexus venosus pudendalis and the trigonum urogenitale.

The bladder in the newly born is a tube narrowed above into the urachus, which, with the umbilical arteries, holds the bladder close to the anterior abdominal wall. In adults, after descent of the bladder, spaces are formed, which are filled with fat. Before puberty the fundus of the bladder rests upon the cervix, and the upper third of the vagina. In adults only the trigonum vesicæ rest on the vagina and possibly upon the portio. Because of the absence of the prostate, the orificium internum urethræ lies deeper than in the male. Below the bladder are the symphysis, a body of fat, the pudendal plexus, and the urethra. Below and lateral to the bladder are the connective tissues of the parametrium and the muscles of the pelvic floor, *especially the levator ani.* In front of the bladder is found the fascia vesicæ, and the cavum Retzii filled with fat, in front of which is the transversalis fascia covering the posterior surface of the symphysis.

The bladder is held in place by the peritoneum, the fascia vesicæ, the ligamenta umbilicalia, the musculi pubovesicales, and the ligamenta pubovesicalia. It is supported by the vesicovaginal septum of connective tissue, connective tissue, fat, *and the levator ani muscle.* From a study of these relations (Waldeyer), it may be seen that the vagina, except at its outer end, is simply surrounded by connective tissue. The only thing which prevents the vagina from being pushed down by abdominal pressure is the *action of the levator ani muscle* and the character of its connection with the surrounding connective tissues. Atrophy or degeneration of these tissues cause the mucous membrane of the vagina to lie in folds, as is so frequently the case at climacterium, and in younger women, too, when there is a resorption of fat, a change of connective tissues, a disappearance of active elastic fibers, and a loosening of the various relations. Such a condition affects the lateral wall of the vagina, primarily, to only a slight extent. It is only affected secondarily after prolapse of the anterior wall.

After pregnancy and labor there is a disturbance in the anatomical condition of the various structures of the pelvis. The levator ani and constrictor cunni are decidedly stretched and often torn, and, as a result, the narrow vagina is widened, and the original narrow slit becomes a large canal. There is a disappearance of fat, and a flabbiness and œdema of the connective tissues and of the ligaments—that is, subinvolution is observed. Such a condition in the anterior wall, almost always a sequence of labor, permits the filled bladder, *loosened from its fastenings*, to descend and produce a dilatation of the weakened anterior vaginal wall *through the injured levator ani and the connective tissue floor*, which, normally, keeps it in place. The lesions are exactly the same as occur in hernia in the linea alba of the abdominal wall.

This tendency to flabbiness of the connective tissues is a frequent result of labor, and occurs most frequently in individuals who exhibit this tendency as nulliparæ. Gastroptosis, gastroenteroptosis, and ren mobilis have been found to occur frequently in rhachitic and neurasthenic individuals. I have referred to such cases evidencing as nulliparæ a decided tendency to a descent of the uterus and to flabbiness of the pelvic structures, and have referred to the frequency of their combination with abdominal ptoses. To this descent of the uterus, of whatever grade, because of its etiology, I have given, in harmony with the conditions existing in the abdomen, the name hysteroptosis. These patients especially, as well as others, show after labor every evidence of subinvolution, even if the uterus return to its normal size. The ligaments of the pelvis and of the abdomen are loose, œdematous, and flabby, and the muscles of the pelvic floor evidence the same characteristics. Most important, there has been an injury to the levator ani and the musculus trigoni urogenitalis, or else these muscles are subinvoluted. Naturally enough, as a result of the descent of the uterus, or as a congenital condition, retroflexioversio is frequently present, and for this reason main attention has been paid to the displacement, and it has been considered the etiological factor in causing the subsequent changes, while the element of local and constitutional subinvolution and predisposition to flabbiness has been overlooked.

With such cases, as well as with any other case of subinvolution of the pelvic structures, if there has been a stretching of the levator ani or a rupture of the same, a space is immediately formed which furnishes opportunity for descent of the bladder through pressure upon the weak, anterior vaginal wall. The œdematous swelling of the urethral prominence and its protrusion into the vagina are the first evidences. Added to this, the same conditions of œdema exist in all the connective tissue elements uniting the bladder with the abdominal wall, with consequent loss of their support. The erect position, abdominal pressure in emptying the bladder and in defecation, plus the abdominal condition, result eventually in a descent and hernia of the bladder. Perineal laceration with the supposed resulting absence of support of the anterior vaginal wall by the posterior wall has nothing to do with this resulting hernia.

In catheterizing, in these cases of true cystocele, it is perfectly evident that the bladder fills out the dilatation in the anterior wall, and the bladder no longer rests on the levator ani of the two sides, which, normally, are close together along the urethra and the lower portion of the vaginal wall. In cystoscoping these cases it is readily seen that the bladder constitutes a hernia. It is not the descent of the vaginal wall which brings the bladder with it, but the weight of the filled bladder which dilates and stretches the subinvoluted anterior vaginal wall. I have, in numerous instances, found the uterus absolutely normal in situation and pulled down into the vagina only with difficulty, and yet the cystocele was pronounced.

Proof of the fact that the weight of the filled bladder is the cause is shown by the frequent recurrence of a cystocele after anterior colporrhaphy, even though, in addition, a high perineum is restored by plastic operation with a resulting narrow vaginal canal.

Out of the broad general class, prolapsus vaginæ, we must remove the following forms of *vaginal hernia:* (1) The most frequent, involving the lower half of the anterior vaginal wall, the so-called prolapsus vaginæ anterioris, or, better and truly speaking in most cases, *cystocele.* (2) Prolapse of the upper third of the anterior vaginal wall through descent of the intestines (rare). It is only possible when the union between cervix and bladder has been disturbed. This condition constitutes an *enterocele vaginæ anterioris.* (3) Prolapse of the upper portion of the posterior vaginal wall through a descent of the intestines, or *enterocele vaginæ posterioris.* Here the uterus and the lower half of the vagina are not affected as regards their position. The upper part of the posterior vaginal wall, however, is influenced by the intestines in the sac of Douglas. (4) A so-called prolapse or dilatation of the lower half of the posterior vaginal wall containing a diverticle of the rectum—a *rectocele.*

The various forms are usually combined. The lateral walls are rarely affected. In those conditions in which the uterus is normally elevated, in conjunction with these affections there may be an elongatio colli, extending even to the vulva. Primary hypertrophy of the collum is rare. It results usually through tugging on the part of the bladder and vaginal wall. The collum is usually very thin and atrophic, and is due either to atrophy after inflammation or to atrophy due to the above tugging, and occurs only when uterus is originally fixed.

In line with the fact that the etiology of acquired retroflexioversio is an hysteroptosis, it is found that the most frequently noted form is *cystocele with descensus uteri.* Next in frequency is *cystocele,* plus *rectocele.* The latter is due to laceration of the perineum and to injury to the perineal and rectal insertion of the levator ani. Least frequent, supposedly, is *cystocele alone.* My experience, however, shows this last form, existing alone, to be much more frequent than generally stated. A prolapse of the uterus with invagination of the vagina usually occurs only after the climacterium, as a result of senile atrophy of the pelvic tissue.

Even with shortening of the round ligaments, or ventral fixation a cystocele frequently recurs after anterior colporrhaphy. Two factors may be stated as a certainty: (1) The cure of a retroflexion is not necessary to a cure of the cystocele. (2) Treatment of the posterior wall is not necessary to correct the lesion in the anterior wall. Theilhaber treated, surgically, twenty-four patients, almost all of whom showed an elongatio-colli. The anterior colporrhaphy consisted in making the excision extend far, laterally, into healthy tissue. He resected the anterior vaginal wall up to the lateral wall, paying little or no attention to the posterior vaginal wall or to the perineum. Out of twenty-four patients thus treated twenty-two remained without recurrence, the other cases could not be traced. There were no recurrences, in spite of the fact that fifteen cases had retroflexed uteri which were not treated.

The good results obtained by Theilhaber were due (1) to so changing the character of the anterior vaginal wall that the upper ends of the levator ani muscle were brought closely together, (2) to narrowing the vagina, and (3) to removing the thin urethrovaginal septum and so closing the space on the under surface of the bladder, through which this organ formerly descended.

Another valuable method, and one which is of considerable importance, is the *vaginofixation* of the uterus according to the method of Dührssen. Although its value in the case of women past the child-bearing period is generally acknowledged, this favorable opinion as to its worth in younger women is not general. Without going into the question further, suffice it to say that the experience of my teacher, Dührssen, since the perfection of his method and my own experience in thirty cases, leaves no room for criticism. (1) It corrects the uterine displacement; (2) It does not interfere with the normal completion of pregnancy, and the normal process of labor. When done for the correction of a uterine displacement, the purpose of this operation is to attach the fundus of the uterus to the anterior vaginal wall. When, in addition to the main purpose the correction of a cystocele is desired, and likewise when done mainly for the correction of a cystocele, the fundus of the uterus is attached to a lower portion of the anterior vaginal wall, and forms an artificial base on which the bladder rests, and entirely separates the bladder from the anterior vaginal wall. This operation, devised and perfected by Dührssen after various modifications, if correctly done, avoids, theoretically and practically, the posibility of future annoyance.

The vaginal mucosa on the anterior wall of the cervix is incised transversely about three-fourths of an inch above the external os. The upper margin of the incised vaginal mucosa is grasped by forceps, and its connective tissue connection with the cervical muscularis is separated by scissors, after which the finger dissects bluntly between the bladder and the cervix and uterus, up to the reflexion of the vesical peritoneum upon the anterior surface of the uterus. With a knife or with scissors, a longitudinal incision is made along the anterior vaginal wall at right angles to the original transverse cut, which procedure should be done with care, for the bladder lies closely upon the vaginal mucosa. The two flaps thus formed at the union of the longitudinal incision with the transverse incision are everted, and, with the scissors, the connection between the bladder and these two vaginal flaps is separated, and the longitudinal incision may be extended even up close to the outer opening of the urethra. A retractor is introduced between the bladder and the uterus, and the vesicouterine fold of peritoneum is grasped and incised at the median line of the uterus. With forceps, or clamps, the margins of this incision are grasped, and a longitudinal incision is made in the peritoneum, extending up to its connection with the bladder. This connection with the bladder is loosened by blunt dissection, which is easily accomplished, and the longitudinal incision in the peritoneum is exextended still further, until it is at least three to four inches long. The retractor is then introduced through this incision into the peritoneal cavity, and the volsellum, which has held the cervix during these steps, is used to push the cervix down and back, which tends to bring the fundus of the uterus forward into view. If the uterus be adherent, or if it does not come forward, a volsellum is applied to the lower portion of the uterus and traction is exerted. Another volsellum is then applied further up on the uterus, and another still further, if necessary, until the fundus of the uterus is brought through the peritoneal longitudinal incision into the vagina, when the tubes and ovaries may be delivered and brought into view.

The next step consists in attaching the uterus in the desired position. The two aforementioned anterior vaginal flaps may be resected to any degree which is considered advisable, after which two silkworm-gut sutures are applied as follows: On the left side the needle is passed through the left margin of the longitudinal vaginal incision as far anteriorly as it may be desired to finally bring the fundus uteri. It is then passed through the left upper margin of the longitudinal incision in the vesicouterine fold of peritoneum. It is then passed through the uterus at any desired point, passing deeply through its anterior wall, preferably a little below the level of the Fallopian tubes. It is then passed through the right upper margin of the longitudinal incision in the vesicouterine peritoneum and through the right margin of the longitudinal anterior vaginal incision, at a point directly opposite the entrance of the suture. Following the same course a cat-gut ligature or another silkworm-gut suture is passed one-half to one inch above the first on the vaginal wall, passing, of course, the same distance further down through the anterior surface of the uterus. The uterus is then pushed back into the peritoneal cavity and the *incision in the vesicouterine fold of peritoneum is closed with a running cat-gut suture.* Traction is exerted on the two original sutures, and the longitudinal and the transverse incisions in the vaginal wall are carefully closed with running cat-gut sutures, after which the two silkworm-gut sutures are tied carefully but firmly, bringing the uterus into the desired position, and are left in place from four to six weeks. In older women past the child-bearing period, the procedure is the same except that the incision in the vesicouterine peritoneum is not closed, which brings the anterior surface of uterus into contact with the vaginal wall itself, and causes a very firm attachment. It was this procedure, with the consequent close union to the anterior vaginal wall, which caused, in the early days of this operative procedure, disturbances during labor. When, however, the peritoneum is closed the union resulting is formed between the peritoneally-covered anterior uterine wall and the vesicouterine peritoneum, which latter, in turn, is closely united to the anterior vaginal wall. The resulting union is then one between the peritoneal surface of the uterus and the vesicouterine peritoneum, which is the same histological result as is obtained in ventral suspension.

127 East Sixty-first Street.

A Motor Way through England.—A writer in the *Nineteenth Century and After* suggests that a special cycle way should be constructed, as direct as possible, from London, through the center of England, as far as Carlisle, from which it could be continued to Glasgow or Edinburgh, if not to Inverness. The surface of the cycle, or motor-car way to be formed by means of specially hard creosoted wood blocks, with asphalt joints. Compared with a railway, the cost of permanent way construction would be trifling. The question of gradients, embankments, bridges, tunnels, and curves is comparatively trivial, because although this motor-car or cycle way would probably be used for freight traffic, the light weight of such cars, compared to a locomotive and railway train, would permit a very light form of bridge construction to be used. The writer is of opinion that a small annual fee of thirty cents from all the members of the cycle unions and clubs in Great Britain would go a long way toward financially justifying the construction of such a cycle way." The idea seems a good one, and its consummation would, doubtless, be hailed by the majority of the British public with feelings of satisfaction and relief. Something of the same sort should be undertaken here, where motor-car drivers have altogether too much license.

ON THE ERADICATION OF YELLOW FEVER IN HAVANA.

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We read in the Medical Record of July 19, page 81, an article by Dr. W. C. Gorgas on "Mosquito Work in Havana," in which he claims that yellow fever has been eradicated from Havana, and that through the destruction of mosquitos. It is here assumed that yellow fever has been truly eradicated in Havana, and that all cases are truly reported.

No one admires more than I do the great efforts and the splendid results obtained by Dr. Gorgas in the sanitation of Havana, but as a seeker of truth for truth's sake, and regardless of its consequences, it has occurred to me that, although the destruction of the mosquito may have prevented the spread of yellow fever in Havana, the real cause of the *present exemption* of Havana and of the island from yellow fever is due truly to the efficient quarantine work of the United States Public Health and Marine Hospital Service officers. They kept out the fever and, therefore, prevented the spread of it by mosquitos or any other cause. The past history of New Orleans bears out this view. Up to the time of the incipiency of scientific quarantine, from 1879 to 1884, there was yellow fever in New Orleans every year, more or less, because the quarantine methods employed up to that time permitted the constant introduction of cases by vessels without ever giving the city a chance of exhausting one infection before another infection occurred. Since the inauguration of thorough disinfection of vessels, especially since 1884, under the vigorous championship of our Dr. Joseph Holt, the city has been practically free from yellow fever until the infection of 1897, through the Mississippi coast. It took three years for this infection to exhaust itself, and New Orleans is again free from yellow fever. All that was accomplished without any precautions whatever having been taken against mosquitos.

Now it is my firm belief that the same thing has taken place in Havana, through the agency of a perfect quarantine, which has prevented the annual infection of the city and gave the infection a chance to exhaust itself. This view is corroborated by the fact that at the ports of Mantanzas, Nuevitas, Cienfuegos, and Santiago, where the officers of the United States Public Health and Marine Hospital Service kept up a rigid quarantine since the occupation of the island, no yellow fever has developed *this year* any more than in Havana, and yet no *serious* crusade was undertaken at these places against the mosquitos.

In a letter to Professor Chaille, published in the *Tulane Phagocyte* of August, 1902, Lieut.-Col. V. Havard says: "The report that there was no mosquito warfare in Mantanzas, Cienfuegos, and other large towns in 1901 is a very serious error. Special orders were issued for the destruction of mosquitos in all garrison towns. . . . Port surgeons had to report monthly to what extent the existing instructions had been carried out in their respective towns, and with what success."

It is not probable that much was accomplished, as the following information tends to prove: Upon writing for information on this subject to the Surgeon-General of the Army, the following reply was received from Major Walter Reed: "I do not know whether any systematic destruction of mosquitos was carried on in any Cuban port other than Havana."

In a letter, Dr. Glennan says: "I do not understand that any systematic effort has been made to exterminate the mosquitos in other Cuban ports outside of Havana."

Dr. von Ezdorf, from Matanzas, writes: "Upon inquiring of the Health Officer of Matanzas the petroleum used in the city over vaults and cesspools in 1901 did not suffice to cause the entire disappearance of mosquitos in Matanzas."

Dr. Wilson writes from Santiago de Cuba: "During the winter of 1900 and 1901 a systematic house-to-house inspection of the whole city and the immediate suburbs was made, noting the condition of privies, sinks and drains, etc., and pouring crude petroleum in these places and wherever else water was likely to become stagnant. . . . The result was an evident *diminution* of the number of mosquitos in the city *for quite a while*. . . . Since the Americans have left the island nothing has been done to kill the mosquitos."

Surgeon-General Wyman informs me that: "At Cienfuegos the medical officer states that no campaign for the destruction of the mosquitos in that vicinity, before or since May 20, 1902, has been carried on."

Dr. McConnell of Nuevitas, Cuba, replies: "No campaign leading to the destruction of mosquitos has been carried on at this port during 1900 and 1901."

I do not wish to be understood that I believe the work of eliminating mosquitos useless, because I do believe that it *hastened the exhausting of the infection*, but I do believe that Havana would have become free of yellow fever anyhow, and that the *actual exemption* is truly due to the quarantine work that prevented the introduction of new infection.

The following is a list of the epidemics of yellow fever in New Orleans from 1817 to 1899 inclusive—eighty-three years:

YEAR	DEATHS	YEAR	DEATHS	YEAR	DEATHS
1817	809	1845	2	1873	226
1818	115	1846	160	1874	11
1819	2,190	1847	2,359	1875	61
1820	400	1848	808	1876	42
1821	...	1849	769	1877	1
1822	239	1850	109	1878	4,046
1823	1	1851	17	1879	19
1824	108	1852	456	1880	2
1825	49	1853	7,970	1881	0
1826	5	1854	2,423	1882	1
1827	109	1855	2,670	1883	4
1828	130	1856	74	1884	1
1829	215	1857	199	1885	..
1830	117	1858	4,855	1886	..
1831	2	1859	91	1887	..
1832	18	1860	15	1888	..
1833	210	1861	..	1889	..
1834	95	1862	2	1890	..
1835	284	1863	2	1891	..
1836	5	1864	6	1892	..
1837	442	1865	1	1893	..
1838	17	1866	192	1894	..
1839	452	1867	3,107	1895	..
1840	3	1868	5	1896	..
1841	594	1869	3	1897	297
1842	211	1870	588	1898	57
1843	487	1871	55	1899	23
1844	148	1872	40		

I hold that yellow fever in a locality exhausts itself in from two to four years, provided fresh cases, especially virulent ones, are not brought in from the outside, although the material, *i. e.* non-immunes, be still present in the locality.

By studying the foregoing table it will be found that: The infection practically exhausted itself in one year in the years 1822, 1837, 1839, and 1873. The infection practically exhausted itself in two years in 1824 and 1825, 1875 and 1876, 1878 and 1879. The infection practically exhausted itself in three years in the years 1866, 1867, and 1868; in 1870, 1871, and 1872. The infection practically exhausted itself in four years in 1817, 1818, 1819, and 1820; in 1827, 1828, 1829, and 1830; in 1832 1833, 1834, and 1835; in 1857, 1858, 1859, and 1860. The infection practically exhausted itself in five years in the years 1852, 1853, 1854, 1855, and 1856. The infection practically exhausted itself in six years in the years 1846 to 1851.

Therefore, four infections exhausted themselves in one year, three in two years, two in three years, four in four years, one in five years, and one in six years.

Although fresh cases were introduced almost every year reinfection took place only when specially virulent cases were imported.

I do not believe that it would be safe to do away with all quarantine restrictions and rely solely upon the destruction of mosquitos in a port to prevent that port from becoming infected. There have been mosquitos in Havana this summer, I know from private information received, and if no cases of yellow fever occurred it is because the efficient quarantine has kept yellow fever out.

If the contentions of Dr. Gorgas are correct, all quarantines should be cast away and reliance placed on the destruction of the mosquitos. That is what some of our brethren from infected ports say to us of the infectible territory; destroy your mosquitos, so that if you get a case of yellow fever from us it will not spread. It would cost much less than quarantines, since Dr. Gorgas states that it costs only $7,000 to destroy the mosquitos in Havana. But we cannot see it that way.

This is written in no carping spirit of opposition, but is simply an effort to establish the real truth. I have waited patiently for some one to reply to these statements and to analyze the facts. No one has replied. I do so reluctantly, but I cannot allow to pass statements upon which may be based quarantine regulations which may prove disastrous.

I reassert here my thorough belief in the transmission of yellow fever by mosquitos, as demonstrated by the memorable labors of Dr. Walter Reed, his co-workers and followers, but I believe, from practical facts before me, that there is some other means of transmission.

Until these facts are satisfactorily explained and demonstrated to us, we, of the Louisiana State Board of Health, the guardians of the health of the city of New Orleans, the State of Louisiana and of the whole Mississippi Valley, cannot think of altering the present maritime quarantine regulations.

This, be it understood, is an expression only of my personal views in the matter.

Excision of the Knee for Chronic Rheumatism.—Theodore A. McGraw says that if he is consulted by a patient who has an incurable rheumatic affection confined to one knee, and who has no other serious trouble, such as Bright's disease, or general tuberculosis, he does not hesitate to advise resection of the knee-joint. The operation, if properly done, on an otherwise healthy subject, has extremely little danger, and the bones will usually heal by first intention. The patient will rejoice in unwonted freedom from pain, and in about three months in the return of a long-lost ability to use his leg in walking. There will be but a slight limp, and the only great inconvenience experienced will be the projection of the stiff leg when sitting. From a chronic invalid, depending upon external support, he will be transformed into an independent, well, and active man. The author reports three cases, all differing from one another.—*The Hot Springs Medical Journal.*

SOME EARLY STAGES OF THE DISEASE OF INEBRIETY.

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The inebriate rarely, if ever, comes under medical care until he has reached a chronic stage of the disease. He is considered, in this anterior period, willful and wicked, and treated by moral suasion, the pledge, and prayer, and perhaps punished by law, and all without relief. At last he comes to the asylum and under medical care. Five, ten, or fifteen years of the toxic use of alcohol have gone by, the patient is a continuous or a periodic inebriate, has had many attacks of delirium tremens; he has tried every moral means and failed, and yet his faith in his ability to stop at will is unshaken. He comes to the asylum, in his own estimation, not from any inability to abstain on his part, but for some minor affection, and to gratify others who misapprehend his case. Thus, at the start, he gives evidences of mental derangement. When his case is studied, most decided marks of both physical and mental degeneration appear. Congestions, and disturbances of liver, heart, stomach, skin, and other organs, and alterations of the higher functions, noted in changed character, conduct, notions, disposition, and emotions are clearly apparent. The pronounced character of these symptoms of degeneration, with the history of their duration, point to a chronic stage that is present. When these symptoms are noted and carefully grouped, they become the point from which the course of the disease can be traced backward to its origin. Notwithstanding the difficulties of a search down through a realm where every event or phase was supposed to come from wickedness, the great number and variety of acts that point to a regular order of progress and distinct stages in the case show clearly that inebriety, like all other diseases, follows a progressive line of dissolution from a certain origin and development down to chronicity and death. My purpose is to trace some of these early stages of inebriety, show that they can be seen, and preventives and curative measures, applied at this time, give more promise of certain results than at any other period.

It will be understood by all who have any experience in these cases that heredity is the largest and most prominent factor in the causation—an heredity that dates back to inebriate, insane, idiotic, epileptic, or consumptive parents—an entailment of degeneration that is likely to develop into any one of these diseases, depending upon some unknown determining cause; also that inebriety is surely one of this family group, and likely to come from or merge into any one of them. In a study of cases of inebriety, running back into the earliest incipient stages, many and very prominent symptoms appear which may be put down as pathognomonic, and may be divided into two groups: one noted before any spirits are used; the other coming on after alcohol has been used. These are only outline divisions, and point to periods that may extend over years, or be limited to a few weeks. The first may be termed the pre-alcoholic stage, and the second the post-alcoholic period. Probably the latter stage is more prominent, and yet both are psychological and pathological periods that have never been studied from this point of view before. It should be remembered that in nearly all of these cases a pronounced heredity is present. In these stages a number of prominent symptoms appear, and increase up to a certain point where inebriety is recognized, then they change and are lost in other and more distinct signs of progressive degeneration. Thus a child at puberty, or later at full manhood, will develop an unstable brain and nerve organism easily exhausted, associated with a capricious appetite for foods and drinks. This will go on increasing with varied and complex neurasthenic states then inebriety will manifest itself unmistakably and rapidly pass into chronic stages. Or these symptoms of brain instability and food delusions and derangements may appear in previously healthy men, following illness, injury, or mental shock, such as sorrow, grief, loss, and suffering. Some illustrative cases will bring out this phase more clearly:

A man with a marked heredity, both insane and alcoholic, early in his business career began to manifest a strange appetite for unnatural foods, such as decayed meats and large quantities of strongly acid water. He would use one article of food to surfeit, then turn to another. He became very emotional and changeable in manner and disposition. This period of great eccentricities of conduct and use of food and drinks suddenly merged into pronounced inebriety two years later. The food delusions vanished, but other and most prominent signs of mental failure followed. He is now, ten years later, a low, chronic inebriate.

B—— had a doubtful ancestry; showed soon after puberty an unusual liking for rich foods. He would spend all the money he could get to buy rare delicacies in the market; was also very vain of his looks and person; would not drink any form of spirits, but used tea and coffee to excess. His mind was unsettled and full of changing fancies and notions about himself and future. He drank to excess soon after graduating from college, and is now a chronic inebriate in an asylum.

C——, with an epileptic parentage, developed the same food eccentricities at about twenty years of age. He had dyspepsia and showed a mania for taking pills, and was full of delusions as to the effects of foods and drinks on his body. He drank large quantities of water both night and day, and finally became an inebriate.

Each of these cases was thought not to be peculiar, except in their judgment of foods and drinks. They were noted for emotional exaltation and depression, dyspepsia, etc., but this was supposed to follow their excesses, and to be of no general importance.

Another class is, in my opinion, more common. The following are illustrations:

A——, a good business man, who was temperate and apparently well up to forty years of age, suddenly believed that he could indefinitely prolong his life by the selection of foods and drinks. He gave this subject all his leisure time and thoughts, and was a monomaniac; soon emotional changes and conduct followed, and he drank to excess. His food mania disappeared and he became a periodical inebriate.

B——, a lawyer, temperate, well; at thirty used food to great excess, had an acute attack of dyspepsia. Then he ignored all solid food and lived on gruel and liquid foods in small quantities. From this time he imbibed many delusions, and his brain and body showed marks of debility. A physician ordered spirits as a remedy, and inebriety was the result. I have met with many cases of this kind, in which inebriety was preceded by similar delusions in men of apparent good health and vigor, and which soon merged into either alcoholic or opium inebriety. In these cases no particular cause was traceable to account for these delusions and alterations of brain function.

Another class is noted in which these symptoms follow some distinct cause, and end in the same way, as in the following:

A——, with consumptive heredity, was a temperate, hard-working man up to thirty years of age, when he was greatly prostrated by the death of his child. After recovery he manifested great anxiety to find medicines that would relieve some undefined state of his body. He became very fastidious about the quality and character of food eaten. He went to the butcher and inspected all the meats purchased, and was very particular about the preparation of food and excitable if it was not done according to his will. He was very nervous about little things, and his disposition and temper changed. Finally he became a periodic inebriate, and is now serving out a term of imprisonment for assault committed during a drinking paroxysm.

B—— was a merchant, temperate, and well up to forty-five, when he suffered from concussion of the brain. A year afterward he developed dietetic delusions and lived on separate articles of food and special forms of drinks from plants and shrubs. His mind was changeable and he conceived that clothing was dangerous after it was worn a short time. He put on new suits every week, and was in a state of constant alarm for fear of disease from poison. He suddenly drank to intoxication, and became an inebriate at once.

C——, with insane ancestry, after an attack of typhoid fever was alarmed for fear of a return of the disease. He manifested various delusions of food and drink as a source of contamination from the poison of this disease. He ate to great excess one day, then abstained the next, sought all kinds of quack remedies, and finally drank to excess and was an inebriate.

A clergyman, after an attack of pleurisy, developed the same symptoms, principally dietetic and medical delusions, which ended in inebriety. An officer in the army, after a period of great suffering in prison, became an epicure, with delusions as to the quality and value of food and of the care of the body, which two years later developed into inebriety. A banker lost all his property, and soon after a morbid fear of death and desire to avert it by food and drinks possessed his mind, ending in inebriety.

In these and many other cases that I have seen, the history of the incipient stages showed these same mental disturbances in relation to foods and drinks. In some cases delusions with regard to the care of the body, and sudden impulsive ambitions to outstrip others in strength or grace or beauty; or morbid fears of death and delusions of specific medicines to prevent it. I have found this peculiar delusion as to the power of remedies, and the possibility of foods and drinks to perpetuate life and keep away disease, present in clergymen and literary men in many instances which ended in inebriety.

Morbid appetites and unusual tastes in youth and early manhood are very strong hints of inebriety, which may go on, or be checked by some unknown causes. The early history of many cases point to great mental activity before inebriety began, in addition to these food delusions that have been described. In one case a merchant who, from being a very quiet man, after the appearance of food delusions seemed to have delirium of work, which lasted over a year, then merged into inebriety. In another case an unusual desire to be noted was associated with his delirious food impulses. Thus the more accurately the early history of inebriates is traced, the clearer the evidence of a progressive order of symptoms appears before spirits are used, and the subject assumes a sudden enormous expansion, as this new realm of psychological forces is seen and comprehended.

In the second group, or post-alcoholic stage, the symptoms of inebriety after alcohol is used are recognized more generally. In this class the so-called moderate drinker is prominent. When he is studied carefully, his condition and symptoms are only found to vary from the chronic case in degree. The delusion of power to stop at will is noted in the chronic inebriate and the moderate drinker. A certain number of moderate drinkers continue in this state a life-time, and suppose it is owing to superior will power that they do not become chronic cases. Literally, it is the absence of some peculiar exciting cause. As, in smallpox, a certain number of cases who are exposed do not take the disease; a certain number of cases with symptoms of incipient phthisis never go on to full development, so the moderate drinkers who do not become inebriates are rare exceptions to the rule. Under all circumstances, the moderate drinker transmits to the next generation a weakness that is sure to appear as one of the allied neuroses. The symptoms of this stage of moderate drinking vary widely, but are all signs of change or breaking down. Delusions of foods and drinks, of strength, of superior character and judgment, with alterations of character, conduct, motives, and a steady failure of the higher brain functions, seen in little things, emotional changes, states of exaltation and depression, great pride in dress and surroundings, or the absence of it are common. In brief, the history of the moderate drinker reflects nearly all the various delusions and degenerations of the chronic inebriate The skilled psychologist can trace these in outline in this stage of the moderate use of spirits. In America this stage of moderate drinking is generally short, the slightest strain or drain on the nervous system precipitating the case into a chronic one, or death occurs from some intercurrent affection.

Another class of cases consists of those who have been profoundly intoxicated or poisoned by alcohol, then abstained for an indefinite time, and finally become inebriates. This period is full of hints and signs of oncoming inebriety. This class have a peculiar interest, because many very prominent temperance workers come from it, and not a few sensational preachers, lawyers, and literary men are found in this shadowy borderland of disease. When these cases come under observation, a new continent of psychological facts appears. The following are illustrations:

A——, a distinguished temperance lecturer, used alcohol to great excess for two years, then abstained for twelve years, becoming famous in the lecture field. He drank, and came under my care. From a study of the interval of sobriety it was found to be marked with symptoms of progressive degeneration, that of necessity would develop into inebriety or some one of the family group. Prominent was the almost sublime delusion in his strength to resist all temptation to use spirits again, with constantly increasing egotism and alternate activity and indolence. For days he would be plunged into the deepest depression unless on the lecture stand, where he would appear in the highest spirits and in a state of great mental exaltation. He was at times very avaricious, then generous, and all his conduct and character seemed to grow more uncertain, although his work on the lecture stand seemed much better. He was full of delusions of the care of his body, of food, of drinks, clothing and sleep, and steadily lost faith in the value of honesty or respect for his word. At times he would borrow oney and refuse to repay it. He recovered and went back to the lecture stand, but he was a chronic inebriate, with but little hope for the future. B——, a man of forty, drank to intoxication, continued in moderation for several months, and then abstained. Gradually he gave up his work (that of a merchant) and became a lay preacher. He exhibited great egotism and desire for notoriety, and would sacrifice everything for an opportunity to preach. His private life was full of petty selfishness and dishonest dealings, grasping, tyrannical, and changeable impulses. He ate and drank in the same erratic way. All this was foreign to his usual manner and conduct. He became an inebriate after an interval of sobriety lasting eight years, and remained so until death. In both these cases the first intoxication had started a train of defects that continued on through the free interval of sobriety, and could have been recognized by the medical examiner.

Another case illustrates a class of which I have seen several. A——, a physician, drank to excess at his graduation, then became an abstainer. He was conscious, from that time, of a great change in the control of his appetite for food and drink. He was very uncomfortable when hungry and thirsty—was irritable, nervous, and unreasonably excitable until this demand was satisfied. This grew more and more imperative, and he was very careful to eat with regularity, and thus save himself from these bad feelings. To his friends, he grew more irritable, and at intervals was very moody, dull, and bad-tempered, and ate voraciously, also using large quantities of tea and coffee. This lasted for six years. Then he had a paroxysm of drink, and soon became a periodical inebriate. The incipient stages in these cases cannot be mistaken, and the careful observer will find in many circles men of talent and often of prominence who have all the symptoms of approaching inebriety, or even inebriety itself, only they do not use spirits.

In the periodical inebriates and the irregular impulsive reasoning drinkers there are always many and varied symptoms which show the march of dissolution and the approach of the drink paroxysm with more or less certainty. Those engaged in treating inebriates can anticipate the return of the drink craving by symptoms that are fixed and unchanging. So expert do they become in certain classes as to be able, days in advance, to predict the drink storm. This study of early symptoms in inebriety must of necessity be only an outline, for the reason that the inquiry was begun in the fully-developed case and carried back to the early stages, depending on the memory of the patient and friends. When these statements were generally uniform and consistent with the later progress of the case, they were put on record as entitled to confidence. In this way outline forms of a distinct stage of inebriety have appeared, before unknown, except as a period of great wickedness. This incipient stage may be briefly noted as one in which the higher brain centers gradually lose the power of performing their higher and more complex functions. Varied forms and states of neurasthenia, with food delusions, produce exhaustion which opium or alcohol quickly relieves. The injury and change is in the brain centers in most cases, depending upon some inherited defect in cell growth or special diathesis, and starting into activity from unknown causes. Beginning long before alcohol is used, and accelerated into chronic stages by this drug, or kindled into activity by the first use of these narcotics, it becomes the disease of inebriety, characterized by an insane and maniacal impulse for relief from this nameless pain and agony of the degenerate nerve centers. Practically, the recognition of this incipient stage of inebriety opens up a field of possibilities for the cure and prevention, a fact of the greatest importance. As an illustration, the wild, impulsive, irritable boy, who seems to have no control of himself, and goes about almost lawless, that is sent to sea or to the army, workhouse or prison, and comes back later a chronic drunkard, might have been saved if the medical man had been called in, and recognized in these symptoms of approaching inebriety. The young man just entering business or a profession, who has eccentricities of diet, clothing, or conduct, which excite ridicule and ostracize him from the sympathy and friendship of others, becomes an inebriate. Had these symptoms been recognized, and had he been placed under treatment, this would have been prevented. Or take a more common illustration: The over-worked business and professional man, who finds all his previous habits, character, and motives changing, who has dietary delusions, and who is recommended bitters and spirits by the non-expert physician, and soon after finds that he cannot stop the use of stimulants and is an inebriate: or the still more dangerous practice of traveling abroad in the wine countries of Europe by men who have all these symptoms of nerve and brain degeneration, with nutrient disturbance of both mind and body, the result of which, in most cases, is the development of inebriety in the most decidedly chronic stages.

The advice to travel is often fatal to this rapidly-increasing class of sufferers. All these cases should come under careful examination by the physician, the heredity and mental and psychical hints of the present should be studied as carefully as the state of the heart or the nutrition of the body. The history points out stages where the prevention and cure would have been an easy matter; but later, when they come to the asylum, a degree of degeneration has come on in which little can be done that will prove permanent. To one who studies these cases carefully, comes the most profound conviction of a disease present which, following a regular order of progress from its origin to the termination, can be seen and traced by the symptoms. Stages of beginning and progress will be observed when medical skill and art are potent and available for cure and restoration, and later, stages where little can be done except to house the patient and keep him from injuring others. To call attention to this early incipient stage of inebriety, to explore and map out its boundaries, is the pioneer work in the great unexplored "dark continent" for scientific men of to-day. In this first study of the early stages of inebriety I have sought to make prominent the following facts:

1. The study of inebriety reveals a well-marked disease, passing through various stages, traceable by many and complex signs and symptoms.

2. The incipient stage seen before spirits are used is marked by dietetic delusions and other symptoms of nerve and brain irritability, all of which seem to depend on heredity or some obscure injury to the nerve and brain centers.

3. A group of symptoms can be found in most cases that may be termed pathognomonic, and will be seen in the later stages fully developed.

4. These early symptoms appear after the first toxic use of alcohol, and in some cases go on to full development, or are held in abeyance by some unknown force.

5. Practically, the recognition and study of this stage opens up a field of prevention and cure that will attract great attention at an early day.

THE X-RAY.

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A Geissler tube is a glass tube, hermetically sealed, and having fused into each end a platinum wire. Gases at different degrees of attenuation, within the tube, exhibit various phenomena when electrical discharges take place between the platinum wires within the tube. With a view toward the investigation of the phenomena of highly attenuated gases during the electrical discharge, Crookes designed a modification of the Geissler tube, in which the platinum wire ended on the one side in a square plate of platinum, and on the other in a slightly cupped aluminum plate mirror. In some of these tubes the wires ending in the platinum plates were increased in number to two or more. The tubes were exhausted to various degrees of pressure, in some cases an almost perfect vacuum being attained.

When an electrical discharge is passed through a Crookes' tube in which the exhaustion is as low as 2 mm., the negative pole is surrounded by a narrow layer, and then by a relatively dark-bluish layer, the rest of the tube being filled with layers of reddish-yellow light, separated by dark spaces; as the rarefaction proceeds, the bluish light extends and, under some circumstances, fills the whole tube. The light proceeds from the negative electrode to the positive. When the vacuum is almost complete, the nature of the phenomenon is greatly altered. The light now proceeds from the negative electrode in straight lines, and wherever it strikes the glass of the tube, it excites the most brilliant fluorescence. The dark region surrounding the negative pole is the scene of a most violent transport of molecules repelled from the negative electrode. The cathode may be so shaped and placed that the molecules, always traveling at right angles to its surface, are caused to fall on a definite position on the glass. This region of the tube is then illuminated with a great phosphorescent light. There has been a great deal of discussion during recent years as to whether this is really due to molecules traveling within the tube, or whether it may not be due to longitudinal vibrations within the ether. Crookes advanced the theory that there existed a fourth state of matter, or the ultra-gaseous state, which he calls radiant matter. Professor Röntgen, in working at the subject, discovered that the light from the phosphorescent area of the glass contained some form of radiation that possessed extraordinary properties. It traverses paper, wood, aluminum, but not most metals; it is not regularly reflected or refracted; objects are more or less opaque to it, according to their physical density; it makes fluorescent substances fluoresce; and it affects the photographic plate. If the hand or arm be placed between the light and a photographic plate, the rays will penetrate the soft parts quite readily, and the bones will offer more resistance, so that a shadow of the skeleton will be photographed on the plate.

What the nature of this radiation is, if radiation it be, is not yet clear; some think it due to an actual permeation of the transparent body by molecules from the source of light; and others think it entirely a phenomenon of stress in the electric field.

With an increase of exhaustion, the potential necessary to cause a current to pass diminishes till a certain point is reached at which the pressure represents the exhaustion of least resistance; from this point, the exhaustion being continued, the resistance continues to increase till a point is reached at which the current cannot be made to pass at any obtainable potential. When the rarefaction has attained 0.002 mm. the current just passes even with a potential of 11,330 volts, while with an exhaustion of 0.000055 mm., the nearest approach to an absolute vacuum ever attained, it is impossible to produce a discharge even with a potential of 70,000 volts. The enormous potentials necessary to produce the discharges in the Crookes' tubes used in the production of the *x*-ray may be approximately estimated when we remember that it requires 70,000 volts to produce a spark of one inch in air, and that the length of spark is proportional to the square of the voltage. This is only approximately true, as there are other variable factors that enter into the calculation.

The source of electricity may be either a static machine or an induction coil. In the case of the static machine, the amount of current that the machine is capable of accumulating is proportional to the square of the area of the electrodes. From this it may be readily seen that the length of spark that a given machine can be made to produce is proportionate to the size of the electrodes. Thus, if the electrodes are capable of accumulating a sufficient charge to produce a spark of, say, two inches, then, no matter how much electricity is brought to that electrode, it will leak into the surrounding air when the charge on the electrode has reached the maximum. If a body at a lower potential be brought to within two inches of this charged electrode, the charge will escape over the intervening gap in the shape of a spark; and subsequently as quickly as the charge collected on the electrode has reached the point at which it is sufficient to produce the spark the phenomenon is repeated, and so on, *ad infinitum*. If, on the other hand, we increase the area of the electrode by placing it in electrical communication with the plates of a leyden battery, we will be able to get a much longer spark from the same source as before.

In the case of an induction coil, the length of spark depends directly upon the voltage in the secondary coil when the circuit in the primary coil is broken; for the alternate current in the secondary coil when the circuit in the primary is made is too feeble to penetrate the tube. This is not true for large coils, where we get an alternating discharge, and also where the coil is run upon an alternating current without an interrupter the discharge is equal in both directions. The difference in the effects produced by the coil on the one hand, and the static machine on the other, may be briefly stated as follows: In the former a spark is produced every time the primary circuit is interrupted; and in the latter a spark is produced every time enough electricity is accumulated to overcome the resistance in the circuit. Thus, in the coil, the number of sparks depends entirely on the number of interruptions in the primary circuit; in the static machine the rate of discharge depends on the rate at which the electricity is supplied to the electrode, the square of the area of the electrode, and the resistance in the circuit. Here we come upon an important consideration; for, whereas the rate of discharge in the case of a coil will be the same for any tube, it follows that the quantity of current passing in a tube of low resistance will be greater than in the case of a higher tube; but in the case of a static machine, the rate of discharge will regulate itself to the resistance of the particular tube that is placed in the circuit, and, therefore, the amount of current for a given tube will be constant at all times; the number of discharges increasing and the potential decreasing as the resistance in the circuit is lowered, where there is a constant rate of supply, and at no time will there be a greater difference of potential in the machine than just sufficient to overcome the resistance in the circuit. This difference in the conditions met with in the actions of the coils and static machines might account for the greater proneness of coils to produce burn, that some observers claim to have noted.

The measure of a tube is determined by its resistance as compared with air. Thus a tube that will require the same potential to penetrate it as will produce a spark of eight inches in air is called an eight-inch tube. There are some important differences in the tubes now used as compared with the original Crookes' tubes. The positive electrodes are now made of platinum, sometimes combined with iridium, and the cathode is arranged to propagate the rays at an angle to the anode or other target. Some tubes have two cathodes, with a view toward increasing the concentration of the rays in a given direction. Tubes are called high or low, according as they offer more or less resistance to the passage of the current; this is determined by the degree of exhaustion beyond the exhaustion of least resistance. It has been found that the high tube has the greater penetration, *i. e.* that it will penetrate substances of varying resistances with more uniformity, and therefore tends to level their densities. On the other hand, the low tube has the opposite effect, and tends to exaggerate the difference in intensity in the various substances traversed. Low tubes produce more burn than high tubes. The degree of attenuation of the medium within the tube determines the resistance, which might be so great as to render the tube impenetrable. Tubes are made in which the degree of vacuum may be varied within wide limits. In these tubes there is a small tube fused into the larger one and communicating with its inner space. This small tube is sealed at the outer end and contains a small quantity of caustic potash. The large tube is exhausted by means of a pump, whilst the small tube and its contents are kept red hot. When the greatest degree of exhaustion possible has been attained by the pump, the tube is sealed and the small tube allowed to cool. As the caustic potash cools it absorbs the last trace of moist vapor in the large tube and a high vacuum results therein. If at any time the vacuum in the tube becomes too high, the caustic potash is heated by means of a flame or current, whereupon it gives up some of its contained moist gas, causing the pressure in the tube to gradually rise till the spark can pass. If the pressure is increased to the point of least resistance, the discharge will be seen to take place in the shape of a thin, blue, luminous wave. The strength of action of the light from a tube varies inversely as the square of the distance of the tube from the object.

The manner in which the rays affect the tissues is a matter of vague speculation at the present time. Some think that the effect is produced by the projection of molecules into the tissues; some that it is electrical energy that is projected; some that the vibrations cause the tissue elements to oscillate in a cycle out of harmony with their regular molecular motion, thus causing a disintegration of the molecular structure; some that the *x*-ray produces the ultraviolet ray within the tissue by a process of interference; and finally, though probably not correctly, the action has been considered due to the setting free of ozone within the tissues by the rays.

The modern, and, at the present time, generally accepted theory is that the rays are composed of negatively charged corpuscles or electrons. A fact of some significance is that M. Goldstein has demonstrated that at the place where the rays impinge there is formed a thin layer of ultra-violet light.

Herr Schmidt holds that the cathode rays have a mark reducing power, and do not act by producing ultra-violet light, but more probably by saturating the electrolytic valency of the substance.

153 West 46th Street.

INFECTIOUS BRONCHOPNEUMONIA.

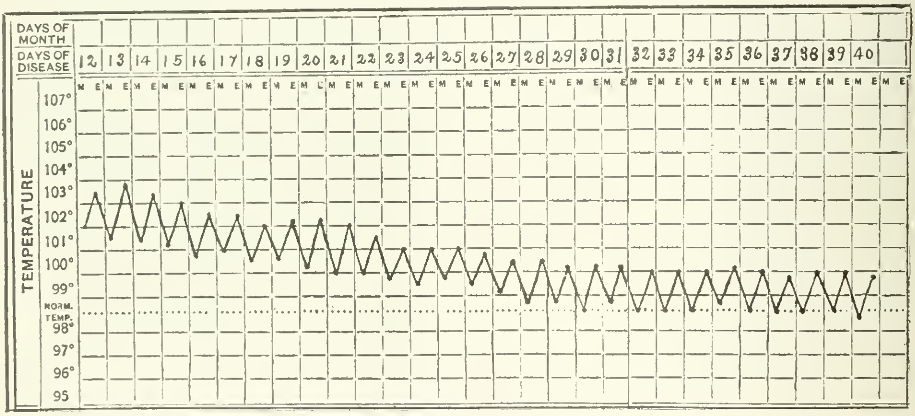
A REPORT OF SIX RECENT CASES.

By D. W. WYNKOOP, M.D.,
NEW YORK.
ATTENDING PHYSICIAN OF NORTHERN DISPENSARY.

During the last week of July I was called to attend two cases of illness occurring in children of nine and six years of age respectively. Their history elicited the following facts:

Up to the time of their illness they had enjoyed excellent health; previous to being at their country home (situated not far from Barnegat Bay), they had spent almost a month at Atlantic City; during this time, so far as the mother knew, they had not been exposed to any disease; she knew of no illness occurring in the hotel at which they stopped; the railroad journey from Atlantic City to their country place had been made in a Pullman car, of which they were the only occupants. The night of their return Case No. 1 (a girl of nine years) complained of being tired and chilly, and she was put to bed. The next morning an attack of vomiting and a cough were the only symptoms which presented themselves; vomiting subsided, but the cough increased in severity during the next few days, and with it a gradually increasing febrile condition. I saw Case No. 1 for the first time eight days after the onset of her illness. I found her sitting up in bed playing and, apparently, very cheerful, except for a dry cough, which hurt her. There was no suffusion of the conjunctiva or other sign of coryza present. My surprise was considerable when, on counting, I found her respirations 40, pulse 124, and temperature 103°.

The physical examination of her chest showed coarse and subcrepitant râles over both lungs in front and behind, and slight pleuritic friction râles over the apices of the left lung, and a diagnosis of bronchopneumonia was made at once.



Case No. 1

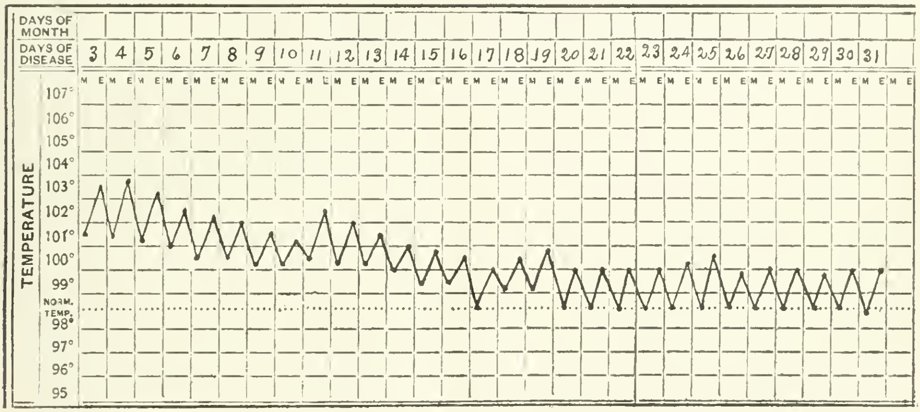
From Case No. 1 my attention was directed to the younger sister (Case No. 2), who, the mother told me, was "a little out of sorts," and had been for the last two days. On examination I found a temperature of 103°, pulse 130, and respiration 34. She also was in a cheerful mental state. The physical examination of her lungs showed a small central area of consolidation of left lung, and a diagnosis of pneumonia was made.

The similarity of the two cases at once suggested to my mind the likelihood of an infectious form of this disease, and I deemed it wiser to quarantine the two children at once, to prevent, if possible, the spreading of the disease to the rest of the family, and, in particular, to the youngest child, a little girl of three years. This was done, and two trained nurses were put at once on the case. The course of the disease in Cases Nos. 1 and 2 went its usual way (see charts of temperature). No. 1 proved much the more serious (at one time a fatal issue seemed imminent), but both finally gave way to treatment, and at the end of the third week the lungs of both cleared up and the cough ceased. Not so with the afternoon temperature, however. This seemed to have come to stay, but its alarming feature was discounted, as convalescence went on well and weight increased in both Nos. 1 and 2.

On the eighth day of August Case No. 3 came down—the youngest child, age three years. She began with a temperature of 103°, a severe laryngitis, and a very croupy cough. For two days the infection seemed to limit itself to this portion of the respiratory tract, but gradually it worked its way down till a general bronchopneumonia developed, which under early treatment ran a more rapid course, terminating favorably.

On the twentieth of August Case No. 4 came down, an adult of about twenty-eight years of age. She was one of the trained nurses in charge of the patients. The night previous she had gone to bed feeling very wretched. When I first saw her she spoke of having had a chill in the early morning, which had been followed by violent pains all over her body, but more particularly in her back. (This latter remained a constant factor for over a week.) There was slight nausea but no vomiting. Her voice was little above a whisper, though she did not complain of her throat being sore. The temperature at the onset was 102.6°, pulse 126, and respiration an irregular 40 to the minute. The physical examination of chest showed roughened breathing over both lungs, but no râles. These developed on the second day, with a tight and painful cough. By the end of the third day there was a general bronchitis, reaching down to its furthest extent in both lungs. As her case progressed, the chief difference between it and an ordinary bronchitis seemed to be in the impossibility of liquifying the cough. Under the administration of heroin the frequency of cough would be diminished, but the rest given to the inflamed tubes did not seem to render secretion any less tenacious. Her laryngitis continued for about a week, and it was ten days before the bronchitis subsided and the temperature fell to normal. For three weeks after the initial attack there was a slight afternoon rise of temperature. In Case No. 4 we had a clear enough history to point to an attack of influenza of the bronchial type. In Cases Nos. 1, 2, and 3, however, there was little to suggest anything except a very infectious form of microorganism at work destroying lung tissue. In all four cases quinine had been given in some form or other from the very start.

To this list of four cases I can add two others which I saw in consultation on Long Island this summer. One was in an adult and the other in a child of the same family. The case of the adult ended fatally. In both these cases the symptoms were the same as those of my Cases 1, 2, 3, and 4, even to the extent of having contracted the disease at Atlantic City. In these two latter cases I was fortunate enough to get blood examinations made, which showed, besides a diminution in number of red blood cells and hæmoglobin, a leucocytosis, and, scattered throughout the specimen, the bacillus characteristic to influenza came into view. The blood specimens were taken at the height of the afternoon temperature. The printed charts of Cases 1 and 2 served as a type for all.



Case No. 2.

Conclusions.—In looking back over these cases, which are at least out of the common, several thoughts formulate themselves in my mind. This disease is highly infectious in young children. The period of incubation is about twelve days (this deduction is made from Case No. 3). The attending physician would have little chance of making a correct diagnosis in a single case. In all cases there was an absence of coryza at the onset, and only in adults was the severe pain in the back spoken of. The disease in most cases gained its first apparent foothold in the larynx, and no amount of carbolized steam inhalations or quinine would alter its course a single degree. Without question it is systemic, with the bronchopneumonia its local manifestation. The prognosis is good, except when the case has been neglected and is in want of proper treatment. Proper treatment calls for the same care and local measures as would be used in an ordinary bronchopneumonia. Quinine seems to do little good, except as a stimulant. Its effect on the bacillus is apparently nil. In children we can look for an afternoon temperature for six weeks after the lungs have been cleared up and the cough has ceased. This temperature does not affect the general health, and they will even pick up the weight they have lost during the illness. Unlike ordinary influenzas, there is no mental depression following. In other words, you would not know they were ill unless you happened to take their temperatures at the right time.

Is it wise to send healthy children, or adults, for that matter, to a place which is known as a health resort? Is it not reasonable to expect that just such a thing would happen? The physician rushes his patient off at the first possible moment to his favorite health resort with the advice that they must stay out of doors as much as possible, and cheers them with assurances that the cough and afternoon temperature will gradually wear out. What is more natural for one who has been cooped up for weeks, or possibly months, to have yearnings for society, companionship—in other words, to join the throng on the "board walk"? They do it, and it is to be expected that while out on parade fits of coughing and sneezing will be easily induced by the gentle sea breezes.

In writing up these cases, I have striven more to produce a pen picture in simple language than a pyrotechnical display of medical enthusiasm. I trust the report will find its way into the hands of that lonely practitioner who, unaided, is groping his way against an afternoon temperature to which he can put no name which brings satisfaction to self.

Post-Graduate Course in Physical and Dietetic Methods of Treatment.—This course, inaugurated last year at Baden-Baden, Germany, proved so popular that it is to be repeated this year, commencing October 13. The course continues for about eight days.

Progress in Public Hygiene.—Dr. Samuel W. Abbott, the well-known sanitarian, published in the *Boston Medical and Surgical Journal*, at the beginning of May, a series of articles treating of the above subject.

The following data relative to the prevalence of smallpox, as determined by the mortality returns of different countries, are of interest:

Group I. German Empire.—The smallpox mortality of the German Empire is available for 1886 and the succeeding years. That of Prussia for the years 1880—1885 was considerably higher than that of the whole empire during the succeeding years. The highest smallpox mortality in the fourteen years of record was only 4.2 per million in 1886, and the lowest was .1 in 1897.

Scotland.—The highest death-rate from smallpox in Scotland in the 20 years was 31.5 per million living in 1894, and in two years, 1890 and 1891, there were no deaths from this cause.

Ireland.—The highest smallpox mortality in this country was 75 per million in 1880, and the next highest 31.8 in 1895, and in four years there were no deaths from this cause.

Sweden.—In Sweden the mean annual death rate from smallpox for the twenty years was 9.3 per million, but if the period is divided into two parts of ten years each, the death rate from smallpox in the first half was 18 per million or 15 times as great as that of the second half (1.2 per million).

Switzerland.—The death rate from smallpox has been exceedingly variable, ranging, during the nineteen years of record, from only .3 per million in 1895 and 1897 to 149 per million in 1885.

Holland.—Here, also, the range is extremely variable; there were no deaths from smallpox in 1899, but in 1883 there were 673, or 160 per million inhabitants.

England.—In England the smallpox mortality has varied from as low as .8 per million in 1897 to 119 per million in 1881, the mean for the whole period being 33.8 per million, and was the highest of this group.

Group II. Italy.—The figures of Italy include the thirteen years from 1887 to 1899, and show a high, but diminishing mortality from smallpox, the highest being that of 1888, or 612 per million, and the lowest 7 per million in 1899, the mean of the thirteen years being 179.

Japan.—In this country the extremes are still greater, ranging from as low as .6 per million in 1890, to 1,122 per million in 1882. In the year 1879, not included in the table, the death rate from smallpox was 3,060 per million, the total number of deaths from smallpox in that year being 113,228. The mean death rate from smallpox for the seventeen years of record was 201 per million, or, if 1879 is included, 347 per million.

Belgium.—In Belgium the highest death rate from smallpox in this period, 749 per million, was in 1880, and the lowest, 20 per million, occurred in 1896. Even this lowest rate was nearly five times as great as the highest rate of the adjoining country, Germany.

Austria.—During the nineteen years of record the mortality from smallpox ranged from 962 per million in 1882 to 36 in 1896.

British India.—In this country, with a mean population of about 216,000,000, during the 20-year period, 2,057,227 persons are known to have lost their lives from smallpox, and there was no single year in this period in which the deaths from this cause were less than 40,000. In the two single years, 1878 and 1879, preceding this period, the deaths from smallpox amounted to more than half a million (505,337), while those of 1883 and 1884 were still greater in number. Even in the best year of the period, the smallpox death rate was forty-three times as great as that of the highest year in Germany, and the mean mortality from smallpox (475 per million) was 264 times as great as that of Germany.

Hungary.—In Hungary the record is incomplete, but for the five years of record the mortality from smallpox ranged from 932 per million in 1887 to 69 in 1893, with a mean death rate from this cause for the ten years of 516 per million.

Spain.—In Spain the record is also incomplete. The smallpox death rate showed less variation than in any of the other countries. In no one of the years of record was it less than 285 per million, and the mean death rate from smallpox in these years was 605, or 336 times as great as that of Germany.

Russia, France and Denmark.—The published records of these countries are quite incomplete. Those of Russia, in Europe, for the six years, 1887—1892, show that 90,934 deaths from smallpox occurred in those years, which was equivalent to a death rate from this cause of 175 per million.

In France the records do not pertain to the whole country, but to the larger cities, and in these cities, with a population of about 9,750,000, there were 17,013 deaths from smallpox, or a mean annual death rate of 213 per million. It is no wonder that the German medical officers are wont to point out with pride the distinction between the conditions of the French and the German cities in this respect, and the reports of the Comité Consultatif d'Hygiène of France occasionally contain mournful admissons of the same fact.

In Denmark the records pertain only to the towns, 74 in number, with a mean population of about 725,000. The deaths from smallpox in these cities in the twenty years, 1880—1899, show a very low annual death rate from this cause of only 4.3 per million.

Blood in Its Relation to Surgical Diagnosis.—A E. Woehnert says that, other things being equal, the patient whose hæmoglobin is near the normal point has a better chance to withstand the shock of a severe operation than one whose iron is markedly deficient. The Justus test is of value in suspected syphilis, and depends upon the diminution of the hæmoglobin in specific cases, when mercury is administered. The study of the number and kind of leucocytes is the most interesting and important part of the blood examination to the surgeon. In all pus infection we have a leucocytosis of a polymorphous variety. In a number of appendicitis cases reported last year, in which blood analysis was made, when the leucocytes numbered 15,000 or over, pus was found. The blood of cancer, when cachexia is present, often shows a leucocytosis, even when secondary infection or ulceration has not occurred. The study of the erythrocytes, which show considerable change in size and shape, will help to differentiate. In some obscure cases when we wish to know whether we have to deal with typhoid fever, appendicitis, or some other inflammatory abdominal condition, blood analysis is invaluable. The Widal reaction is diagnostic of typhoid fever, polymorphous leucocytosis of appendicitis or other inflammatory process. The presence of an eosinophilic leucocytosis may be diagnostic of trichinosis.—*Buffalo Medical Journal.*

Three Cases of Achondroplasia.—A. Jeffreys Wood and Herbert M. Hewlett report three cases of disease, and illustrate their article with pictures of the patients. In these dwarfs the arms and legs are shorter than normal, and the tissues seem redundant, often lying in folds over the shortened bones. There is a sulcus at the root of the short, thick nose; in the hand, the fingers do not lie parallel, as in a normal hand, but show a curious divergence, two fingers sloping to the ulnar side, and two to the radial tide of the midline of the hand. Mentally these children are very bright, and get on well at school. That achondroplasia existed in ancient times is shown by pictures of the Egyptian god Ptah. In the animal kingdom it is seen in dachshunds and bassets. It is a fetal bone disease. No beneficial treatment is known.—*Intercolonial Medical Journal of Australasia.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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THE CARE OF THE INSANE IN NEW YORK STATE.

THROUGH the untiring energy of a band of devoted workers in France, England, and America, the insane of those countries now receive the care and intelligent treatment which their condition demands. Before these philanthropists took up the cause of the mentally afflicted, the manner in which institutions for lunatics were conducted was a disgrace to civilization. These facts are, however, too well known to need repetition.

Dr. Robert M. Elliott, Medical Superintendent, Long Island State Hospital, Flatbush, Brooklyn, N. Y., read before the Brooklyn Society for Neurology, on March 27 of this year, a paper on the insane of New York State, in which he sketches the conditions that existed at the time of the passage of the State care law in 1889, and gives a brief description of the results which have followed, and subsequent laws which have been enacted.

In 1889 there were six State hospitals. They were Utica, Willard, Hudson River, Buffalo, Binghampton, and Middletown, and contained, in the aggregate, 5,202 patients. The three county asylums exempted from the operation of the State Care Act, New York, Kings, and Monroe, contained 6,970 patients, and there were some 2,240 cared for in almshouses in the various counties throughout the State.

The treatment of the patients in many of the almshouses, and in other buildings set apart for them by the county authorities, is given in the first annual report of the State Commission in Lunacy, and was so notoriously bad that, in the course of two or three years, accommodations were provided for all of these unfortunates in the several State institutions. The asylums of the three exempted counties, although possessing many defects, were in all respects far superior to the almshouses. In 1891 the Monroe County Asylum was transferred to the State; Kings followed in 1895, and New York in 1896. The State hospitals now number fourteen, and the total number of inmates is, in round numbers, 23,000.

Speaking of the nurses, Dr. Elliott says: "Our nurses are trained especially in the care of those afflicted with mental diseases. It is a specialty in the field of nursing, and a knowledge of nursing in general, of anatomy, physiology, hygiene, dietetics, materia medica, medical and surgical nursing, etc., are just as important in this specialty as is a knowledge of general medicine and surgery to the neurologist or ophthalmologist; the principle involved is the same. General hospitals, at the present time, afford practically no opportunity for experience or instruction in this line of work."

The ratio of medical officers to patients in the State hospitals is about one to two hundred, according to the writer, exceeding that of most European countries and some of the other States in America. The greatest difficulty with which the State hospitals of New York have to contend is overcrowding.

In addition to the resident medical service, there is connected with most of these hospitals a consulting staff composed of specialists of the highest standing.

The dietary has received careful consideration. Prof. W. O. Atwater of Wesleyan University was called in by the Lunacy Commission to investigate the matter of food consumption in the State hospitals, with the result that, after conducting a series of investigations at several of the institutions, he recommended a diet table which he was of the opinion would meet the requirements of the majority of the patients, but which is varied when considered necessary. Discussing the recovery rate under the improved management of the insane, Dr. Elliott acknowledges that there has been but little advance in this respect, and then proceeds to touch upon, perhaps, the most important point in the treatment of the insane. He says that persons are scarcely ever committed to a State hospital until they are dangerous to their relatives and neighbors. The evolutionary period is too often overlooked, and treatment is not sought until the symptoms culminate in pronounced mental disorder. The question of psychopathic hospitals is one which is at present receiving a great deal of attention on the part of medical men interested in mental disease. A movement is on foot to have separate hospitals for this purpose in the Boroughs of Manhattan and Brooklyn for a limited number of cases. These institutions will be in the nature of probationary homes for those who are in the incipient stage of insanity, where they will be treated and will not be adjudged insane until all steps have been taken to discover whether there is any chance of recovery for them.

The MEDICAL RECORD has advocated the establishment of such hospitals, either as departments of a general hospital, or as separate institutions. A reception department for the insane will shortly be opened at the Albany General Hospital, and the erection of others, for a like purpose, is contemplated elsewhere.

Dr. Elliott concludes an interesting paper by referring to the connection between alcohol and insanity. He is a strong adherent to the belief that alcohol is one of the most potent causes of mental affections. It is satisfactory to learn upon good authority that the State hospitals of New York are well managed, and that the treatment of patients therein will compare favorably with that of those similarly afflicted, and in a like situation, in other countries.

The Cholera in Egypt is believed to be gradually subsiding. For the week ending October 18 there was a daily average of 114 new cases and 87 deaths reported to the health authorities. Cairo is said to be practically free from the disease.

LORENZ'S OPERATION FOR CONGENITAL DISLOCATION OF HIP.

For some days the public press has given considerable space to the bloodless operation for the reduction of congenital dislocation of the hip first described by Professor Lorenz of Vienna. It has been occasioned by Professor Lorenz's first appearance here.

The operation is not new to surgeons in this country, having been performed successfully many times during the past five years. The attention of the profession was first called to it when Lorenz presented to the Twenty-fifth Congress of the German Association of Surgeons at Berlin, May, 1896, four patients upon whom he had operated by what he termed an entirely new method. After considerable discussion by the Congress, of whom Bergmann was president, it was generally agreed that a new principle in treatment had been discovered.

Following rapidly upon this appeared full details of the technique of the operation through Lorenz and his special pupils. The first complete description of the operation appeared in the Medical Record May 29, 1897, in an article by Dr. George R. Elliott, a pupil of Professor Lorenz, entitled "Congenital Dislocation of the Hip-Joint, with Special Reference to the New Non-cutting Operation of Lorenz, for Reposition of Same—Presentation of Patient Under Treatment." This article appeared before Lorenz himself had written fully upon the technique of his operation, and was copied widely. Lorenz says in his recent work on the subject (1900) that Elliott had, according to his knowledge, performed the operation for the first time in America, as reported by the Medical Record, and that the steps of the operation had been followed out with a complete knowledge of the subject. After quoting at length from the Medical Record regarding the test for stability of the joint after reduction, he says, "In this description alone lies the surest proof that Elliott accomplished a real reposition."

Referring to the Medical Record, it will be found that the first step in the operation consists in the reduction or bringing the head of the dislocated thigh to the level of the acetabulum. The patient is anæsthetized to a degree of extreme muscular relaxation. A band is passed around the perineum and another about the ankle, the latter attached to a screw-extension apparatus. The extension is evenly exerted, while the operator grasps the muscles of the thigh, manipulating them while extension is going on. When the head of the femur is brought below the Nélaton line extension is suspended, and is followed by the second step in the operation—the wedging of the reduced head of the thigh bone into the acetabulum. This is styled reposition.

The chief anatomical barrier is the anterior fibrous wall of the capsule hugging closely the surface of the acetabulum. Although the head is in the proper position to enter the acetabulum, no amount of force will drive it in. The operator, standing on a stool, seizes the thigh, flexed at right angles to the trunk, with one hand, and with the other grasping the head of the femur, he, by a system of extension, combined with rotation and gradually increasing abduction, opens the way into the dormant-lying acetabular pocket. If the reposition is successful, the head of the femur is felt to leap over the posterior edge of the acetabulum, and the surgeon feels at once that reposition has taken place.

The third and final step in the operation has for its object the formation of a solid acetabulum. By manipulation the soft parts of the acetabular cavity may be molded, but the substantial changes occur when the patient is allowed to go about. In order to retain the head of the bone in contact with the acetabulum, and thus reawaken the process of growth so long dormant, the thigh is flexed at about 90° of abduction. The fixation is made with a plaster-of-paris bandage carefully applied about the pelvis, and extending to the knee-joint of the affected side. After a few days the child is urged to walk. Every step tends to drive the head of the bone deeper and deeper into the acetabulum. Growth is reawakened, the parts are reactivated, and a nearthrosis is gradually built up. Lorenz styles this treatment—the lodging of the head of the bone with the body weight, together with the reposition, as the two chief points in the operation—as decidedly original with him."

Formerly Lorenz removed the first fixation period at the end of three months, and usually subjected the patient to a second fixation period of three months. He now advocates rather longer fixation periods..

In 1888 Paci of Italy presented a treatment that aimed at restoration of the congenitally dislocated hip-joint. Paci divides his operation into four stages, which he calls tempi:

1. Flexion of the leg and thigh upon the pelvis quite to the physiological limit. This, combined with pressure on the knee-joint, is said to bring the head of the femur out of the ext. iliac fossa to a point under the acetabulum.
2. Moderate abduction—the leg is abducted to the extent of fifteen centimeters from the lateral line of the body.
3. Outward rotation.
4. Slow extension in bed, continued three months.

To use Paci's own words, he says, "The result is often excellent, because the head has occupied its natural position in the acetabulum in such a manner that we appear to have before us a true reposition. But often the head contents itself by taking position quite in the neighborhood of the rudimentary acetabulum or beneath the anterior iliac spine." This is as strong as he expresses himself in his reply to Lorenz, published in the *Wiener klinische Wochenschrift*, June, 1896. The end product of Paci's operation is a nearthrosis formed in the vicinity of the rudimentary acetabulum and not a true reposition.

The extreme degree of abduction, 90°, is a ***sine qua non*** of a true reduction, according to Lorenz, and it is a true reposition that he insists upon. No attempt is made to establish a nearthrosis in the neighborhood. Not infrequently the end product is a nearthrosis in the neighborhood known as transposition or anterior dislocation.

The operation is especially adapted to children under five years of age. After that age a reposition is frequently impossible.

The success of the operation depends largely upon the anatomical condition of the head of the femur. A large number of so-called congenital dislocations of the hip occur at time of child-birth. Here the parts continue to develop, and there exists only a slight atrophy incident to disuse. For this class the operation is especially promising. A reposition is rapidly followed by a reactivation of the parts involved.

In another class styled true congenital dislocation of the hip, in which there are real deficiencies, such as entire absence of the head of the femur, entire absence of anything like an acetabulum, it will be readily seen that cures cannot be looked for. Surgeons familiar with the operation agree that prognosis depends upon the anatomico-embryological findings present; in many cases the deficiencies being so marked that reactivation after reposition is impossible.

Lorenz claims something like 60 per cent. of successes in his operations so far performed. Other operators place the percentage of cures at 40 per cent.

Surgeons, accustomed to reduce dislocations along well-defined anatomical lines, see in this operation nothing remarkable, but rather the following of a technique based upon an intelligent understanding of rudimentary anatomical findings, which, in well-selected cases, leads to a large percentage of cures of a distressing deformity. They agree in rendering full credit to Lorenz for having discovered and developed that technique.

A STUDY OF THE LATE EMILE ZOLA.

The recent tragic death of Emile Zola has drawn the attention of the world to that extraordinary man, and the question of his mental and moral characteristics, and of his nervous and physical make-up has again arisen. Anthropologists have always taken a peculiar interest in Zola, viewed from the standpoint of degeneracy, not only because he appeared to offer an excellent example of the truth of the theory that there is some connection between genius and degeneracy, but also because he allowed, a few years ago, a study of himself to be made by several French specialists. Dr. Arthur Macdonald at the time wrote a paper on the subject, giving the conclusions come to as a result of these investigations, which was made the text for an article in the Medical Record of September 17, 1898.

Since then Dr. Macdonald has written other papers dealing with Zola's personality, which, in the light of recent happenings, are worthy of consideration.

It is thought probable that Zola inherited from his parents and grandparents a vigorous physique, and from his mother a nervous gout, or neuroarthritic condition. The hardships which he underwent when a young man served to give form to his congenital neurotic state. His nervous troubles increased more and more; and up to the age of forty he suffered continually from ill-health. At about the age of thirty-five morbid ideas made their appearance; although such ideas do not seem to have had any antecedents in his youth. When, however, he began to be successful, most of the nervous symptoms took flight, and his health became in every way better.

Zola was a little below the average in standing and sitting height, but in arm reach he was about the average. His head was larger than that of the ordinary man. The antitragus of the ears was almost absent, and the border adhered to the cheek. The upper left eyelid was somewhat low. The wrinkles on the forehead existed as early as the age of six. By some, wrinkles in children are thought to be an indication of dulness, while Manouvrier regards them as a sign of emotivity. In Zola's case, his nearsightedness may have accounted for the wrinkles in his childhood.

When in a state of repose and looking at a distance, the left eyebrow was notably lowered; this was probably due to an orbicular contraction of long standing, and might be considered as a neuropathic stigma.

With regard to Zola's nervous system, there existed in him a certain lack of nervous equilibrium, an exaggerated morbid emotivity, which, under the influence of slight excitations, caused disordered and painful reactions.

This condition, remarks Dr. McDonald, frequently accompanies intellectual superiority, develops with exercise of brain and mind, and tends gradually to increase the lack of nervous equilibrium.

His visual perceptions were feeble, owing to nearsightedness, and in perceptions of hearing he showed a very poor musical ear.

In speaking he had no qualities of an oratorical nature, he was very nervous and timid, and emotion inhibited or paralyzed him.

Zola possessed an excellent memory when young, but as he grew older his memory became less reliable, and his concentration of attention was short.

While physically he was somewhat abnormal in his sensations, yet not so in all his manifestations of sensibility. Fear was the principal emotion in him connected with the instinct of self-preservation. He had no fear of dying suddenly, and never had any ideas of suicide. Zola had a multitude of morbid fancies, but they affected his mental equilibrium but little. His will power was great, and his chief characteristic is said to have been tenacity, and he was always master of his actions.

The conclusions arrived at by the French scientists, with which views Dr. Macdonald is in agreement, were that Zola was a neuropath, but neither epileptic nor hysterical, nor was there the least sign of mental alienation. The term "degeneracy" did not wholly apply to him. Magnan classed him among those degenerates who, though possessing brilliant faculties, have more or less mental defects, while Toulouse said he had never seen an obsessed or impulsive person who was so well balanced. Nevertheless, the final judgment was that Zola was a neuropath—that is, a man whose nervous system was painful.

Whether an abnormal nervous system is a *sine qua non* of genius or exceptional talent is a question that has not yet been definitely answered, and probably never will be answered. But it would seem that it must be something more than a coincidence that so many of the world's greatest men have had undoubted stigmata of degeneration. The physically perfect man—or as nearly so as may be found—is seldom or ever a genius, and does not often possess great talent. On the other hand, the diseased men of genius can be cited almost without number. This one fact would appear certain, that most great men, and especially the imaginative of this class, are of nervous temperament and often inclined to be neuropathic.

A French Physician's Views on the Increase of Cancer.

It has come now to be an article of faith that cancer has increased and is still increasing at a very rapid rate. Statistics have been forthcoming from every country—where such things are kept—in support of these views. Doubtless the disease is far more prevalent than formerly, but, nevertheless, it is somewhat encouraging and refreshing, after hearing for so long pessimistic opinions as to the spread of cancer, to be told by a well-known authority that the reports as to its alarming increase have been much exaggerated, and that the fears engendered thereby are not altogether justified by the facts of the case.

Prof. R. de Bovis of the Reims School of Medicine has recently written an article on what he thinks are fallacies in cancer statistics, a part of which is transcribed and commented on in the *British Medical Journal* of October 4. He points out a matter which is insufficiently recognized, that statistics confined to the incidence of cancer in hospitals and in post-mortem rooms can convey no idea of the frequency of cancer in a given town or country. The statistics of death occurring in civil life are alone generally available for the purpose. In view, furthermore, of the imperfections of registration and certification of deaths at an earlier period, Professor de Bovis is quite right in insisting that our statistical researches must be confined chiefly to the last twenty years.

Professor de Bovis' article is far too long to more than touch upon certain portions of it. His remarks concerning the relative frequency of cancer in the two sexes are especially interesting.

First of all, Professor de Bovis shows how the mere comparison of the crude death rate from cancer in each of the two sexes is fallacious, and that corrections must be made in view of the fact that 100,000 females would comprise a larger number of aged than the corresponding number of males. In Prussia, in 1898, there were 100 deaths of men from cancer to 113 among women; but if the comparison be confined to the population over twenty-five years of age, the relative numbers were 100 to 109. Even this correction does not suffice, as shown by the paper of Messrs. King and Newsholme. Comparable statistics were obtained by calculating the death rate on a "standard" population, and by giving separately the death rates for different age-periods. It offers the disadvantage that it cannot give the *idée d'ensemble* of the relative frequency of cancer in male and female which is given by the former method.

According to M. Laspeyres, between the ages of thirty and fifty years the female is greater than the male mortality from cancer, the contrary being true from fifty to seventy. Recent statistics show an apparent increase of cancer in the male much greater than in the female sex. Thus in 1877, in England, for every 100,000 inhabitants of all ages, the male deaths from cancer to the female were as 100 to 193; in 1897 they were as 100 to 146. This decreasing ratio of female cancer is unhesitatingly ascribed by Professor de Bovis to the fact that male cancer is more commonly inaccessible than female cancer, the increase in males being probably more apparent than real.

M. de Bovis arrives at the following general conclusions from his close investigation of this subject: Careful study of statistics contradicts more than it confirms the supposed alarming increase of cancerous affections signalized by most writers; this increase is, perhaps, real, but the alarms expressed are without doubt absolutely out of proportion to it.

Alcohol-Contaminated Air.

Our esteemed contemporary, the London *Lancet*, in its issue of October 4, treats of this subject and incidentally adds yet another terror to those who frequent places in which alcoholic drinks are stored or retailed. Nevertheless, it is an excellent procedure to point out all the dangers to which the wine-bibber is subjected, as it tends to further the cause of temperance.

The *Lancet* annotation in question says: "There can be little doubt that the air of distilleries, wine and spirit vaults, and drinking saloons must, at times, contain appreciable amounts of alcohol, and the question has arisen as to whether air containing traces of alcohol would be prejudicial to health."

The fact is then referred to that where wine and spirits are stored there is invariably an alcoholic smell, and that a walk through the cellars at the London Docks has much the same effect as imbibing too much alcoholic liquor. In the same way the great sherry bodegas in the south of Spain produce, on a person not used to them, the sensation of being under the influence of strong drink, while the great stores at Cognac affect some individuals with a feeling of sickness. The more volatile constituents of wines and spirits evaporate into the air most quickly, and the volatile ethers would thus prevail. After referring to the ethereal qualities of sherry, the article proceeds thus: "There would, therefore, appear to be some ground for concluding that when the air is impregnated with the volatile vapors of spirits or wines it has a marked influence upon the health. Whether this effect would be pronounced or not upon those inhaling the air day by day does not appear to have been ascertained with certainty. It is probable, however, that at any rate some slight deterioration of health would take place. . . . According to an examination made of the air of a distillery, it would appear that no less than an ounce of proof spirit, or half an ounce of absolute alcohol, may be present in five cubic feet of air, and since the alcohol, by the medium of the lungs, would rapidly gain access to the circulation, the conclusion must be in favor of the view that such air would, in the long run, be detrimental to health, and that in such case special arrangements for particularly efficient ventilation are indicated."

It stands to reason that few saloons can be healthy places in which to pass much time. The fumes of the spirits probably have a harmful effect on health, and, allied with the other conditions which usually prevail in these resorts, defective ventilation, a smoke-laden atmosphere, and often overcrowding, must exercise a deleterious influence on those who are constant visitors to saloons, and especially on the bartenders who are compelled to spend a large part of their lives in them.

It is a matter for congratulation that in America there are no women behind the bars in saloons.

The Care and Custody of the Criminal Insane.

How best to treat the criminal insane is a problem the solution of which has not been, as yet, by any means reached. It was gravely proposed in a book, written some few years ago, that it would save much expense and, in the long run, would be the most merciful plan, if such people were put to a quiet and painless death.

The methods of dealing with this class, however, which are pursued in New York, Illinois, Massachusetts, and Michigan meet the exigencies of the situation fairly well. In these States criminal State hospitals have been established, to which are sent those criminals who have been adjudged not responsible for their actions, and who are kept there during the term of their sentences, unless they recover. In which case they are returned to the penal institution whence they came, with a certificate of their recovery, to finish their terms there. Should they not recover during their terms, they remain in the hospital, not only until the term expires, but afterward, until death comes or it is considered reasonably safe to release them.

The weak link in this system, according to Dr. H. E. Allison, is in the fact that in New York some of the penal institutions are not sufficiently careful to transfer their insane to the hospitals provided for the purpose. The efficiency of the various institutions, he declares, may be judged by the way the insane are sent to Matteawan. If from a prison with a population of a thousand inmates, this hospital receives thirty or forty insane every year, and from another institution, with a similar population, no inmates are received, then it must be inferred that in the latter institution there is not enough attention paid to the individual, and that it is not doing the reformatory work that it ought to accomplish.

Dr. Allison further says that the number of life convicts who are insane is about 25 per cent. of the total number of life men in New York, and there is about the same proportion in Massachusetts and Broadmoor, England, showing that a great many life men either become insane while undergoing imprisonment, or have committed their crimes through insanity, which was not recognized at the time of their trial and conviction. There is a great prejudice against the plea of insanity as a defence for crime, and many insane men are sent to prison. Numerous lunatics are dangerous who do not succeed in committing murder, for an insane man's aim may be defective, and such persons may be sentenced for from three to five years who have active and menacing delusions. At the end of that time they are set at liberty to be again threatening society. Dr. Allison thinks that such men ought to be locked up until reasonably safe for them to be at large.

The system in force in New York and some other States with regard to the custody of the criminal insane is a good one. It seems but proper that such persons should be detained in an institution established for the purpose, and not in the ordinary prisons.

The method followed in New York State in the care of the criminal insane is characterized by humanity and intelligence, and if defective in some respects, it is at any rate decidedly in advance of some of the methods pursued elsewhere.

Health in Schools.

There is nowadays a wise appreciation of the need of caring for the physical well-being of children at school. It is thoroughly recognized that the young must be properly looked after in every way, in order that the nation may be composed of vigorous and sound individuals. New York has been among the pioneer cities in endeavoring to bring up her rising generation so that they shall possess the sound mind in the sound body.

At the Section of Educational Science, at the recent meeting of the British Medical Association, Professor Sherrington, F. R. S., submitted the report of the committee appointed to inquire into "the conditions of health essential to the carrying on of the work of instruction in school." The health conditions considered were: (1) Bodily nourishment; (2) clothing; (3) housing of children in schools; (4) the working of the bodily functions and organs of sense; (5) physical exercise; (6) the apportionment of time to work and rest, including length of lessons and holidays; (7) healthy tone of mind and morals; (8) preventive and precautionary measures against infectious diseases.

Anthropometrical and physiological tables had been also compiled and tabulated. The knowledge of hygiene possessed by school teachers was likewise investigated. The committee concluded that school authorities very imperfectly realized how important hygiene was for school life; they were content to allow teachers to remain in ignorance of this knowledge, or to accept as evidence of sufficient experience certificates which guaranteed merely a superficial and second-hand knowledge. Finally, the committee urged the British Medical Association to memorialize the Education Department to adopt some more thorough and practical test of a teacher's experience of hygiene; and secondly, further to protect health in school life by making practical knowledge of hygiene as applied to school life an essential qualification for those to whom it entrusted school inspection."

The large cities of America, as New York and Chicago, are, in many respects, in advance of British cities with respect to their care of school children, but as yet these scarcely reach the standard recommended in the report of the English committee. The adoption—at least as far as was possible—of the committee's suggestions could not but be to the benefit of school children physically and mentally. The only fear is that there perhaps may be, nowadays, somewhat too great a tendency to maternalism, as coddling the young is nearly as harmful as neglecting them.

Extraction of Iron from the Vitreous Chamber by Means of the Giant Magnet—A New Procedure.

Dr. Charles J. Kipp of Newark, N. J., records, in a recent number of the *Archives of Ophthalmology*, two noteworthy cases of removing metal from the vitreous chamber by magnetic attraction. The cases mentioned by him—and especially the first case—are decidedly uncommon. In the one he removed a large piece of iron through the wound of entrance, after it had become entangled and could not be budged, by the successful application of the familiar law of magnetic polarity.

The second case calls for notice because of the complete clearing up of the opacity of the lens following the passage through it by the foreign body.

The first case is described as follows:

A man was struck in the left eye by a piece of metal, and was seen by Dr. Kipp a few hours after the accident. There was no irritation, and the conjunctiva was not infected. The cornea was clear, and in the sclera, close to the outer margin of the cornea in the horizontal meridian, was a linear wound about 2 mm. in length, parallel with the margin of the cornea, from which vitreous body was escaping. The anterior chamber was very shallow, and contained a little blood; the pupil was somewhat dilated. The iris near the wound was torn, the lens clear as far as it could be seen, and the vitreous full of dark, floating opacities. With the ophthalmoscope a dark mass could be seen at the bottom of the vitreous chamber. The eye was then placed close to Hirschberg's simplified sideroscope, and the needle indicated at once the presence of iron in the eye.

When the eye was brought up to the giant magnet, and while still more than two inches from it, as soon as the current was turned on a large, glistening piece of metal, back of the lens, was seen to rise up and rush toward the outer part of the eye, where it caused a marked bulging of the sclera, at a point about 6 mm. posterior to the wound of entrance. One end of the piece of iron became fastened, so that to get it out of the eye nothing short of a large incision in the sclerotic seemed practicable. It, however, suddenly occurred to Dr. Kipp that the end of the iron might be dislodged by bringing the like pole of the magnet to act upon it. Accordingly, the magnet was turned around on its pivot, and as soon as the other pole came near the eye, the iron was seen to swing around in the vitreous chamber, the bulged part of the sclera became flat, while the other end of the iron came toward the wound of entrance and rapidly shot out on to the magnet. The wound soon closed, and there was no reaction, but the lens, in the course of a few weeks, became opaque throughout. The eye now has good perception, and the visual field is intact. The iron removed measured 18 mm. in length, was about 2 mm. in width atone end, and about 1 mm. at the other, where it was pointed and was quite thin. It weighed 10 mg.

News of the Week

Major William C. Gorgas, recently relieved from duty as chief health officer in Havana, has been appointed by the Surgeon-General delegate to represent the United States Army at the Egyptian Medical Congress to be held at Cairo, December 16—23, 1902.

Yellow Fever Experiments Forbidden.—Secretary Tamayo of the Cuban Cabinet has recently issued an order forbidding the experimental inoculation with yellow-fever virus of non-immunes by means of the bites of infected mosquitos. Insects which have bitten a person with yellow fever are in this order officially declared to become infective at the expiration of ten days.

The Italian Medical Congress.—The twelfth annual meeting of the Italian Congress for Internal Medicine will be held in Rome, under the presidency of Dr. Baccelli, on October 28—31.

New Head of the Bureau of Ethnology.—Prof. William H. Holmes has been placed at the head of the Bureau of Ethnology in Washington to fill the vacancy caused by the death of Major John W. Powell.

Alvarenga Prize of the College of Physicians of Philadelphia.—It is announced that the next award of the Alvarenga Prize, amounting to about $180, will be made on July 14, 1903, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college, Dr. Thomas R. Neilson, M.D., on or before May 1, 1903. Each essay must be sent without signature, but must be plainly marked with a motto, and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it, shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1902 was not awarded, the committee having decided that no essay of sufficiently high standard was submitted in competition.

Street Bacteria.—Dr. John McG. Woodbury, Commissioner of Street Cleaning, lately began a series of investigations with the assistance of James Ewing and others to determine the nature and number of microorganims in the air of our city streets, and show the influence of clean gutters and street pavements upon the healthfulness of neighborhoods. Gelatin plates were exposed for determined periods in various parts of the city and at different levels above the street, and after a period of incubation the number of colonies on each was counted. This number varied from five in clean residential streets, in which there is but little wagon traffic, to several hundred in the crowded tenement districts on the East Side.

The Cost of Hospital Treatment.—At a recent meeting of the Board of Estimate of this city, the following comparative statement of the average daily cost per capita for ward patients in the larger hospitals in this and other cities was presented: Presbyterian Hospital, $2.34; St. Luke's Hospital, $1.82; Mount Sinai, $1.50 to $1.55; St. Vincent's Hospital, $1.08; St. John's Hospital (Long Island City), $1.10; Roosevelt Hospital, $2.01; Massachusetts General (year 1900), $2.15; Rochester City Hospital, $1.61; Lakeside Hospital (Cleveland, O.), $2.14; Boston State Hospital, $1.92.

Big Medical Fees.—It would be interesting to know, says the *Hospital Gazette*, what it cost the King in medical and nursing fees during his late serious illness; but curiosity is not likely to be gratified on this point for some time to come. For his four weeks'attendance at Sandringham prior to the recovery of the King from typhoid fever, in 1871, Sir William Gull received £10,000. Twice this amount, says the *Vegetarian*, was paid to Sir Morell Mackenzie for his treatment of the late Emperor Frederick. The doctors who attended Queen Victoria in her last illness received 2,000 guineas each; while Dr. Lapponi's skill in removing a cyst from the Pope's side a few years ago was recompensed with $2,500. Dr. Dimsdale, for his journey to St. Petersburg and vaccination of the Empress Catherine II., received £10,000 as his fee, £5,000 for travelling expenses, and a life pension of £500 a year. According to the newspaper reports, Dr. Lorenz of Vienna was brought to Chicago to operate on a child with congenital dislocation of the hip, at a cost of $100,000 and traveling expenses for himself and assistant.

An Illegal Practitioner.—A "palmist" was convicted in Special Sessions a few days ago of practising medicine without being registered as a physician. Sentence was suspended for a week. The man said he got his prescriptions from a legal physician, and the latter, being called to the witness stand, acknowledged that he had written prescriptions for the accused.

Increased Grant to Hospitals Asked For.—At a recent meeting of the Board of Estimate of this city, the Chief Examiner of the Accounts of Institutions presented a report in which he recommended that the rate which the city pays the private hospitals for medical and surgical cases be raised from 60 and 80 cents to 70 and 90 cents respectively.

Associated Physicians of Long Island.—A meeting of this society was held at Riverhead on October 18, with an attendance of 130. The following papers were read and discussed: "Shall Marriage Be Medically Controlled," by Dr. William B. Savage of East Islip; "Points of Similarity and Difference in the

Outset of Typhoid Fever and Appendicitis," by Dr. William F. Campbell of Brooklyn; "Relation of Obstetrics to Surgery," by Dr. Ralph H. Pomeroy of Brooklyn; "Acute Contagious Diseases of the Eye," by Dr. James H. Ingalls of Brooklyn.

Dr. William H. Bates of this city, who disappeared on August 30, after having left his home ostensibly to perform an operation, is reported to have been found by his wife in London. It is said that he was attending a post-graduate course at the Charing Cross Hospital. His story was that he left his office on August 30 with a man who he thought was a former classmate, and went to a sailing vessel in the East River, where he performed an operation on a man suffering with a mastoid abscess, and stayed all night. His next recollection was of being on a steamship approaching England, then of being in the streets of London, and of deciding to take a course at the Charing Cross Hospital. The gaps in this account he could not fill, but he seemed certain that he had not been drugged.

Reciprocity in Medical Licensure.—The Wisconsin State Board of Medical Examiners has made an announcement, says *The New York Times*, that thirty States of the Union will unite in common laws regard ing the practice of medicine, so as to make possible extensive reciprocity. Hitherto this movement has included only four States of the Middle West, but it is now stated that bills will be introduced into the legislatures of all the Eastern States for the purpose of equalizing the requirements for medical practice, and so making medical certificates interchangeable, and establishing practical reciprocity in medical licensure.

Initials for Trained Nurses.—The New York State Nurses' Association, which met in Rochester this week, took up the question of a title for trained nurses. The Legislative Committee of the association learned that before taking steps toward securing desired legislation for trained nurses it would be necessary to decide upon a title similar in significance to the M.D. of the physician. The following were some of the titles suggested: T. N. (trained nurse); G. N. (graduate nurse); R. G. N. (registered graduate nurse), and R. N. (registered nurse).

The Doctor in Politics.—A politician in New York recently established his popularity among those of his own kind, and defeated his antagonists, by the lavish distribution of shoes, beer, beef, and other things to eat and to wear. A New Jersey candidate for congressional honors has improved upon this scheme by throwing in free medical advice. One of the cities in that progressive State was recently placarded with large posters announcing that, "by the generosity of Hon. ———, free medical attendance and dispensary service are given to all who are unable to pay on Wednesday, Thursday, and Friday afternoons, from 12 noon until 2 P. M. A skilful physician attends." The poster also gives the name and address of the doctor selected by the candidate.

Rules for Burial Following Death from Infectious Disease.—The Maryland State Board of Health has published the following regulations regarding the disposal of the bodies of those who have died of any infectious disease: "In every case of death from cholera, bubonic plague, or smallpox, the body is to be taken charge of at once by the local health officer and buried or cremated within twenty-four hours. Transportation of such bodies by rail or steamer is absolutely forbidden. Such a body must be prepared for burial with as little disturbance of its immediate surroundings as possible. It shall be wrapped in the bed coverings, secured by bandages; shall be placed in a tight coffin; the wrappings shall be saturated with 40 per cent. formalin or solution of bichloride of mercury, 1 to 500, and the coffin shall be closed at once. In the discretion of the local health officer a competent undertaker may be allowed to embalm such a body, provided the body be not removed for that purpose from the spot where death occurred. The vehicle in which such a body has been transported to the place of burial shall be washed in a solution of bichloride of mercury, 1 to 1,000. In every case of death from diphtheria, membranous croup, or scarlet fever, the body shall be prepared at once for burial by arterial or cavity embalming, or by covering with a layer of absorbent cotton not less than one inch thick, securely bandaged or rolled in a sheet, this covering to be saturated with a solution of 40 per cent. formalin, or bichloride of mercury, 1 to 500, and the body to be enclosed in a tight coffin at once. The head and face need not be thus covered, provided the scalp and face and the cavities of the mouth and nose have been disinfected with an approved germicidal solution. The lead of the coffin may have a fixed glass panel over the face, to permit inspection, but not such as will permit exposure to the air. It shall be unlawful to open the coffin, except on written consent and in the presence of a local health officer. Only persons of adult age shall act as pallbearers in such cases. Interment shall be made within twenty-four hours of the time of death. Only members of the immediate household and necessary attendants shall be admitted to the house."

The Fourteenth International Medical Congress.—The following is a summary of the work mapped out for each of the sixteen sections of the Madrid Congress, to be held in April, 1903:

In the Section of Anatomy (including anthropology, comparative anatomy, embryology, descriptive anatomy, normal histology, and teratology), which will be presided over by Professor Santiago Ramon y Cajal, the following subjects are proposed for discussion: (1) What is the best method of didactic exposition of the nervous system? (2) The positive value of anatomical measurements for the racial identification of individuals; (3) The structure of nerve cells; (4) The origin of fibroblasts in connective new formations, normal and pathological.

In the Section of Physiology (President, Dr. Gabriel de la Puerta y Rodenas), among the subjects set down for discussion are the physiological action of saccharin, and the influence of glandular poisons on muscular contraction.

In the Section of General Pathology (President, Dr. Amalio Gimeno y Cabanas), Dr. Marchiafava of Rome will introduce a discussion on parasitism in neoplasms; there will also be discussions on the genesis of sarcomata; blastomycetic lesions; the desirability of a revision of the classification and description of known bacteria; and vaccinations with cultural and chemical liquids.

The Section of Therapeutics (President, Dr. Benito Hernando y Espinosa) will discuss the relations between the chemical composition of medicaments and their physiological action; the dangers of the so-called intensive medication in chronic diseases and chiefly in tuberculosis; the utility and dangers of intraspinal injections of cocaine in medicine and in surgery; the mechanism of the physiological and therapeutic action of hypnotics and narcotics; intravenous therapy; the treatment of tetanus by Baccelli's method; the therapeutic valuation of antitoxin serums; hypodermic injections, their pharmaceutical significance and the desirability of preparing a pharmacopœia unifying the procedures for making and preserving these preparations.

In the Section of Pathology (President, Dr. José Calvo y Martin) there will be discussions on the etiology and prophylaxis of malaria; the application to clinical medicine of the new researches on the physical and chemical properties of blood serum and diet in typhoid fever.

The Section of Nervous Diseases (President, Dr. José Maria Esquerdo y Zaragoza) will give special attention to toxic and infectious insanities; the delimitation of the pathological nature of crime, and the intervention of psychological medicine in the reforming treatment of criminals.

The Section of Children's Diseases (President, Dr. Francisco Criado y Aguilar) will discuss the therapeutic value of serumtherapy in diphtheria; the treatment of club-foot; the treatment of tuberculous disease of joints; infant feeding; acute non-tuberculous meningitis; infantile rheumatism and its relation with heart disease and chorea; alcholism in children.

In the Section of Dermatology and Syphilis (President, Dr. Manuel Sanz e Gombin) the following subjects will be discussed: Blenorrhagia from the medico-social standpoint; para-syphilitic diseases; retrospective diagnosis of syphilis; treatment of pruritus.

In the Section of General Surgery the subjects proposed for discussion are deaths following operation and indications for surgical intervention in diseases of the stomach. In the Subsection of Neurology there will be discussions on the remote results of surgical intervention in malignant tumors of the kidney, and on the comparative value of the means at our disposal for the appreciation of the functional condition of the kidney.

In the Section of Ophthalmology (President, Dr. Santiago de los Albitos) there will be discussions on the surgical treatment of affection of the lachrymal passages; the necessity of unification of optometric scales; optic neuritis in the course of acute affections; and the action of medicaments on the pupil accommodation and intraocular tension.

The Section of Oto-Rhino-Laryngology will discuss the causes of deaf-mutism; cholesteatoma; the after-treatment of operative procedures on the ear; is surgical intervention in every kind of laryngeal cancer and in all its phases desirable from the medico-social point of view, and the local treatment of laryngeal tuberculosis.

In the Section of Obstetrics and Gynecology (President, Dr. Eugenio Gutierrez Gonzalez) there will be discussions on the indications for hysterectomy in acute puerperal infections; the treatment of placenta prævia; pathogeny and treatment of chronic cellular and peritoneal inflammations of the pelvis; indications and results of opotherapy in gynecology; the conservative surgery of lesions of the adnexa; the early diagnosis of ectopic pregnancy; the treatment of urethrovaginal fistulæ; induced abortion and premature confinement in its relations with natural law, theology, medicine, and the penal law.

The Section of Military Naval Medicine and Hygiene (President, Dr. Antonio Serrano y Borrego) will discuss the tuberculosis problem in armies; the advantages and disadvantages of compressed medicaments in campaigns; military life and affections of the nervous system, particularly insanity; the prophylaxis of syphilitic and venereal diseases in armies; the hygienic problems of feeding in besieged places.

In the Section of Hygiene and Epidemiology (President, Dr. Felix Guzman y Andres) there will be discussions on the prophylactic value of disinfection and the methods generally followed; the means of preventing the spread of dysentery; the desirability of establishing sanitary custom-houses on the land frontiers of countries; the utility of antituberculous dispensaries as a means of increasing vital resistance in the poorer classes.

The Section of Forensic Medicine and Toxicology (President, Dr. Adriano Alonzo Martinez) will discuss the capacity and responsibility of degenerates and the localization of poisons.—*The British Medical Journal.*

The Late Dr. Abel Mix Phelps.—At a meeting of the Faculty of the New York Post-Graduate Medical School and Hospital, held on October 8, 1902, the following minute was adopted: In the death of Professor A. M. Phelps our school has lost a teacher, and the medical profession is deprived of a member whose energy cleared the way for great progress in his field of work during the past twenty years. His was the spirit of the pioneer. Not content with things that have been done, but ever restless to find new vistas with new horizons, his single-hearted devotion to the development of what is best in orthopedic surgery led him to engage in a constant warfare of ideas. No matter whether the ideas were those of his colleagues or his own, no matter whether he was right or wrong, his energy gave life to the subject and set men to thinking. It is such active lives as his that keep subjects alive, that keep men aroused, and lead them to their utmost, and when this is for no selfish end, but solely bent in the interest of science, we have a public benefactor whose usefulness exceeds that of the capitalist, who gives his million of dollars to the most worthy charity. The capitalist gains his fortune through his guidance of the work of others, and the scientist adds to the total of the world's knowledge by stimulating others to follow in his lead of investigation, or to take long steps in progress at his suggestion. In the professions there is a tendency for men to fall asleep upon the soft pillows of concensus of opinion, but men like Dr. Phelps realize that concensus of opinion is often wrong, because it represents the lines of least resistance, and he turns all sleepers out and made them uncomfortable until they had made their own new opinions. Dr. Phelps was impatient with those who were contented in their work, and as impatient with himself, for he realized that great fields for giving help to suffering fellow-men lay still undiscovered.

According to human experience, greatness implies the possession of constructive motives, nobility of purpose, catholicity of view, erudition. Dr. Phelps' motives were alway constructive, his ideals were of the noble sort that included no interest before the interest of the sufferer. His views were so comprehensive that he could not long remain a partisan in any field aside from that of definite knowledge. His learning was that of the man of alert conception and of trained memory. Dr. Phelps, then, was a great man, and his opponents are the ones who would say it, sooner than he himself would have acknowledged it.

It was not in our school alone, nor in the city, nor in the State, nor in America, that his talents were recognized, but wherever in the world men are engaged in studying the things that he studied, he gave direction to their methods and force to their efforts. An influence like that of Dr. Phelps is that of the wireless telegraph, sending through invisible ether an impulse that is felt and that meets sympathetic response in minds that vibrate in unison at all distances, an expenditure of energy that finds its kinetic in the development of new knowledge. Yet he was not the one to say that he was right, only that he wanted to be right, and that he wanted others to be right.

He was proud in his strength, yet modest in the presence of those who were stronger than he. Few knew this side of his character, but those of us who knew him best knew how much of humility there was beneath his forceful bearing.

And if we speak of Dr. Phelps as the surgeon, what shall we say of him as the citizen, as the friend, as the husband and father? Matters of public interest were matters with which he made himself conversant, and whether at home or abroad he formulated views of public affairs with a clearness of view that engaged the attention of statesmen. As a friend he was loyal almost to the point of weakness. His enjoyment of life, and of his friends was that of a man whose spirit of cameraderie overlooked all failings. Beneath the stern exterior developed by men of his strength to resist external impressions there was a heart so kind and sympathetic that a tale of woe or a pathetic sight moved him as it would have moved a woman, and his kindly deeds in response to the impulse of a great and generous nature were unknown to the world at large, because he considered it beneath the dignity of a man to show any side excepting the one that accomplishes things by force.

Dr. Phelps has been taken from the home, from the profession, and from the world before his activities had reached the zenith, but the influence of such a life as his will last beyond the lives of those who felt his influence, and we, his colleagues, sorrowing in his loss, exult in the privilege that we had in knowing him.—Robert T. Morris, Reynold Webb Wilcox, Henry Ling Taylor, Committee.

Obituary Notes.—Dr. William R. Whitehead of Denver died on October 13 at the age of seventy years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1853. He saw service in the Crimean War, and was rewarded by the Czar with the Knight's Cross of the Imperial Order of St. Stanislaus. During the Civil War he served with distinction as surgeon in the Confederate Army, and, later, removed to Denver, where he occupied, at different times, the chair of medicine in the University of Denver and the University of Colorado.

Dr. EUGENEE G. CARPENTER, superintendent of the Columbus (Ohio) State Hospial, died of apoplexy on October 19, at the age of forty-four years. He was a graduate of the College of Physicians and Surgeons of Baltimore. He was assistant superintendent of the Cleveland State Hospital before his transfer four years ago to the Columbus Hospital.

A Case of Tumor of the Cerebellum.—O. T. Osborne reports the case of a woman of sixty-four years, suffering from palpitation of the heart, and vertigo occurring synchronously, without ringing of the ears, disturbance of the eyes, or nausea. An ataxic condition came on, and dizziness increased, so that the patient could scarcely turn her head without having vertigo. Epileptoid signs next appeared, and developed into epileptic convulsions. Disorders of vision and hearing, with intense pain in the occipital region, developed. The epileptic attacks became more prolonged, the convulsive part being more prominent than in ordinary epileptic convulsions. A condition of semi-stupor and then of coma followed, and finally death occurred. At autopsy a glioma was found in the right lobe of the cerebellum.—*Journal of Nervous and Mental Disease.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE NEW SESSION; NOTES ABOUT THE INTRODUCTORY ADDRESSES, ETC.—MANCHESTER INFIRMARY — RECENT DEATHS.

London, October 3.

The one event of the week is, of course, the opening of the winter session, and the one subject of our conversation refers to some phase of the celebrations. The addresses to students still maintain their position in some schools, though the number who are going over to dinners and *conversazioni* rather increase. As to these introductory lectures, the importance, or rather the necessity, of cultivating the faculty of observation occupied a prominent place in several. Students were charged to see for themselves; to observe carefully and accurately, and assured that accuracy of observation would do more to promote their progress than much book learning. Not that books are to be neglected, but reading without personal observation cannot make a safe or successful practitioner.

Side by side with the introductories at our hospital schools, may be mentioned the address at the Birkbeck Institution, delivered by Sir A. W. Rücker, principal of the reorganized London University. He remarked that the founders of the Birkbeck were, practically, the founders of the University. The most salient feature in the reorganization of the University was that the undergraduates were of two classes, external and internal, and this would be maintained, as it would be a mistake to fritter away the distinction between external and internal degrees.

The reorganization had been, in part, caused by the overpredominance of examinations in English education. He might well have added that the London University had been the greatest sinner in this respect. He did not, but he went on to say that more liberty is henceforth to be given to teachers, and examinations are not to be the only test of the alumni. He professed, on the part of the University, the most earnest desire to make arrangements as convenient as possible to both teachers and students.

To return to the medical addresses, Mr. P. Fleming, at University College, reviewed the various classes in the curriculum, and showed the value and place of lectures, as supplementing and guiding study by books. Practical anatomy, he said, brought out patience in investigation, accuracy in observation, and developed the critical faculty more than physiology. Students should become their own teachers as much as possible, striving to weigh the value of the facts under their notice. They should work in the scientific spirit—that is, a spirit always seeking truth, contented with nothing less than truth, ready always to speak truth, and, if necessary, to suffer for truth. A spirit of indolence or routine was opposed to all this.

Mr. Stephen Paget gave the address at the Middlesex Hospital, and compared the advantages of that school to the universities. He declared the hospital deserved better than any university the name *alma mater*, for her motherly kindness was not limited to her own sons and daughters, but extended every year to 4,000 in- and 49,000 out-patients. The medical profession was the one whose students were actively and constantly employed in doing good to other people. By this sort of life they learnt, as nothing else could teach them, to understand their fellow creatures. They need not go elsewhere to see how the poor of London lived, and how drink, preventable disease, the sweating system, immigrant aliens, and dangerous trades thinned their ranks. As for the curriculum, no one could say it was not liberal, for it was colossal; it would be hard to find a wiser or wider plan of work at Oxford or Cambridge, or, having found one, to find many students there able to live up to it.

At St. George's Hospital Dr Whipham took as his text the late Sir W. Gull's remark that "in medicine we make more mistakes by not looking than by not knowing;" and from this went on to show how important is the power of looking. Not only the disease, but the patient must be observed. Unless the power of observation were cultivated, a practitioner would hardly meet with any success.

The London Hospital, Bart's, and St. Thomas's have forsaken the introductory lecture, and content themselves with dinners, etc. At Charing Cross Hospital the Huxley lecture now marks the opening session, and this year it was given by Professor Welch of John Hopkins University, who took for his subject "Immunity."

Some of our London men went to the provincial schools. Sir H. G. Howse, President of the College of Surgeons, who went to Sheffield, talked about the relation of medicine to religion, and the conformity of moral to natural law in a way which, judging from a report, would, I should think, tend to obfuscate rather than enlighten the students. Incidentally, he said if the General Medical Council should ever remove Latin from the preliminary examination, he would advise them to acquire, at least, an elementary knowledge of it.

Sir. D. Duckworth gave the lecture at Manchester, and discoursed pleasantly on knowledge and wisdom in medicine. He also pleaded the claims of a wide, general education, founded on the *literæ humaniores*, and repudiated the notion that science alone could be as good an agent for securing mental width and culture.

At Guy's Hospital the Lord Mayor attended in full state] and distributed the prizes. He congratulated the recipients, and urged the claims of hospitals for support, enforcing his remarks by reference to the King's efforts on their behalf.

At the Women's Medical School the Treasurer of the Royal Free Hospital addressed the students, and congratulated them that the doors of great institutions were steadily yielding to the pressure of women. He announced that the Obstetrical Society had admitted women, and three ladies connected with the school had been elected. This does not seem much of a concession from the council who have made themselves patrons of midwives as an inferior grade of the profession.

At the Royal Veterinary College Professor Bottomley, M.A., urged the claims of science on the government. British practitioners could hold their own, as practical men, but they had not the opportunities for research which the foreigner enjoyed in State-equipped laboratories. It was not lack of brains that kept them back, but lack of opportunities which government ought to supply, for, as Ruskin said, "Knowledge is the true wealth of the country."

An alarming fire occurred at Adenbrooke's Hospital, Cambridge, on Wednesday afternoon. The roof of one ward was destroyed, and great damage done to the ward underneath it. All the patients were safely removed, but there were distressing and exciting scenes, and one fireman was injured.

Among public bodies received by the new Lord Lieutenant of Ireland (the Earl of Dudley) were the Royal Colleges of Physicians and Surgeons, when his Lordship took the opportunity of paying some pretty compliments to the medical profession.

The Manchester Infirmary question has been advanced a step. The trustees have determined not to rebuild on the present site, and a practically new board of management is about to be elected, most of the members of the former board having resigned.

Among recent deaths I notice that of Dr. A. B. Blacker, Superintendent of the *X*-Ray Department at St. Thomas's Hospital. He was only forty years of age. He had published several contributions on light as a therapeutic agent.

Mr. A. G. Field, F.R.C.S., died on the 29th ult., aged eighty-two. He was formerly surgeon to the Sea Bathing Infirmary and to the Brighton Hospital.

Henry Wright, J. P. of Scarborough, died suddenly on the 29th ult., aged seventy-six. While sitting in his chair in the evening, he became unconscious, and his medical friend, on arrival, found life extinct.

The deaths are also announced of Colonel Carew, D.S.O. of the R.A.M.C., aged sixty-one, who was P.M.O. in the Tochi field force, 1897-1898, and held medals and clasps. Brigade-Surgeon C. W. Watling, A.M.S., is also dead, aged sixty-eight. He was in the Afghan War, 1878–1880, and the Nile Expedition, 1884-1885, for both of which he held medals and clasps.

LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

AUCKLAND, September 18, 1902.

I BELIEVE that it is written in the history of the United States that on one occasion the Governor of North Carolina said to the Governor of South Carolina, "It is a long time between drinks." Changing the last word, the remark is applicable to my letters during the past few months. The explanation is not that I have nothing to write about—the materials have been abundant—but but that having been, since March 19, an officer of His Majesty's Imperial Auxiliary Forces (!), I am forbidden, by the King's regulations for the army, "to publish or communicate to the press any information, without special authority, either directly or indirectly. They will be held responsible for all statements contained in communications to their friends, which may subsequently be published in the press. They are not to attempt to prejudge questions under investigation by the publication, anonymous or otherwise, of their opinions, and they are not to attempt to raise a discussion in public about orders, regulations, or instructions issued by their superiors." Par. 423, King's Regulations for the Army.

This very comprehensive rule prevents me from writing anything about the Army Medical Corps with which I have been connected since March last. I may say, however, that a vacancy having occurred suddenly among the surgeons of our Ninth Contingent, I was asked twenty-four hours before the transport had to sail whether I would go. I had only two minutes to make up, what I suppose I must call my mind, and, forgetful of my seventy years and their attendant infirmities, I foolishly consented to take the appointment, and went to South Africa. It was as Kipling sings, "Back to the army again, sergeant!" I had the two medals and Sepastopol clasp for the Crimea, and a silly desire to have a third medal for South Africa had much to do with fixing my resolution. Had I known all the miseries I had to endure from asthma and insomnia the G.C.B. would not have tempted me. However, there is much that I learned which I could have learned in no other way, and I have, I believe, the distinction of being the only man in His Majesty's service entitled to wear the Crimean and South African medals.

There has been much sickness on board the transports bringing back our contingents and those from Australia to their homes. A Royal commission has been sitting here, and another in Sydney, N. S. W., to investigate the causes of the extraordinary sickness among a lot of healthy, or apparently healthy, young men. One ship, in which I came over from Durban, not on duty, but invalided, lost nineteen by death out of about a thousand troops. Two of these died at sea, and seventeen soon after landing from measles and pneumonia. When landed, they were no longer under military surgeons, but under the Health Department, and, therefore, I am permitted to say that the selection of a quarantine station for these men was a most unfortunate one. A bleak, dreary island, with very imperfect hospital appliances, was about as bad a place for measles as could be picked out. What the finding of the Commission may be will not be known until their report is published, and as the evidence was all taken in camera, all judgment must be suspended until it is published.

Attention has recently been called by the Board of Education to the extraordinary amount of sickness among the teachers in our public schools, involving long leave of absence, say three to six months. As they are only paid for one month, it is evident that this long leave must be urgently required. Having had a large number of teachers under my own care, I should attribute the causes of their illness, first, to excessive bodily fatigue, caused by standing or walking about during the whole of the school hours, and, second, to the nervous anxiety and worry about the result of the examinations, and the inspector's visit and report. I have visited schools, and I am surrounded with young people who have been entirely educated in our public schools, and for the life of me I cannot see what experienced teachers should have to worry about. The modicum of knowledge imparted in our schools is so extremely minute, the boy or the girl emerges from them so thoroughly stamped as belonging to the uneducated classes, that if, instead of being taught by trained teachers, who have all undergone a vigorous examination, they had only passed through a dame's school, I cannot see what the difference would have been. Yet the teachers, the women especially, simply worry themselves to death about these wretched children.

The winter here has been miserably wet and cold. How different from the glorious climate of Natal, where hardly any rain falls during the winter, and you have bright sunshine with a clear blue sky during the day, warm enough in midwinter to dispense with a fire, and only requiring one at night. I enjoyed better health during the latter part of my stay in Natal than I had for twenty years. Here, a vast number of old people have been carried off, and bronchitis, etc., are very prevalent.

DHOBIE ITCH.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In your number of September 13, 1902, my attention was attracted by an article on "adobe itch." The writer was evidently referring to that tropical disease known as "Dhobie (laundryman's) itch," from the idea that it was spread through the uncleanly habits of the "dhobie," or washerman. The term is applied to almost any form of intertrigo, is an epiphytic disease, and is usually caused by one of the trichophytous microsporous, or the germ of pemphigus contagiosus. When I left the Philippines about a year ago, it was very far from disappearing. It has been brought to this country by soldiers returning from the Philippines, and is now very common at this post.

CHAS. F. MASON, M.D.,
Major-Surgeon, U. S. A.

FORT SAM. HOUSTON, TEX.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 16, 1902

Pelvic Cellulitis as a Complication of Uterine Fibroids—A. T. Cabot reports two cases of death after hysterectomy for fibroids, in both of which the same complicating condition existed; namely, a cellulitis of the pelvic wall, which, when awakened to activity by the operation, led rapidly to a fatal issue. There was no evidence of sepsis introduced at the time of operation, and the author is left with the belief that in both cases an inflammation already existed in the pelvic wall outside of the peritoneum He concludes that it is wise, in any case of hysterectomy for fibroids that are or that have been recently inflamed, to inspect the pelvic wall with great care to see if any swelling or induration can be discovered. This search should be directed especially toward the base of the broad ligaments, where they spread out on the pelvic wall, and where their lymphatics enter the glands that lie along the iliac vessels. The sudden appearance of a highly septic condition immediately after a clean operation should strongly suggest the condition above described, especially if there was sloughing or abscess formation in any part of the fibroid removed.

X-Ray Treatment of Malignant Disease.—Seabury Allen reports a series of cases with photographs illustrating the *x*-ray treatment of malignant disease. Two of them had epidermoid cancer, and both had been advised against operation. In one of twelve years' duration, after a month's treatment with a total exposure of three hours and twenty minutes, there is a perfect result, and no recurrence after five months. One man had an epithelial cancer of twenty-five years' duration, involving the nose, cheek, forehead, and parts about the eyes. Treatment of two hours and twenty minutes' total exposure resulted in a cure. Walter J. Dodd reports the case of a woman suffering cancer of the breast which had recurred after operation. She was taking twenty-five grains of morphine a day to relieve the pain. The tumor is now one-half its former size, though still very tender. The pain was relieved after five exposures, recurred when treatment was stopped, and ceased again when treatment was resumed. At present she uses only two grains of morphine a day. James C. White says that in cutaneous tuberculosis the effects of the *x*-ray treatment are slowly favorable, but in cutaneous sycosis it works like a charm. In four cases which had been under treatment for nearly a year, by ordinary remedies without yielding, six exposures to the *x*-ray caused great improvement within a few weeks, and in two cases the disease was cured. In cases of alopecia areata the treatment is said to have restored a growth of hair, yet, curiously enough, it is also used to remove hair from women's faces.

Journal of American Medical Association, October 18, 1902.

Excision of the Gasserian Ganglion.—J. B. Murphy and J. M. Neff report ten cases operated upon by the Hartley-Krause method. They enumerate the indications for the operation to be as follows: (1) When all internal medication and the removal of external irritants have failed. (2) When all branches of the nerve are involved in the pain. Here it should be a primary operation. (3) When individual branches only are involved and relief has not been secured after the peripheral operation. (4) In cases in which formerly divisions at the base were indicated.

Infrapubic Section for Prostatectomy.—E. W. Andrews offers the following conclusions: (1) The narrowness of the male pelvic outlet becomes surgically important with the overgrown prostate. (2) Overgrowth of prostate does not cause obstruction unless there is also outside pressure. (3) This may come from the ligaments and muscles without the organ actually pressing upon the ischia or from bony pressure. (4) Relieving the prostate from the fixed space behind the pubis allows it to expand and cures the obstruction. (5) This can be done best by an anterior incision and should be accompanied by a cutting of the prostatic ring and removing a segment extraurethrally. (6) Incidentally, the change of position, lowering the bladder outlet, does away with the retroprostatic pouch, and greatly assists natural drainage. (7) The separation of the prostatic and urethral ligaments from the pubis, and the weakening of the urogenital diaphragm is not to be avoided, but sought.

The Disappearance of Opacities of the Crystalline Lens.—The views of W. L. Pyle are summarized as follows: (1) There is no question as to the authenticity of many reports of the spontaneous disappearance of senile cataract, and these cases may be explained and classified in five groups, as follows: (*a*) Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule; (*b*) cases in which there was spontaneous dislocation of the cataractous lens; (*c*) cases in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision after degenerative changes in Morganian cataract, without rupture of the capsule or dislocation of the lens; (*d*) cases in which there was complete spontaneous resorption of both nucleus and cortex without reported history of ruptured capsule, dislocation or degenerative changes of the Morganian type; (*e*) cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in the refraction. (2) It is not uncommon for opacities of the crystalline lens or its capsule, the result of traumatism, to disappear, even when the capsule has been penetrated. (3) Too much stress cannot be laid on the value of personal hygiene, treatment of associate local and general disorders, careful and repeated refraction, and the proper use of the eyes in arresting the progress of incipient cataract. (4) In certain complicated cases, secondary to grave nutritional disturbances, lenticular opacities may entirely disappear under appropriate treatment. (5) Generally speaking, the so-called "non-operative" treatment of cataract, as practised by advertising charlatans and irregular physicians, is worthless, often distinctly dangerous, and consists in no beneficent measures not known and appropriately used by all reputable oculists.

Endocarditis as a Complication of Pneumonia.—E. F. Wells summarizes his views in the following propositions: (1) Endocarditis is an infrequent occurrence in pneumonia, and ulcerative endocarditis is a rare event. (2) When endocarditis occurs it does so comparatively early in the pneumonic attack, and ulceration may occur at any time within a period of probably several weeks, the time of embolic showering being possibly coincident with some unusual valvular strain. (3) The symptoms and signs, previous to ulceration or in the cases in which this does not occur, are equivocal. (4) Any of the valves may be affected, but the preference is for the mitral, although the aortic is oftener attacked than in any other form of endocarditis. The vegetations are quickly formed and massive, and they have a marked tendency to ulcerate. Pneumococci are present early, and should ulceration occur, the blood becomes infected. Later the pneumococci die and embolic showerings are sterile. (5) In simple endocarditis the diagnosis is always difficult and often impossible. The murmurs and embolic showerings of ulcerative endocarditis render the diagnosis of this condition comparatively easy. (6) The prognosis of simple endocarditis is not well established, but that of the ulcerative form is extremely grave, although not absolutely hopeless. (7) The treatment of pneumococcal endocarditis, both simple and ulcerative, should embrace, as a cardinal and the most important principle, absolute rest in the recumbent posture, thus placing the least possible burden on the heart. (8) There is but little tendency toward cicatricial contraction, and when recovery ensues, even in cases with ulceration, the integrity of the valve may be unimpaired, and health completely restored.

Medical News, October 18, 1902.

Recent Discoveries in the Domain of Etiology.—D. H. Bergey states that the investigations upon the etiology of yellow fever are practically conclusive in demonstrating that yellow fever is due to an animal parasite, transmitted in a somewhat similar manner to the transmission of malarial fevers. The direct causative agent of the disease has not yet been discovered. The writer's own investigations upon variola and vaccina have led him to believe that variola is caused by an animal parasite belonging in the class Sporozoa, and that vaccina is due to a modified form of the same parasite. The parasite of variola is probably transmitted through the air, or by direct contact, as in many bacterial diseases. There is no evidence that insects play any part in the dissemination of the disease, except that flies may carry the infectious agent on their bodies from contact with cases of variola. The organism of "spotted fever" is a hæmatozoon, and is found in the red blood cells in the circulating blood, but more abundantly in the blood cells in the congested capillaries of the tissues. No pigment was found in the organism, and so the discoverers believe that the parasite belongs in the class with the Texas-fever organism, and not with the malarial group. The tick is believed to convey the parasite.

Polyhydramnios Its Differential Diagnosis and Treatment, with the Report of Cases.—Edward P. Davis defines polyhydramnios as a condition of more than two pints of amniotic liquid at full term. The pathology is not fully known. Many conditions accompany polyhydramnios. In making the diagnosis, the condition of pregnancy must first be determined; then, in polyhydramnios, evidence of faint uterine contraction can usually be obtained, while the finger can often be inserted into the cervix and a presenting part felt. Ectopic gestation must not be forgotten. In ovarian cyst the illness is longer, and the swelling at first unilateral. The uterus is but little enlarged, and there is no intermittent hardening of the tumor. In ascites the dulness changes with the alteration of the patient's position. When pregnancy is discovered, then the presence of other complications must be recognized or eliminated. Treatment by drugs is valueless. When polyhydramnios is slight, and the patient's health good, pregnancy should not be interrupted. If interference is indicated from rapidly increasing distention, and impairment of the patient's health, the membranes should be ruptured, and the fluid be allowed to escape gradually till the presenting part is fixed against the cervix. Firm pressure is exerted on the abdomen by a binder. Labor should be carefully watched, as the fœtus may assume faulty positions. Labor should not be hurried, for the child's sake, as the fœtus is frequently deformed. The uterus should be completely emptied and caused to contract.

New York Medical Journal, October 18, 1902.

A Case of Acute Diabetes in a Child Three Years of Age.—The case is reported by F. B. Swartzlander, who was called only three days previous to the patient's death in coma. The family history was non-significant. About six weeks before death the child had an attack of indigestion, but seemed to recover therefrom. An intense thirst and frequent desire to urinate developed, together with anorexia and slight emaciation. A full-sized chamber would not hold all the urine passed at night. Three liters 400 c. c. were voided in one period of twenty-four hours. It contained sugar, 3.2 per cent.; no albumin; specific gravity, 1048. Diacetic acid was present in considerable quantity. Lungs were normal, heart showed a slight anæmic mitral murmur. Early in the morning of the fourth day of observation, she became comatose. The extremities were cyanotic and cold; reflexes nearly absent; pupils dilated, failing to react to light; breathing was labored and stertorous; and the pulse so weak it could not be counted. The acetone odor was very evident. This condition lasted five hours, and she died, the respirations growing gradually more shallow until they ceased.

The Clinical Value and Treatment of Atonic Dilatation of the Stomach.—B. C. Loveland finds, as a common clinical condition in this class of patients the following: A feeling of weight, or fulness, in the region of the stomach, gas, distress, not to say pain; appetite variable and irregular, often great fear of taking even wholesome food on account of expected distress; a muddy complexion, tongue more or less coated, often flabby and indented with the teeth, possibly surmounted by inflamed or congested papillæ; constipation, and frequently associated intestinal indigestion, a tendency to scantiness and high color of the urine; restlessness at night, especially toward the early morning hours. Careful examination will show, not only an enlarged gastric area, but often a loose kidney, displaced transverse colon, and, in women, frequently a prolapsed uterus. Analysis of stomach contents is not necessary or expedient in most of these cases if other methods of investigation are used carefully, but, when resorted to, the gastric secretions will usually be found normal. Treatment calls for regulation of clothing, habits, bathing, and exercise. Faradism over the stomach and bowels may be of service when the symptoms are mainly local. Neurasthenic symptoms indicate spinal galvanization. A free diet is prescribed, water and milk if the patient requires more flesh, and, if necessary, frequent feeding. Among drugs, the first is nux vomica or strychnine, to which may be added rhubarb, if a constipated tendency exists; β-naphthol and bismuth subgallate, if gas or intestinal fermentation is a prominent symptom; and, in lithæmic subjects, sodium salicylate, given in a copious draught of water between meals, will often be of great advantage.

Observations on Muscular Relaxation in Its Relation to Women's Diseases.—D. E. Walker believes that this condition is often overlooked as a cause of disease, and that relaxations of the abdominal wall and pelvic supports, together with displacements of the abdominal and pelvic contents and dilatations of the stomach and large intestine, have often been responsible for symptoms erroneously ascribed to organic pelvic disease. In the relaxed vaginal outlet we find a muscular relaxation, and a definite causative factor therefor in the subinvolutions following confinement or miscarriage. But there are patients presenting relaxed pelvic tissues and uterine prolapse who have never been pregnant. It is often difficult to assign a cause for the general muscular atony. It may follow overexertion and injuries, as well as child-bearing, with all its sequelæ. All patients presenting it do not necessarily suffer, for some establish a tolerance for the condition and some are hypo-sensitive. Local atonic conditions are seen in the vagina from the frequent use of the warm douche. It is also the author's belief that muscular relaxation enters largely as a causative factor into those non-inflammatory pelvic troubles of women which fall under the head of granular erosions, congestions, retropositions, prolapses, menorrhagias, metrorrhagias, dysmenorrhœa, and also of subacute endometritis. Bearing in mind the pelvic blood supply, one can readily see how relaxation of supports first brings about a sagging of the pelvic contents, then interference with the return flow of the blood, and a consequent congestion and increase in size and weight, with displacements of uterus and ovaries, and interference with the functions of menstruation and defecation. Then come menorrhagia, dysmenorrhœa, endometritis, and constipation, with any or all of their attendant ills. A common symptom in many of these cases is pain at the inguinal rings from traction on and tiring of the weakened round ligaments.

American Medicine, October 18, 1902

Pericarditis as a Terminal Infection of Chronic Bright's Disease.—Herman B. Allyn calls attention to three important physical signs of pericarditis with effusion: (1) Dulness in the fifth interspace to the right of the sternum. (2) Fluoroscopic examination is as helpful in pericardial effusion as in pleural effusion, and is very important, The opaque area does not pulsate as it would in aneurysm or enlarged heart, and the upper level can be seen to move with change of posture of the patient. (3) Pulsation of the vessels of the neck may be as marked as it is in aortic disease, and may be accompanied with capillary pulse. The most certain method of discovering the presence of fluid is by exploratory puncture with an aspirating needle. The duration of this kind of pericarditis is short. The prognosis of the pericarditis of chronic Bright's disease is practically always fatal. The recognition of the pericarditis is of greater importance in the prognosis of the venal affection than in the treatment of the pericarditis itself.

Chronic Ulceration of the Leg Treated with X-Rays and "Brush Discharge."—W. L. Heeve declares that in using the "brush discharge" the indirect method should be employed. The electrode is attached by a chain to the gaspipe and held at the extreme end of the handle. By this means the discharge is powerful but not painful. The treatment will improve circulation, increase nutrition, reduce œdema, and rapidly heal ulcers. By this treatment the writer has cured twenty-four cases of chronic ulceration; two, due to traumatic causes, had passed into the chronic stage on account of neglect; three, traumatic, resisted all medical treatment on account of the old age of the patients; nineteen were due to varicose veins. In the treatment the tube is placed at a distance of about eight inches, and so that the platinum anode plate is in the proper obliquity to reflect the rays upon the ulcer. The tube should be of medium vacuum, and actuated strongly. The duration of exposure should be from ten to fifteen minutes. At least seven days should elapse between the first and second exposure, and five days between the second and third. After the fourth exposure, which should never be before the fifteenth day, the part should be "rayed" every third day until healthy granulations begin to form at the base. Then the "brush discharge" from a static machine is begun. This must be applied over the ulcer and surrounding part, and in cases in which varicose veins are the exciting cause, along the entire leg and thigh. Each treatment must be twenty minutes in duration.

Types of Infection Produced in Man by Intermediate Members of the Typhoid-Colon Group of Bacilli.—Warren Coleman in this paper speaks of the psittacosis type. He defines psittacosis as an infectious disease of special type, transmitted to man by parrots (hence the name) affected with the same disease. The bacillus psittacosis was discovered by Nocard in 1892. It is an intermediate of the typhoid-colon group. It is pathogenic for man, and retains its virulence for a very long time. Infection in man may occur directly from the affected bird, from inanimate objects, as cages, or from man to man. Women suffer more often than men from the disease. The parrot is the only animal known from which man has contracted the disease. There are several clinical forms: mild, ordinary, pulmonary, and adynamic. Death from uncomplicated psittacosis is rare. The serum of animals immunized with bacillus psittacosis agglutinates this bacillus strongly. It also agglutinates bacillus typhosus in low dilution (1:10). Clinically, the disease is most easily mistaken for typhoid fever. According to the French observers, the points of difference are the suddenness of the initial rise of temperature and the abrupt defervescence, the early appearance and intensity of the respiratory troubles, and the absence of eruption. Also when diarrhœa is present it does not possess the typhoid characters. There is a strong resemblance between grippe, especially when complicated by pneumonia, and the pulmonary form of psittacosis.

Philadelphia Medical Journal, October 18, 1902.

Acroparæsthesia.—Frank R. Fry runs briefly over several cases of this kind. He states that there is a relation between paræsthesiæ of all kinds to the neuropathic predisposition, and, as a rule, they are the most pronounced and emphatic when this tendency is the greatest. The lithæmic tendency also contributes to their appearance. We do not know the relation of the the lithæmic to the neuropathic tendency, except that they are so frequently associated with each other. Practically, we know nothing about the pathology of acroparæsthesia. Usually a case of this kind reveals its nature, and if it is studied, it will finally not be confused with Raynaud's disease, neuritis, myelitis, or hysteria. It is one of the refinements of the neurologist's art to calculate the value of symptoms in the most neurotic classes of patients.

Hodgkin's Disease; with the Report of a Case.—Thomas C. Ely, from his study of this subject, presents the following conclusions: As to the question of Hodgkin's disease being of tuberculous origin, there is circumstantial evidence in the fact that the lymph glands are one of the most frequent seats of the tuberculous process. In Hodgkin's disease the process begins as a purely local disease, in a gland or chain of glands, and seems to extend by spread of germs, just as we may expect of the tuberculous processes. Cases in which there is an abraided surface of the skin or mucous membrane, which seems to be the starting point of many cases of Hodgkin's disease, may be explained by the fact that tubercle bacilli pass through the skin, without lupus or tuberculous skin inflammation and, not finding in the skin a favorable soil, pass on to neighboring glands of the neck or axilla in a predisposed individual. If inoculation experiments only were regarded as proof, Hodgkin's disease might, perhaps, be added definitely to the list of diseases of tuberculous origin. Only inoculation experiments with the suspected gland itself seems positive proof. Clinical observation, and even autopsy, with most careful histological and microscopical examination, has not unearthed the cause. Many histological changes found at autopsy are undoubtedly due to secondary infection with secondary inflammations, which must give a great diversity in the anatomical picture, and which emphasizes the necessity for inoculation proof. Hodgkin's disease differs in its final stages from the classical tuberculous glands, those of the latter being cheesy degeneration and tuberculous ulcers. In the fibroid glandular inflammation of Hodgkin's disease, the deficiency of blood vessels, and consequent deficiency of nutrition, which causes this coagulation necrosis in the former instance, may modify the the result in the latter, the cause being the same. Whether the glands shall suppurate and caseate, as in classical tuberculosis, or become fibroid, as in Hodgkin's disease, is determined not so much by the character of the microorganisms, nor by the virulence of the toxin, as by the nature of the lymphatic system itself, by hereditary or by an acquired cause. A uniform anatomical basis for a definite decision of tuberculosis seems to have never been possible, and all classifications of glandular diseases as tuberculous or otherwise without inoculation experiments must be regarded as incomplete.

The Lancet, October 11, 1902.

Explosive Eructations.—A. A. Martin reports the case of an elderly man with atonic dyspepsia, who suffered greatly from eructations "tasting like rotten eggs." On one occasion, two hours after eating, he was obliged to belch just as he was lighting his pipe with a match; instantly there were a blinding flash and a slight report, due to ignition of the gases released from the stomach. The patient's beard and eyebrows were thoroughly singed, but happily no further damage was done.

Rats and Plague.—G. J. Blackmore gives brief notes of each of thirty-three cases of the disease, showing that, in all probability, rats were the medium of contagion. Relatives of patients did not contract the disease. "Contacts" did not contract the plague. Neighbors of patients did not and while the houses of the patients were widely separated, all the latter worked in the same rat-infected area. It is believed that the human flea is probably the intermediate carrier of contagion from man to man, and the rat flea from rats to man. It is stated that the rat flea will not bite human beings, but the evidence in support of this contention is slight and inconclusive. The fact that in one or two cases it has been found that the rat flea will not attack man is no proof that it never does so, and the evidence which seems to show that it is only occasionally that this particular flea attacks men—and then only certain individuals—accounts perfectly for the fact that in plague due to rat infection only a limited number of persons are attacked in proportion to the number of rats suffering from the disease. It is stated in a recent and authoritative book on the dog that the dog flea never attaches itself permanently to man, although it may annoy him with occasional visits, and it is extremely probable that the same statement holds true with regard to the rat flea.

Unilateral Pressure on the Thorax as an Aid in Diagnosis.—G. Moreno de la Torre advises the use of the following procedure in diagnosticating pneumonia, provided pain be present, no matter how vague or abnormally situated the latter may be. If both hands are applied over one side of the chest in front and pressure sufficient to arrest all movement in the subjacent lung be slowly exerted, when the inflammation causing the pain is in that lung the pain will either disappear or, in the event of it persisting, the patient will at least breathe without discomfort. If there be inflammation in the other lung also, the pain will generally continue, though its character and seat may change. If the inflammation is in an abdominal organ, or the tissues surrounding it, the pain will continue and will, perhaps, increase. By making pressure first on one side of the thorax and then on the other, it may be possible to draw conclusions as to whether the part effected is in the thorax or the abdomen, and in the former case, on which side of the thorax it is. If pain referred to the abdomen disappears when pressure is made on the thorax, the inference is that the primary cause of it is some pulmonary disorder.

A Case Illustrating the Local and Pulmonary Effects of Abdominal Pressure.—The patient of R. Knox was a girl of twenty-one years, with left-sided pleuritic effusion. Later an effusion appeared in the abdomen. Adhesive plaster, in strips two inches broad, was applied to the abdomen, several layers being used, until a fairly rigid casing of the abdomen was obtained. The pressure was moderate at first. The strapping was applied all over the abdomen, extending up to, but not involving, the lower ribs, so as not to interfere with respiration. Tonics were given and fresh air, with nourishing food, was ordered. The strapping was removed in three days, and the fluid was found to have diminished in quantity, when the abdomen was restrapped, more pressure being applied on this occasion. The treatment was continued for about three weeks, each application of strapping being allowed to remain for three or four days. The fluid gradually disappeared, and, on removing the last strapping, the abdomen presented a normal appearance. The case was regarded, from its history and clinical course, as being of a tuberculous nature. Assuming this diagnosis to be correct, the author regards as of special interest the following points: (1) The great value of firm abdominal strapping as a means of promoting the absorption of an excessive quantity of free fluid in the peritoneal cavity. (2) The rapid absorption of the fluid which had resisted for months the ordinary medicinal treatment. The improvement was noticed after the first application of strapping, and gradually increased with each fresh application, till, in three weeks, the peritoneal cavity was cleared of all fluid. (3) The resulting improvement which took place in the lung condition, the resonance of the lung improving and respiratory sounds in the affected area becoming more evident. The absorption of the fluid in the peritoneal cavity was aided by the firm pressure forcing the fluid upward toward the diaphragm, which is liberally supplied with lymphatic structures. The strapping helped to restore the power of the lymphatics, and to give the necessary support to enable them to deal with an abnormal accumulation of fluid.

British Medical Journal, October 11, 1902.

Puerperal Eclampsia in the Light of Thyroid Inadequacy and Its Treatment by Thyroid Extract.—H. Oliphant Nicholson believes that it is not improbable that the occurrence of many cases of puerperal eclampsia is closely connected with inadequacy of the maternal thyroid system—thyroid and parathyroid glands. In some cases of pregnancy a deficiency of iodothyrin is established, and this leads to the formation of a "vicious circle," and there exists a condition of eclampsia. Thyroid extract is beneficial in all cases of eclampsia, but when convulsions are severe and frequent, at least one large dose of morphine is indicated. Saline infusions may also be given to accelerate the re-establishment of diuresis. When the patient is dying from coma, or with a rapidly rising temperature, a cold or tepid bath seems to offer the best chance of recovery. In the comatose type morphine is not given. The writer suggests the trial of thyroid extract in some of those rare cases of suppression of urine which occur after labor and miscarriage.

A Case of Intermenstrual Dysmenorrhœa (Mittelschmerz) Cured by Successive Oophorectomies.—R. H. Anglin Whitelocke describes an interesting case of a woman of twenty-six who suffered severe intermenstrual pain, which began exactly ten days before the flow, whether she was regular or not. The administration of drugs and cervical dilatation failed absolutely to give the patient any relief. Operation was performed in the hope of relieving the patient. The abdomen was opened in the middle line. The left ovary was enlarged and cystic, and was removed with the Fallopian tube. The right ovary was of natural size, but showed two tiny cysts, which were punctured. The uterus was enlarged and smooth. Although the pain was slightly less, it still continued, and finally another operation was performed, and the right ovary and tube were removed. In eighteen months it had become cystic, and was as large as a small orange. A small myoma was seen in the fundus of the uterus. Since the last operation the patient has never suffered the least pain. Menstruation has ceased, and the uterus has shrunk almost to its normal size, and the patient is doing hard work. In all probability the fibroid had more to do with the matter than the cystic degeneration of the ovaries. Histologically, the ovaries showed nothing peculiar.

Concerning Spastic and Syphilitic Spinal Paralysis.—Wilh. Erb presents this paper. Spastic spinal paralysis—primary spastic paraplegia—is much rarer than tabes, and begins and progresses slowly. The writer knows of a case which has already existed for twenty-six years without undergoing any change at all. The characteristic symptom-triad is weakness, muscular rigidity, and exaggerated tendon reflexes. The diagnosis is very simple, as a rule, when these symptoms are remembered. Multiple sclerosis is the only one disease which sometimes causes much difficulty. To the symptoms just enumerated should be added the pathological plantar reflex, recently described by Babinsky. The etiology is still completely in the dark. Syphilitic spinal paralysis presents a strong resemblance to spastic spinal paralysis. It occurs almost exclusively in individuals previously suffering from syphilis. It often occurs from two to six years after syphilitic infection, but may develop much later. Besides the typical picture of spastic spinal paralysis, there is always a disturbance in bladder function and a usually slight, but always demonstrable, subjective, and objective disturbance of sensation. The onset is usually quite chronic. The prognosis is not altogether unsatisfactory. Energetic and repeated treatment with mercury and potassium iodide is essential. In addition, the usual treatment of spastic spinal paralysis is necessary—strychnine, hydropathy, electricity and massage.

The Huxley Lecture on Recent Studies of Immunity, with Special Reference to Their Bearing on Pathology.—William H. Welch includes under "Studies of Immunity" investigations concerning the specific properties of cells and fluids in health and disease of the widest interest biologically. This field shows how interdependent are the sciences. He speaks of Metchnikoff's work, and believes that he has defended his phagocytic theory with a large measure of success. Whatever one's attitude toward this theory, one must admire the number of new facts which he has presented, and his skill and fertility of resource. Nuttall's work has been most important with regard to the antibacterial properties of the body fluids, especially the blood serum. Buchner and others have gone on also in this line of research. Pfeiffer contributed valuable work, while Behring discovered the fact of antitoxic immunity and the protective and curative value of antitoxin serum. Ehrlich, as well, did much to make these facts clear. Recent work has separated certain specific antibodies into two groups. In the group represented by the antitoxins, the antagonists are single bodies; in the one represented by the cytolysins, the coöperation of two bodies is necessary to produce the antagonistic effect. The two elements which make up a cytolysin are quite independent of each other. Behring well expresses Ehrlich's theory: 'The same substance which, when incorporated in the cells of the living body, is the prerequisite and condition for an intoxication becomes the means of cure when it exists in the circulating blood." Thus we see that there are in the living body substances which may prove its protectors by destroying its invaders, or which may injure it by destroying its own cells, according to the combinations which are formed. The same physiological mechanism is exercised in the production of antitoxins as in the assimilation by the cells of food. There is no reason to believe that there are any special properties in the body for meeting pathological conditions. The writer then touches upon the results which have been attained by the method of serum diagnosis. The most familiar application of this method is the agglutinative test for typhoid fever. It is indispensable in the study of cases of paratyphoid fever. Very interesting work has been done by which differences and resemblances between red blood-corpuscles have been determined by precise quantitive methods. Another interesting line of work has been the study of phylogenetic relationships between animal species, shown by their blood reaction with the specific precipitins. The next subject considered is the bearing of recent studies of immunity on the nature and action of toxins. The great practical problem of bacteriology to-day is to make available to medical practice the bacteriolytic serums, such as antityphoid, antipneumococcus, antistrepticoccus, antiplague, antidysentery serums. At present knowledge of the constitution and action of intracellular bacterial poisons is very imperfect, and cannot yet be applied very definitely to the elucidation of the morbid phenomena of infectious diseases. Welch then presents an hypothesis to explain the source, the method of production, and the nature of certain bacterial poisons. This theory assumes that degenerated and dead bacteria, although recognized as a source of poisoning in infections, are not given the exclusive rôle in this respect. The study of snake venom by Flexner and Noguchi is very important. Their investigations necessitate a very different conception of the nature and manner of action of venom toxins than that previously held. They have taught us that in venom poisoning the substances which are most directly concerned in the act of poisoning are contained in the human and animal body in the form of complements or alexins. The venom is the medium for bringing into the necessary relations with constituents of the body cells, poisons, which are already in the body, or which may be generated there—harmless without the intervention of intermediary bodies. Preston Kyes has positively demonstrated a special class of intracellular complements or endocomplements. This work will probably be instrumental in explaining many morbid conditions. These studies are of great importance in throwing light on various diseases—for example, the group of hemorrhagic infections. The writer says, that although his theme relates especially to the bearing of studies of immunity in pathology, it is hardly necessary to say that these studies were primarily undertaken to elucidate the great problems of predisposition and resistance to disease, and that in this field they have borne their richest fruits. It is very necessary to study systematically the blood and other fluids of the human body in health and disease with reference to their content of specific antibodies, particularly of the bactericidal substances. Recent studies of immunity have brought nearer to a solution the question of the influence of previous disease in predisposing to infection. The investigations concerning immunity have only served to strengthen the foundations of cellular pathology. This knowledge has saved thousands of human lives, and will save thousands more, and to restrict unnecessarily and unjustifiably the practice of the experimental method in these lines is in reality a crime against humanity.

Deutsche medicinische Wochenschrift, September 25, 1902.

Extirpation of a Pseudoleukæmic Tumor of the Spleen.—Erbkam reports the removal of an enlarged spleen, 35 cm. long, 25 cm. broad, and 7.5 cm. thick, which weighed eight pounds. A diagnosis of a pseudoleukæmic spleen had been made previous to the operation, and this was verified by a microscopical examination of the removed organ. The result was extremely favorable. Before operation the patient weighed 116 pounds; within six months thereafter this had increased to 130 pounds. The number of leucocytes was not increased, and the general condition was excellent.

Early Diagnosis of Icterus.—Hamel says that an early diagnosis of icterus may be made by an examination of the blood serum. This takes a decided yellow tint very early in the disease, and before other manifestations are present. For making the examination of the serum the blood (15 to 20 drops) is from a finger-prick into a capillary tube about 10 cm. long; this is then sealed in the flame and allowed to remain in the upright position for several hours until the serum has separated from the clot. In all cases of jaundice the marked yellow color of the serum is then readily apparent.

Intestinal Tuberculous Infection.—A. Heller, to show the frequency of intestinal tuberculous infection, brings forward the following figures: Of 714 autopsies made upon fatal cases of diphtheria, in 140, or 19.6 per cent., there were tuberculous changes present. The lesions showed that in fifty-three, or 37.8 per cent., of these, the tuberculous infection had taken place through the intestinal canal. These figures closely correspond with those recently announced by Councilman, who found tuberculous changes in thirty-five out of 220 fatal cases of diphtheria. Of these, thirteen, or 37.1 per cent., were cases of primary tuberculous infection. Heller has recently observed another case, in a boy thirteen years of age, who died of intestinal tuberculosis. At the autopsy there were found a large number of tuberculous ulcers in the small intestine and cæcum, and also tuberculous changes in the mesenteric glands and liver. From these observations it is apparent that primary tuberculous infection is very much more frequent than is supposed in many quarters.

Berliner klinische Wochenschrift, September 29, 1902.

Action of Alcohol upon Human Metabolism.—Arthur Clopatt, after an extensive series of observations carried out upon a human subject, comes to the conclusion that alcohol after introduction into the body not only conserves the utilization of the nitrogen-free nutritive substances, but also, after the organism has become acclimated to the alcohol, lessens the destruction of the albuminous principles. On the other hand, alcohol exercises no appreciable action upon the absorption of nutritive substances from the intestine.

Obstipatio Spastica.—Von Sohlern considers under this title that form of constipation which is met with in neurasthenic and hysterical patients, and which is frequently associated with ptosis of the abdominal organs. The most diagnostic symptom is the marked stiffening of the intestinal wall, as felt upon palpation. The fæces are dry and hard, and, as a rule, evacuated in small quantities, so that the amount passed bears no normal relation to the amount of nutrition taken. Periods of obstipation, lasting for several days, are of frequent occurrence. Attacks of colic are common, but are not attended by any intestinal fermentation. The keynote of treatment is rest. The patient should be put to bed, and kept there until the action of the bowels becomes normal. Hot abdominal applications are of great service. The diet should be unirritating and nutritious. Water should be given in abundance. Bromide of potash is the drug *par excellence* for this condition, and should be given in good dosage three times daily. During the periods of obstipation enemas of oil and chloral hydrate yield good results. All drastic cathartics are contraindicated, and massage and electricity do harm rather than good. As soon as the bowels have become normal in action the patients may be allowed to go about and gradually resume their ordinary avocations.

Münchener medicinische Wochenschrift, September 30, 1902.

A Peculiar Complication of Pulmonary Hemorrhage.—H. Cybulski reports two cases in which pulmonary hemorrhage was followed by marked dyspnœa and cyanosis. After one or two hours there was coughed up in each instance a whitish morsel, which, upon examination, was shown to be a mass of clotted blood. Following this there was immediate relief to the dyspnœa. The author thinks that dyspnœa following hæmoptysis is frequently due to a similar plugging of the bronchi with blood clots.

Prophylaxis of Whooping Cough.—C. Stamm thinks that greater care should be taken in the isolation of cases of whooping cough. To this end the various departments of health should issue regulations appertaining thereto. These should include the exclusion of children suffering with pertussis from school and all public places. In transporting such children from place to place great care should be observed, and vehicles used for this purpose should be thoroughly disinfected after use.

Spontaneous Recovery after Perforation Peritonitis.—Adolf Weber reports two cases of perforation peritonitis which were not operated upon and in which recovery took place spontaneously. In the first case the perforation was caused by a gallstone and in the second case by traumatism. Both were treated by opium and the local application of cold. The author does not believe that operation should be withheld in this class of cases, but simply reports these instances to show that spontaneous recovery from a perforation peritonitis is not an impossibility

Can Finely Divided Fluids Gain Admission to the Deeper Portions of the Lung by Inhalation.—R. Emmerich, by a series of experiments upon dogs shows, first, that finely divided fluids do gain admission to the deeper portions of the lung by inhalation and, second, that substances present in solution in such fluids after the inhalation of the same may be found in the pulmonary tissue. All of the experiments were carried out by the Bullinger method for producing finely divided fluids. In the first series of tests dogs were made to thus inhale a 2 per cent. solution of boracic acid for one hour. They were then killed and the presence of boracic acid in the lungs demonstrated. The second series was quantitative in nature. Here dogs were made to inhale a 4 per cent. saline solution for one hour The animals were then killed, when it was found that about 1 c.c. of the fluid had gained admission to the bronchi and alveoli As the result of this work there is no doubt but that suitable medication can be introduced into the lungs by the Bullinger method.

French and Italian Journals.

The First Urine of the New-born.—J. Sabrazès has made a series of researches on this subject. Immediately after birth, the infant is excluded from any alimentary influence. It excretes the first urine, which possesses hæmolytic properties; it is very poor in chlorides and in phosphates. Its freezing point is high. At the moment the child is born, it cries, and, in many cases, at the same time urinates. This urine is a transparent liquid of watery aspect, sometimes very slightly lemon-colored, with a neutral reaction or slightly alkaline. The quantity varies between 5 and 8 cubic cm. It is very poor in urea. It contains no albumin. From the work done on this subject, the writer concludes that the fetal kidney secretes, a point which has long been contested.—*Gazette Hebdomadaire des Sciences Médicales*, October 5, 1902.

Nephritis from Mumps.—E. Paganelli reports the case of a boy of nine years suffering from unilateral right parotiditis. The affection was running a normal course, when the author was recalled to the case and found the child almost in a typhoid condition; temperature 39.4° C, pulse 120, respiration 44. There were no symptoms to account for the condition, but on the following day there was œdema of the palpebræ and around the joints, especially those of the hands and feet. Examination of the urine showed a large amount of albumin, with epithelial, hyaline and mixed casts, many white and a few red cells. In six days all untoward symptoms disappeared, and there were merely traces of albumin. The child made a good recovery, There is no doubt that the nephritis was in direct relation with the parotiditis.—*Rivista Critica di Clinica Medica*, October 4, 1902.

Alkaline Extracts from the Organs of Healthy Animals in Their Relation to Immunity toward Anthrax.—F. Tusini has found by practical experimentation, that the effect of the alkaline extract of organs of healthy animals of one kind upon a different species, instead of conferring resistance to the infection of anthrax, actually predisposes to it. In animals of the same species these alkaline extracts have a coagulating action if inoculated in the veins. Extracts of spleen and kidneys appear to have the least influence. Animals inoculated in the veins with extracts from non-coagulating organs furnish a serum whose coagulating powers are lessened as compared with those of normal serum, and whose bactericidal powers are slightly increased. Alkaline extracts of the spleen and kidneys of animals of the same species increase resistance to the anthrax virus.—*La Riforma Medica*, September 24, 1902.

Plastic Operations with the Aid of the Great Omentum.—Achille Sorace has conducted a series of experiments to establish the utility of the epiploon as a means of repairing wounds and the loss of substance in the intraperitoneal organs. It was found best to use the omentum in its entirety, rather than detached strips. The results were as follows: In two cases of parietal resection of the stomach with cauterization of the margins a complete cure followed. In four cases of parietal resection of the small intestines, one simple incision, one cauterization there were five successes, and failure in the sixth case because a detached strip of omentum had been used. On the colon one wound and two resections, all fatal, one because of the use of a detached strip, and the others because of fecal infection of the peritoneum. On the bladder, one case of linear incision, and one of resection of the upper wall with cauterization of the margins—a perfect result. It was noticed that the omentum is not influenced by the gastric and intestinal contents nor by the urine.—*La Riforma Medica*, September 21, 1902.

Extrauterine Pregnancy of Eight Years' Duration; Ablation of the Fetal Cyst.—Condamin reports this case. The patient was married at the age of eighteen, and had a miscarriage six months afterward. In 1893 menstruation ceased and symptoms of a new pregnancy appeared. In July, 1894, labor pains began and lasted four days. They then ceased, but began again two months later, on the occurrence of menstruation. Milk was secreted for four days. The patient recovered promptly, the abdomen remained rather large. In 1895 a surgeon made the diagnosis of fibroma. In 1901 the diagnosis of fetal cyst was made. There was a hard, solid, rounded tumor, which was not painful, on the right side. Operation was performed in 1902. The omentum was adherent to a mass; the appendix was elongated and was resected. The mass was isolated and taken out entire. It contained a fœtus, reduced in volume, but well preserved.—*Lyon Médical*, October 5, 1902.

Society Reports.

THE NEW YORK STATE MEDICAL ASSOCIATION.

Nineteenth Annual Meeting, Held in New York City, October 20–23, 1902.

ALVIN A. HUBBELL, M.D., of BUFFALO, PRESIDENT.

FIRST DAY—MONDAY, OCTOBER 20.

THE meeting of the Council and Fellows, the governing body of the association, was held in the hall of the New York Academy of Medicine, It was called to order at 2 P.M., by the President, Dr. Alvin A. Hubbell of Buffalo, who made a few remarks concerning the work done by the association during the past year. The membership of the association is now about 1,400, and five new county associations have been organized, viz., Albany, Columbia, Otsego, Steuben, and Rockland.

The Two State Medical Organizations.—The report of the work done by the joint committee of conference, appointed at the request of the Medical Society of the State of New York last winter, was presented by Dr. E. Eliot Harris. At the first joint conference, held last March, the committee of the State association proposed that a new charter be applied for, and that the two organizations unite under the name of "The New York State Medical Society," and that all members in good standing in both bodies be made charter members. This was done because the organization of the State society was found to be intricate and unwieldy. At the request of the State society, it was agreed that the united bodies should take the present name of the State society, but have practically the organization of the State association. It was also agreed that the reconstituted medical body should be the representative in this State of the American Medical Association by virtue of the constitution and by-laws adopted in 1901. At the last conference the State society committee took the stand that they could not recommend the acceptance by the State society of the by-laws of the American Medical Association, containing as they did, the code of medical ethics. The joint conference adjourned *sine die.* On motion of Dr. E. D. Ferguson of Troy, the following resolutions were unanimously adopted:

Resolved, That the report of the committee appointed to confer with a committee representing the Medical Society of the State of New York for the purpose of devising a plan for the union of The New York State Medical Association and the Medical Society of the State of New York is hereby approved;

Resolved, That the plan presented at the joint sessions of the two committees by the committee representing this association, whereby 'The New York State Medical Association and the Medical Society of the State of New York be reconstituted by an act of the Legislature into a State medical body, to be known as the Medical Society of the State of New York, of which all members in good standing in both bodies shall be charter members, and the reconstituted State medical body shall be the representative in this State of the American Medical Association by virtue of its acceptance of the constitution and by-laws of the American Medical Association," is hereby accepted by The New York State Medical Association as an expression of our sincere desire for a union of the medical profession in this State.

Resolved, That the committee is hereby continued for the purpose of co-operating with any committee from the Medical Society of the State of New York to secure a charter from the Legislature at its next session in 1903, which charter shall reconstitute the two State organizations into one State body as set forth in the preceding resolution; but if the Medical Society of the State of New York shall fail to approve of such plan of union by a charter to be secured at the approaching session of the Legislature in 1903, then this Committee shall be considered as discharged and the proposition of this Association withdrawn.

Resolved, In case this committee should find occasion to apply to the Legislature at its next session for the purpose of securing the said charter it shall co-operate with the standing commitee on legislation of this association.

Fees Changed.—The initiation fee of five dollars was abolished, and the annual dues were changed from five to six dollars, a rebate of one dollar being allowed if payment were made within the first three months of the year. The fine for delinquents was abolished.

Medical Defense of Members.—Among other changes made in the by-laws, was the important one which imposes on the council the duty of defending, in their discretion, the members of the New York State Medical Association in suits for alleged malpractice. The plan of associated defense is that which has already been put into operation by the New York County Medical Association, and is briefly as follows: "(1) The council shall, upon request and compliance with the conditions hereinafter provided, assume the defense of suits for alleged malpractice brought against members of this association. (2) The council shall not undertake the defense of any suit based upon acts prior to the qualification of the accused as a member of the association. (3) A member desiring to avail himself of the provisions of this article shall make application to the council through the secretary, shall sign a contract renouncing his own and vesting in the council sole authority to conduct the defense of said suit or to settle by compromise, and shall make such other agreements as the council may require. (4) The council shall thereupon contract with said applicant to take full charge of said suit, to furnish all necessary legal services, to pay all necessary expenses, and not to compromise said suit without consent of the accused, but the council shall not obligate the association to the payment of any damages awarded by decree of court or upon compromise."

Officers Elected.—*President:*, Dr. Frederick Holme Wiggin of New York; *Vice-President*, Dr. William H. Thornton of Buffalo; *Secretary*, Dr. Guy D. Lombard of New York; *Treasurer*, Dr. E. H. Squibb of Brooklyn; *Chairman of Committee of Arrangements*, Dr. S. A. Brown of New York; *Chairman of Committee on Library*, Dr. John Shrady of New York; *Chairman of Committee on Legislation*, Dr. E. Eliot Harris of New York; *Chairman of Committee on Public Health*, Dr. J. Scott Wood of Brooklyn; *Chairman of Committee on Publication*, Dr. Emil Mayer of New York; *Chairman of Committee on Nominations*, Dr. Charles E. Quimby of New York.

SECOND DAY—TUESDAY, OCTOBER 21.

The Pathogenesis of Eclampsia.—Dr. FREDERICK P. HAMMOND of New York presented this paper. He said that the degree of toxicity of the blood formed a fair criterion on which to base a prognosis in the individual cases of eclampsia. The underlying principle of treatment should be a judicious prophylaxis. Every case of headache should receive attention, and the patients should be taught the necessity of medical supervision throughout pregnancy. If the specific gravity of urine were 1012 or less, even though nothing else were discovered on analysis, the physician should at once prescribe some remedy which would increase the urinary solids. The best for this purpose was the tincture of the chloride of iron, ten minims three times a day, given in lemon juice. For the headaches, the bromides would be found the best, and the coal-tar products should only be given with great caution in pregnancy. Disturbance of vision and the occurrence of vertigo were often the result of disturbance of the liver or alimentary canal, and such cathartics as podophyllin and elaterium were indicated. If the urine were of a moderately deep color, diminished in quantity and having a specific gravity of 1012, the condition was a dangerous one. If with these there was albuminuria, the prognosis was decidedly bad. Albumin was often absent from the urine prior to an eclamptic seizure, but it was almost always present, coincident with or immediately after, the eclamptic attack. The best prophylactic treatment was the selection of a diet which would minimize the accumulation of toxins in the system. The diet should contain fluids in abundance. Wheat bread, from its richness in nucleoalbumins, should enter into the diet at every meal. The morning meal should consist of an abundance of fresh fruit, always peeled, and the fluids should be weak tea, coffee, or water. There should be no meat. The mid-day meal should be the chief one of the day, and only at this meal should the red meats be permitted. Red meat wasa special nerve excitant. The evening meal should be light, and should be of greater bulk than the morning meal. When headache, disturbance of vision, vertigo, or epigastric pain occurred, the patient should be at once put upon a fluid diet, consisting for the most part of milk, but including shell-fish broths. Under no circumstances should the meat extracts be allowed. When the colon or lower bowel were at fault the cascara compounds were especially useful. If there were persistent flatus, the common rhubarb and soda mixture would often act most happily. A sluggish liver was chiefly at fault in connection with the accumulation of toxins in the system. Under such conditions podophyllin and elaterium were particularly indicated. Cold bathing should be interdicted throughout the entire period of uterogestation, though warm baths should be taken regularly twice a week. When the symptoms pointed to danger there should be no delay. The cervix should be dilated with the finger and the patient given a good dose of croton oil. To avert the attack, when imminent, the speaker said he knew of nothing better than chloral hydrate, though admitting its dangers. The paralyzing effect of veratrum viride seemed to him to be so great as to interfere with the progress of labor.

Bacterial Flora of the Vaginal and Cervical Canal in Health, with Remarks Concerning Infections of the Female Genital Tract.—Dr. William E. Swan of Saratoga Springs presented this paper. He said that our knowledge of the bacteria of the vaginal secretions was of comparatively recent date, the first effective study having been that of Döderlein in 1892. He did not find any pathogenic germ in the normal vaginal secretions, except the thrush fungus, which, only to a limited extent, was capable of producing suppuration and destruction of tissue when injected under the skin or into the eye. This observer attributed the germicidal action of the normal vaginal secretion to the product of acid environment or to the vaginal bacilli. In only eight out of 195 cases examined were streptococci found, and in only five of these was it possible to determine by inoculation experiments that the streptococci were virulent. Krōnig, in about 200 examinations, found that the vagina of the pregnant women, aside from the gonococcus and the thrush fungus, there were no pathogenic microorganisms. He attributed the germicidal properties of the vagina to the outward flow of the vaginal secretions, and not to any special microbe having its normal habitat in the vagina. Walthard found in the vaginal discharges, both during pregnancy and after delivery, streptococci, staphylococci, gonococci, and colon bacilli. The vaginal streptococci were not found to be virulent, and acted as saprophytes on healthy tissues, and only became infectious when the resistance of the tissues were diminished. According to Miller, the gonococcus was by far the most frequent invader of the uterine cavity. Dr. J. Whitridge Williams of Baltimore, in forty examinations of pverperal cases, found streptococci in eight, staphylococci in three, colon bacilli in six, gonococci in two, anærobic bacilli in four, diphtheria bacilli, gas bacilli, and typhoid bacilli each in one case. If a healthy vagina became infected by active virulent organisms it would rid itself of these in from six to thirty hours, while if attempts were made by antiseptic douches to assist nature this self-cleansing process would require from twenty hours to three days.

Treatment in Gynecology from a Medical Standpoint.—Dr. Mary Gage-Day of Kingston was the author of this paper. She said that there was no historical ground for the belief that the diseases of women were practically unknown among the ancients. When women came to her with cancer, tumors of any kind, pus collections, or injuries due to childbirth, she explained to them that surgical treatment was demanded. The balance of gynecological cases, consisting of inflammations and displacements, were amenable to medical treatment alone. In the local treatment of women prior to the menopause, if restricted to a few remedies, she would select four drugs, viz., iodine, ichthyol, glycerin, and boric acid. For the treatment of that condition, known clinically as endometritis, she made use of a mixture of iodine, one drachm, boric acid, two drachms, and glycerin, four ounces. When there was much tenderness about the uterus she preferred to use ichthyol. In many cases curettage should precede medical treatment. Two cases of hemorrhagic metritis were reported, in which, after prolonged local and medicinal treatment without avail, adrenalin chloride, given internally in doses of five to ten drops, four times a day, gave great relief, and did not distqrb the stomach. It was her experience that women past the menopause do not bear so well treatment with iodine, ichthyol, and glycerin. In such cases she had had better results from the use of the following mixtures: Irish moss, half an ounce; glycerin, two drachms; alcohol, four ounces; boric acid, two ounces; water sufficient to make one quart. Its preparation was troublesome, but when properly done the mixutre is bland and mucilaginous, of about the consistence of glycerin and having great healing properties. The points specially emphasized were: (1) The physician should be clean in his own person, instruments, and work; (2) He should thoroughly examine the patients; (3) He should carefully instruct his gynecological patients regarding the hygiene of daily life; (4) He should use simple but appropriate remedies, and (5) He should conduct all local treatment with both skill and gentleness.

Dr. J. H. Burtenshaw of New York City complimented the author on this most practical paper. He thought the failure to appreciate the full value of hot vaginal douches was most unfortunate.

Dr. J. Riddle Goffe of New York City said that while he had not given adrenalin internally, he had made use of it frequently as a local styptic in plastic operations. When there was a large raw surface left in the vagina during the operation of anterior colpotomy, or in the course of denudations in operations upon the lacerations of the cervix and perineum, a few drops of adrenalin solution swept over the bleeding surface would give a clean field for operation.

Dr. Richard H. Gibbons of Scranton, Pa., said that the originator of the hot-water treatment had advised the use of the Davidson, and not the fountain, syringe, believing that the impact of the water was an important factor in the treatment. Dr. Emmett used to be able to state, from examination, which patients in the Woman's Hospital had received douches with the Davidson and which with the fountain syringe.

What Advice Should Be Given to a Woman Suffering from Fibroid Tumor of the Uterus.—Dr. J. Riddle Goffe of New York read this paper. It was admitted, he said, that fibroid tumors occasionally cease to grow and remain sationary, perhaps, for years, or even disappear. However, such a favorable termination was exceedingly rare and should be looked upon as a medical curiosity. Posalpinx and ovarian abscess were the chief complications of fibroid, although the etiology of pus formation in connection with these growths was not very clear.

Metrorrhagia was often very severe, and postponed the menopause for many years. In an exceedingly small proportion of cases treated by electricity had the tumor disappeared, and in these it was not improbable that this disappearance was really spontaneous and coincidental. Moreover, a large experience condemned electricity as a harmful agent. Curettage was occasionally successful, but, as a rule, it required frequent repetition, and often, ultimately, became a dangerous procedure. The author was of the opinion that the proper treatment of fibroid tumors was immediate removal by operation, whether the tumor was large or small, and in both single and married women, except the patient was advanced in years, or pregnancy was a complicating condition. In the majority of cases of fibroids, complicated by pregnancy, there was a normal delivery at full term. Cæsarean section at full term was safer for both mother and child than myomectomy during gestation in the rare instances in which such operation was required.

The Principles Involved in the Repair of Lacerations of the Pelvic Floor.—Dr. James Hawley Burtenshaw of New York City presented this paper. He said that while it was formerly taught that on the integrity of the so-called perineal body depended the maintenance of the normal positions of the organs of the pelvis, it was now generally conceded that its function was solely to give needed support to the curve of the rectum during the expression of intra-abdominal force. Rupture of this body might occur even through the anal sphincter, yet pelvic equilibrium would not be disturbed if the muscles composing the pelvic floor remained intact. By means of drawings, the speaker described the attachments of the levator ani muscle and its fascia, laying particular stress on the important rôle of the latter in imparting strength to the pelvic floor and preventins prolapse. He questioned if the majority of modern operations of perineorrhaphy and colpoperineorrhaphy actually restored the pelvic floor to its normal condition. As the denudation extended only through the mucous membrane of the vaginal wall, the muscles were only backed up against themselves, and in this position they served to reduce the lumen of the canal, partially close the orifice, and restore the curves of the vagina and rectum. While admitting that an operation of this kind apparently fulfilled all indications, he claimed that here, as elsewhere in the body, if a muscular rent was to be closed the edges of the muscle must be freshened and closely approximated by sutures. Many operators had appreciated this defect in plastic surgery of the posterior wall and had evolved special methods for the suture of these superficially denuded areas, but in each case the object had not been attained because the underlying muscles were not directly approximated. Emmet was the pioneer in correctly attributing to the pelvic floor its proper function, but the operation known by his name did not, the speaker thought, accomplish all that its author claimed for it, because the levator and its fasciæ were bound to retract as soon as the retaining sutures were removed. The author's conclusions were: (1) The rôle of the pelvic floor in sustaining the pelvic viscera being acknowledged, a laceration of the muscles and fascia composing the most important section of this floor should be repaired, in order to restore the natural equilibrium of the pelvis; (2) While a majority of the plastic operations on the vaginal wall restore the natural curves of the vagina and rectum, and reduce the size of the vaginal outlet, to restore the pelvic floor to a normal condition approximation and suturing of the edges of the levator-ani muscle and its fascia is imperative.

Dr. E. D. Ferguson of Troy said that in every operation done by through-and-through suturing on tightening the sutures they were thrown into a circle, and consequently the retracted tissues were not brought together, particularly in the center. They were only united by scar-tissue, and such tissue would always yield. He had not always found it possible to recognize the different layers of retracted muscle and fibrous tissue. If the pelvic fasciæ were brought together with any kind of suturing, the fibrous and muscular tissue would be brought together, and there would, probably, be good union.

Dr. Frederick Holme Wiggin of New York City said that the important thing was to bring together these separated muscles and hold the rectum in place. He had been in the habit of making an incision at the junction of the mucous lining of the vagina and the skin, lifting the flap, according to the method of Tait, up to the highest point of the rectocele, and then incising on either side, so as to raise this flap. Having raised the flap, it would be found that the rectum could be pushed back into place, and that the outline of the muscles could be felt. The parts were then coaptated with buried sutures of catgut or kangaroo tendon.

Dr. R. H. Gibbons of Scranton, Pa., said that if there were merely a laceration of the fascia nothing more was necessary than to expose the fascia and dissect out the cicatricial tissue or cut away the overstretched fascia. The operation of Emmet, if properly done, with complete denudation—not merely snipping off the mucous membrane—brought the parts to their original position.

Dr. Eden V. Delphey of New York City said that by the insertion of the finger into the vagina laterally one should determine whether there was resistance toward the ischium, for, if not, the laceration was quite extensive. The effect of the tear in the levator ani was to cause retraction of the posterior fibers of the muscle, and greatly to impair the support of the pelvic organs.

Dr. David P. Austin of New York City thought that better than all the operations thus far mentioned was immediate perineorrhaphy, even in cases in which the laceration extended well into the rectum.

Dr. Theodore P. Simpson of Beaver Falls, Pa., said that in all cases there were a rectocele and a vaginocele, and that in order to restore the parts to their normal shape as well as condition the extension, so to speak, of the floor of the vagina must be removed—in other words, the redundant part of the mucous membrane must be reduced. In Kelly's operation, the muscular fibers were brought together quite perfectly, being attached not only from side to side, but, to some extent, also from end to end. In this way the natural curvature of the vagina was replaced.

Dr. J. Riddle Goffe of New York City said that the old operation was very defective, in that it dragged the tissues downward. His own plan was to bring together the parts by a single line of sutures from the highest point of the rectocele above to the caruncles on the sides.

Symposium on Colds.—This was the special order for the opening of the afternoon program.

Etiology of Colds.—Dr. James J. Walsh of New York City opened the discussion with this paper. He cited instances to emphasize the statement that cold was only a predisposing factor, the chief etiological element being a microbic invasion. At the beginning of an ordinary cold in the head the serous flow was an effort of nature to relieve the congestion and eliminate the infection; hence it should not be interfered with at this stage. The dry air of artificially-heated houses in winter was one cause of nasal irritation. Not infrequently pharyngitis and tonsillitis would follow mouth-breathing, necessitated by running or by some unusual demand upon the upper air passages. Many attacks of tonsillitis, bronchitis, and pneumonia followed going to some crowded place, and then passing immediately into the cold air outside. The congestion thus produced favored an infection by the numerous microbes which had lodged in the upper air passages while the person was in the heated and crowded room. This suggested the wisdom of tarrying a short time in the corridors of places of amusement before going out into the cold air. It was obvious also that greater attention to the hygiene of these public places, including sanitary dusting and cleaning, should constitute one factor in prophylaxis. The fever which acompanied a cold pointed very strongly to the infectious nature of this familiar affection. A distinct incubation period could ordinarily be traced, and the origin of the cold was frequently much farther off than was supposed.

Symptomatology of Colds.—Dr. George F. Cott of Buffalo read this paper. He said that a cold was a disease entity in the minds of the laity, but with the physician it always meant a condition secondary to something else. A person with nasal polypi, for example, would complain of almost constant stuffiness of the nose; one with an enlarged lingual tonsil became hoarse after very slight use of the singing voice. The familiar symptoms were then detailed.

The Treatment of Colds.—Dr. A. Alexander Smith of New York City discussed in this paper the treatment of colds involving the portions of the air passages situated above the vocal cords. He said that he was a believer in the view that some colds in the head are communicable, and that in some instances isolation might be a useful protective measure. In those prone to contracting colds some protection was afforded by the almost constant use of cod liver oil. The early and prompt treatment of some underlying diathesis, such as lithæmia, would often check the full development of a cold. The first thing he did when asked to prescribe for a cold was to ascertain if there was any elevation of the body temperature, and if this were 100°F. or over he insisted upon the patient's remaining home, and better still, in bed. In this way his comfort was promoted and in the end time was saved. A moderate dose of quinine and Dover's powder at night, followed in the morning by a cathartic, would certainly cut short some colds. Often no further treatment would be necessary than the administration of two grains of quinine, three times a day. The old domestic treatment by a hot mustard foot bath at bed-time should not be despised as means of promoting the patient's comfort. His own experience with the well-known "rhinitis tablets" was that if taken sufficiently early they would often "break up" a cold. In many patients susceptible to belladonna these tablets would give rise to the unpleasant physiological effect of that drug, yet it was necessary to push it almost to this point in order to secure the proper effect from these tablets. Another method of treatment, which was exceedingly satisfactory, was the alkaline treatment. This consisted in giving one drachm of bicarbonate of sodium in half a glass of water, and adding as a flavoring, a very few drops of lemon juice. This dose should be repeated in one hour. This treatment was often disappointing, however, in those who were not lithæmic. Sodium salicylate could be given in a dose of ten grains, repeated in an hour, and then in doses of five grains, at intervals of five or six hours, provided always it did not cause disturbance of the stomach. Camphor internally and by inhalation often yielded good results in the treatment of colds. A combination of phenacetin or antifebrin in small doses with quinine frequently proved beneficial in persons suffering from cold and having a dry, hot skin associated with muscular pains and headache. The great objection to it was that while it seemed to reduce the severity of the cold it would do so only to a certain point, and almost invariably prolonged the affection. In cases of moderate severity attended by an excess of mucopurulent secretion he had found great benefit from the use of creosote or of guaiacol carbonate in small doses. Thus, he would give one minim of creosote, or an equivalent of guaiacol every hour for the first day, and then continue it at longer intervals. The taste of creosote was objectionable, but there were certain pharmaceutical preparations by means of which it was disguised. They should be given every hour for six days and then every second hour, according to the indications. Carbolic acid had had many advocates, but he had been unable to satisfy himself that it was useful in ordinary acute catarrhal colds unless these were associated with great gastro-intestinal disturbance. For children under twelve years of age it was well to give very small doses of the tincture of aconite, repeated at intervals of an hour. The Turkish bath was rarely useful, except at the very beginning, and then should be used in connection with the administration of quinine, alkalies, or the vegetable bitters. Turpentine, terebene, and terpin hydrate had not proved useful in his hands in ordinary colds, except those involving the air passages below the vocal cords. He was not a great believer in the local treatment of colds, though he would admit that irrigation with saline solution was often useful. It was, however, dangerous, except in skilled hands. When there was a tendency to the recurrence of colds, benefit would sometimes accrue from the administration of very large doses of the tincture of the chloride of iron, given for only two or three days. He would give twenty minims of this tincture well diluted at each dose. Another agent of the greatest service was cod-liver oil; it would often produce an absolute cure as well as prevent recurrences. For those who found difficulty in taking it, quinine might be substituted in small doses, or else the vegetable bitters given. Sometimes the tendency to recurrence could only be absolutely relieved by a change of climate.

Dr. W. H. Thornton of Buffalo insisted that if local applications were employed at all they should be non-irritating. A weak alkaline spray was one of the best local applications. It should be used gently for two or three minutes, and then followed by a very mild oily spray, such as five grains of camphor to the ounce of one of the oily bases commonly used. Many oily sprays contained too much eucalyptol and thymol, and while they opened up the nostrils very satisfactorily the reaction frequently left the patient in a worse condition than before. If the nostril were completely occluded a weak solution of adrenalin chloride would certainly give relief, and its effect could be prolonged by the subsequent use of an oily spray.

Dr. W. Freudenthal of New York City objected to the prevailing tendency of calling everything an infection. Infections of the air tract were undoubtedly quite frequent, but a common cold, in his opinion, was nothing else than the effect of the lowered temperature upon the human system. About ten years ago he had investigated the dryness of the air in dwelling-houses, and had found that often there was only 15 to 18 per cent. of humidity. A person living in such dry air would develop a catarrh, which would, perhaps, last all winter. It was not a true cold, but a chronic post-nasal or similar catarrh, which, at times, underwent exacerbation. To overcome the susceptibility to catching cold one should not only resort to cold bathing, but should carefully avoid over-dressing.

Dr. G. W. Murdock of Cold Spring said that no mention had been made of a remedy upon which he placed great reliance in the treatment of colds—gelsemium. One or two doses of 10 to 20 drops of the fluid extract of gelsemium, taken at night, with or without liquor ammoniæ acetatis, would go a long way toward breaking up a cold.

Dr. A. H. Brownell of Oneonta thought the best treatment was that which antedated the cold itself, and which was directed towards the removal of such pathological conditions as enlarged tonsils and turbinates.

Dr. Cott said that almost all colds in children were due to obstruction in the nasopharynx and the removal of this would remove the tendency to colds. When a cold affected the trachea it gave rise to one of the most harassing coughs imaginable, but could be almost always relieved by an intertracheal injection of oil containing 5 per cent. of menthol.

The Newer Relation of the Pancreas to General Medicine.—Dr. Alfred Stengel of Philadelphia presented this paper. He said it had been satisfactorily demonstrated by the results of partial extirpation of the pancreas, that the results of complete extirpation of this organ were dependent upon the removal of its glandular activity, and were not due to shock. The pancreas probably secretes something which is concerned in the formation of sugar. The evidence in our possession suggests a close relation between diabetes and lesions of the islands of Langerhans, but it could not be asserted that the pancreas always played a part in the development of diabetes. No reliance could be placed upon indicanuria in determining the presence or absence of disease of the pancreas. The determination of the presence of fat-splitting ferments in the urine might, in time, become a means of diagnosticating disease of the pancreas. No reliance should be placed upon fatty diarrhœa as an indication of pancreatic disease. Deep-seated and intense epigastric pain of sudden onset, associated with collapse, was fairly characteristic of acute pancreatitis. Glycosuria, it should be noted, was by no means a constant symptom of pancreatic disease, even when the latter was of considerable extent.

A Preliminary Study of the Metabolism in Myxœdema Before and After the Administration of Thyroid Extract.—Dr. C. N. B. CAMAC and Dr. HASTINGS of New York City presented this paper, which was read by Dr. Camac. The subject of this study was a married woman of fifty-two years. On May 28 the use of thyroid extract was begun, and when the most marked fall in body weight occurred she was receiving thirteen grains of this extract daily. A loss of over twenty pounds was noted in two months, but in this preliminary communication they were not yet able to say, despite the elaborate research that had been made, just where this loss occurred.

Dr. ALFRED STENGEL said that the lack of rapid proteid consumption in this case was most interesting. The work of other experimenters regarding the action of thyroid extract in other conditions than myxœdema seemed to show that this remedy was capable of causing a rapid destruction of proteids in these other conditions. The different effect of the thyroid extract in myxœdema was not surprising when one remembered that this remedy exerted a specific action in myxœdema.

Dr. WOLFF said that it was very remarkable that, with the rapid loss of weight, the intake of nitrogen was greater than during the period of thyroid administration. This apparently showed that the loss was not due to proteid destruction, but either to the elimination of water or, perhaps, of fat.

Dr. J. J. WALSH expressed the opinion that the milder grades of myxœdema were not uncommon, though often overlooked in diagnosis. Many young people, about the time of puberty, became unnaturally stout, owing to a failure of the thyroid gland to develop properly.

The Present Position of Gallstone Surgery.—Dr. WILLIAM WOTKYNS SEYMOUR of Troy was the author of this paper. He pointed out that many deaths resulted from the prevalence, even at the present day, of the belief that gallstones can be dissolved by internal medicine. Again, contrary to general opinion, jaundice was not a very prominent symptom of gallstones, and when it was deep, and persisted, it suggested malignancy rather than gallstones. At the present time, in uncomplicated cases of gallstone surgery, one could promise an almost certain cure. However, when procrastination had converted an otherwise simple case into a complicated one, the mortality might rise to 40 per cent. Of forty-four gallstone operations that he had done, only six had proved fatal. The fatal cases were reported in detail.

A Study of the Indications of Nephropexy.—Dr. AUGUSTIN H. GOELET of New York City read this paper. The author insisted that the operation was indicated when there was prolapse of the kidney of the third degree, or beyond, *i. e.* when the organ was entirely below the border of the last rib in front. The indications for the operation were dependent upon: (1) The symptoms produced by the displacement of the organ; (2) The influence it exerted in producing or maintaining pelvic diseases in women, and (3) The influence exerted in causing disease of the kidney itself.

Dr. A. ERNEST GALLANT of New York City declared that even after the fixation of the kidney by operation the symptoms still persisted in 95 per cent. of the reported cases, and that a cure was not secured after such operations unless great attention were given subsequently to the support of the abdomen. For years it had been his practice to treat these cases by the proper application of a corset similar to the straight-front corset now in vogue. When the kidney was held in position by such means it could not be forced down by the patient if the corset were properly applied. His plan was to place the patient on a couch and take the measurements for the corset in that position. The corset was applied with the patient lying down on the couch with the hips raised. She was instructed while in this position to lace the lower part of the corset as firmly as possible, but to keep the upper portion very loose.

Dr. PARKER SYMS of New York City said that in some cases of prolapsed kidney, associated with neurasthenia, there was room for a difference of opinion as to the best course to pursue. In some of them operation would do harm rather than good; in other cases the neurotic condition was the result of the floating kidney, and in the latter, if the operation were done sufficiently early, the result should be good. If the woman were feeble and nervous he preferred to improve her general condition before operating. He had had no personal experience with mechanical supports, but the results reported from such treatment had not been satisfactory.

Dr. MAX EINHORN of New York City said he had seen a very large number of cases of displaced kidney, and had made it a point to examine the urine carefully, with the result that he had very seldom found disease of the kidney as such. Some of these patients had been kept under observation for a number of years, and had presented no evidence of renal disease at any time. There was associated with most cases of movable kidney a condition of general enteroptosis. In almost 95 per cent. of these there was a gastroptosis, and in many the colon was also prolapsed. It was obvious that restoration of the kidney to its proper place would not favorably affect the other displacements—indeed, he thought it actually favored the descent of the other organs by increasing the capacity of the abdomen. The indication was to make the abdomen smaller, and this was best accomplished by improving the general nutrition and by bandaging. Even if the kidney were moveable to the fourth degree, and remained in this position, it did not ordinarily give rise to any special disturbance, provided the patient was otherwise healthy. He had not yet met with any cases of movable kidney which, in his estimation, required operation, and his results had been very satisfactory. The literature, he believed, showed that there was a mortality of 2 per cent. associated with the operation of nephropexy, and this was too large to be lightly disregarded.

Dr. GIBBONS expressed the opinion that the kidney should be promptly fixed by operation to prevent certain disastrous results, such as Bright's disease, stone in the kidney, and malignant disease. About fifty years ago the renowned surgeon John Carnochan of New York City devised what is now known as the French corset for the purpose of relieving the symptoms of gastroptosis. This was the corset recommended by Dr. Gallant.

Dr. GOELET, in closing the discussion, replied to the criticism regarding the mortality of nephropexy by saying that this operation was still in its infancy. He had himself done 139 nephropexies on 112 patients, and had not lost a single one. On this experience he based the statement that there was no mortality to this operation. He did not think general enteroptosis was associated with prolapse of the kidney in more than 25 per cent. of the cases. He recalled but two cases in which the symptoms had not been relieved very shortly after the operation, and in one of these they had disappeared after about six months. The other case had only been operated upon a week or two ago. In not a single instance in which he had

had made a careful microscopical examination of the urine in cases of prolapse of the kidney to the third degree, or over, had there been absence of renal disease. He believed that nephroptosis was the most important element, even in cases of general enteroptosis. The kidney should be fixed by operation, and the other organs held in place by mechanical supports.

The Surgical Diseases of the Kidneys from the Standpoint of a General Country Physician.—Dr. George A. Leitner of Piermont presented in this paper a report of three interesting cases, and also exhibited the pathological specimens. The cases were respectively, stone in the kidney, abscess of the kidney, and adenocarcinoma of that organ.

A Case of Leprosy.—Dr. William S. Gottheil of New York City exhibited a very well marked case of leprosy of the face and hands of long standing.

The Relation of Obesity to Improcreance.—Dr. Heinrich Stern of New York City presented this paper. He said that the apparent relation of improcreance and polysarcia had been often noted. He had treated for polysarcia forty-eight women, thirty-four of whom were married. One had never menstruated; twelve had never been pregnant; in eight single or double oophorectomy had been performed; five had always had scanty and irregular menstruation; in two the catamenia had prematurely ceased; four had various congestive or inflammatory conditions of the sexual organs, while only six seemed to have been entirely free from ovarian and uterine derangements. Of 100 women at the menopause, chosen by him at random, eight were not certain whether they had gained or lost; twenty thought they had retained their previous bulk; twenty-nine had lost weight and circumference, and forty-three had developed more or less marked polysarcia. Experienced breeders did not always depend upon castration alone to procure profitable live stock, but had recourse to three valuable expedients, viz.: (1) Over-alimentation; (2) compulsory rest, and (3) lack of sunlight. It was interesting to note that many hibernating animals lose but little weight while in their dark hiding places. The non-performance of sexual functions by preventing expenditure of certain body material might facilitate the fattening process. It was not improbable that the reduction of protoplasmic catabolism might constitute the basis of obesity in the improcreant. All the possible factors underlying the association of improcreance and obesity were found to depend upon diminished intraorganic oxidation.

A Case of Idiopathic Brain Abscess with Focal Symptoms Diagnosed as Brain Tumor.—Dr. Herman G. Gordinier of Troy reported this interesting case. The tumor was in the motor area just beneath the cortex. The author's conclusions from a study of this case were: (1) It showed the necessity for exploratory puncture or incision in every apparently inoperable case of brain disease, regardless of the supposed pathological lesion; (2) This case confirmed an opinion expressed by him in a previously published article, *i. e.* that typical attacks of Jacksonian epilepsy might be excited quite as well by a lesion just below the cortex as by one upon it; (3) That the case showed no disturbance of sensation other than those in the arm; and (4) That the case confirmed the value of local convulsive movements as a means of locating brain disease.

A Case of Melancholia Agitans.—Dr. William E. Douglas of Middletown presented this clinical report.

Report and Presentation of a Case of Idiopathic Atrophy of the Skin.—Dr. R. Abrahams made the clinical presentation, and Dr. William S. Gottheil described the results of microscopical examination. Dr. Abrahams said that not more than twenty such cases had been reported. The important features were the slow progress of the pathological process and the absolute failure of all remedial agents to arrest the disease. The microscopical examination revealed a general atrophy of all the elements of the skin following upon, and the result of, chronic inflammation.

Unrecognized Toxic Insanities.—Dr. T. D. Crothers of Hartford, Conn., was the author of this paper. He asserted that the toxic insanities, particularly from spirits and drugs, are increasing. The strange conduct of persons high in active life, together with strange and unexpected crimes, were found to be largely associated with spirit and drug taking, indeed were practically due to this one cause. A closer study showed a distinct origin, progress, and development of a psychosis, with progressive degeneration of the brain and nerve centers. The paralyzing anæsthetic action of alcohol, first on the sensory and then on the higher centers, was very apparent in these cases. A large percentage of the insanities occurring in the higher circles were both directly and indirectly due to the use of drugs and spirits. These causes were largely unrecognized except in the latter stages. Changes of conduct, character, habits, and manners of persons who use spirits and drugs could only be explained as true psychoses. It was said, on the very best authority, that fully one-fourth of the medical practice in this country among the better classes of society was directed to the correction of injuries following from the abuse of alcohol and drugs.

THIRD DAY—WEDNESDAY, OCTOBER 22.

Strangulated Hernia in Children Under One Year of Age. Dr. W. B. Reed of Rome, N. Y., in this paper presented a report of a successful herniotomy done by him on a male infant, twenty-seven days old. The tumor, which was the size of a hen's egg, was situated in the right inguinal region. The tumor was very tender, and there was no impulse on crying. The child was inverted and taxis tried, but without success. At the operation, the point of strangulation was found to be at the internal ring, and was so very tight that two incisions into the constricting band were required in order to liberate the hernia. Dr. Reed said that although congenital hernia was quite common in children, the occurrence of strangulation in a child under one year old was extremely rare. He had been able to find only nine such cases, including his own. The rarity of strangulation in children was probably due in large part to the softness of the involved structures. He thought the mortality should be considerably less than 10 per cent. in infants under one year of age. if the operation were promptly done, even by a surgeon of moderate experience.

Dr. A. J. Ochsner of Chicago was invited to open the discussion. He thought his own experience included fully as many cases as the entire number reported in the paper, but, like many other surgeons, he had not reported specially upon them. As a matter of fact, children bore herniotomy remarkably well. About 97 per cent. of the cases of non-strangulated hernia were cured spontaneously. The operation in strangulated cases was very simple.

Local Anæsthesia in Radical Cure for Inguinal Hernia.—Dr. J. A. Bodine of New York City was the author of this paper. It was based on forty-eight cases of inguinal hernia operated on under local cocaine anæsthesia. In no case was more than one-half a grain of the muriate of cocaine used. The operator should endeavor to recognize and specially cocainize the three main nerve trunks to the part. The iliohypogastric nerve was the easiest to find, and if it were well cocainized the anæsthesia would be fairly satisfactory. The needle should be introduced just beneath the scarf epithelium of the integument—in other words, the injection should be introdermic and not hypodermic, and the anæsthesia could be painlessly deepened down to the aponeurosis of the external oblique. The method of introduction should be such as to produce œdematization and acute anæmia of the skin. A one-per-cent. solution of cocaine would anæthetize the skin for an hour and a half. In the forty-eight cases referred to, all three nerve trunks had been identified seventeen times, and the iliohypogastric nerve in every case. Whenever a blood vessel was cut or tied it caused acute pain. He had found that cocaine solutions could be boiled for a minute or two without causing any deterioration in them.

Dr. **John A. Wyeth** of New York City said that in his own experience probably 50 per cent. of hernia patients who refused operation did so because of their fear of narcosis. With the weaker solutions of cocaine one must use a wider circle of infiltration, and this was important because one of the objections to the infitration method was the traumatism which the cocaine inflicted upon the tissues. The injection of the cocaine directly under the integument was essential, and with these weak solutions there could be no danger of cocaine toxæmia. By injecting two or three drops and then incising, the anæstheria was almost instantaneous, and the excess of the cocaine solution was allowed to escape. In his opinion, cocaine anæsthesia should not be used in difficult hernia cases. It was important that the cocaine solution should be sterile and that it be made freshly for each case.

Dr. **Lyle** said that his experience in the use of cocaine in herniotomy had not been so extensive as that of Dr. Bodine, but he had done thirteen of these operations under cocaine anæsthesia. His plan was to inject ½ per cent. solution into the skin, and he did not fear cocaine poisoning because morphine is a perfect physiological antidote. Of his thirteen cases the three nerves were found in seven. He thought it was important to use the cocaine solution hot, for in this way much less would be needed.

Dr. **A. Ernest Gallant** of New York City said that if one grain of boric acid were added to four ounces of a solution of cocaine the solution could be perfectly preserved not only for months but for years.

A Case of Large Cavernous Angioma of the Back.—Dr. **J. A. Wyeth** of New York presented a little girl with this condition, not only because of the intrinsic interest of the case, but because it showed the good results obtainable from Dr. Wyeth's method of injecting boiling water. He had employed this method in about half a dozen cases with encouraging results.

Intestinal Obstruction.—Dr. **John B. Harvie** of Troy read this paper, reporting many interesting cases, and presenting a number of pathological specimens. The histories presented demonstrated, in his opinion, the practicability of securing an almost positively favorable outcome from early operation.

Radical Operations for the Cure of Cancer of the Stomach. Dr. **William J. Mayo** of Rochester, Minn., presented this report. He said that Dr. W. G. McDonald had found forty-three cases of fndoubted cure after extirpation of cancer of the stomach; Murphy had collected 189 cases operated upon radically, by many well-known surgeons, with twenty-six deaths. Of these, seventeen, or about 8 per cent., survived three years. This was reduced to 5 per cent. by recurrences after three years, but, as many of these cases were alive and apparently well less than three years, the law of averages might be expected to at least maintain the 8 per cent. or better in due time. One-third of all cases of carcinomatous disease was located in the stomach. Gastroenterostomy usually prolonged life about three months, and radical operation gave an increase of fourteen months over the unoperated. In 100 cases Mikulicz found the average duration of life after operation to be one year and one-third, and that the patient was usually comfortable until shortly before death. The speaker declared that the reason these results were not better was that the diagnosis was not made sufficiently early. The stomach was a favorable organ for operation, having a large blood supply from several sources. The tendency to lymphatic infection was probably less in cancer of the stomach than in similar conditions in the breast, uterus, or rectum. A suspicion of malignant disease should warrant demanding a surgical consultation just as much as appendicitis, or ectopic pregnancy. A small movable tumor in the pyloric region, with obstructive symptoms, was a favorable element. His own experience led him to believe that, with symptoms warranting an exploration, the lack of definite signs usually meant an extensive and hopeless involvement of the body of the stomach. One source of delay in seeking surgical treatment was the prolonged attempts to make a diagnosis by various tests of the stomach contents. While such efforts were in the right direction, he thought, at the present time, they only served to waste precious time. Early operation should give as favorable a showing as cancer of the breast or uterus. In his own experience, cancer of the pyloric region had been the only form of the disease which he had been able to diagnosticate sufficiently early to attempt radical relief. The diagnosis was assisted by distending the stomach with air, using a Davidson syringe for this purpose, instead of the dangerous method of generating carbonic-acid gas, by taking into the stomach bicarbonate of soda and tartaric acid. As a rule, extension to neighboring viscera contraindicated operation, and extensive adhesions would greatly complicate the operation and increase the primary mortality. Lymphatic involvement, unless localized to the vicinity of the growth, was a hopeless complication. Extension along the lesser curvature was less favorable than along the greater curvature. In St. Mary's Hospital, during the past ten years, 213 operations had been made upon the stomach, 126 for non-malignant disease, with a mortality of slightly less than 5 per cent.; 92 for malignant disease, with nine deaths, or 10 per cent. Over one-fourth of the latter group were explorations, but none of these proved fatal. The author's experience of twenty pylorectomies, with two deaths, showed, in a general way, the satisfactory character of such operations.

Surgery of the Stomach for the Relief of Non-malignant Pathological Conditions.—Dr. **A. J. Ochsner** of Chicago presented this paper. He said that all stomach surgery at the present time was directed toward the relief of gastric ulcer, or one of its various sequelæ. His own clinical experience comprised operations upon twenty-seven patients for the relief of non-malignant disease of the stomach. When a gastric ulcer had perforated into the free peritoneal cavity, all observers agreed that only an early operation could give a reasonable percentage of recoveries. In all cases operated upon more than twelve hours after the perforation the prognosis was exceedingly bad; yet even in early operations the prognosis must always be bad; hence, the importance of surgically treating these cases long before the occurrence of perforation. It was found that serious ulceration of the stomach occurred only in the presence of faulty drainage. As the stomach dilated, the shape of the organ was altered in such a way as to form a pouch, thus increasing the obstruction. In a large proportion of these cases there was a decided tendency to progress from bad to worse. Proper permanent drainage could be most safely applied by making an anastomosis between the lowest point in the stomach and the duodenum, at a distance of about 40 cm. from the point at which the duodenum issues through the mesentery of the transverse colon. The essential points were the selection of the lowest point in the stomach and the proper length of small intestine. It was not necessary to excise the ulcer unless it was located directly in the pylorus, or unless it was impossible, in a given case, to make a positive differential diagnosis between ulcer and carcinoma. When there was a reasonable doubt, the ulcer should be excised if in a position to make this possible.

New Apparatus for the Treatment of Œsophageal Stricture.—Dr. **Theodore Dunham** of New York described an ingenious method which he had devised, and demonstrated its application. By means of a feeding tube and some water, he showed that along with the water it was easy to swallow the thread and carry it down into the stomach.

President's Address: "Reflections on Some of the Purposes and Work of the New York State Medical Association."—Dr. **Alvin A. Hubbell** of Buffalo delivered this address, after referring to the objects of the association, and to the important part it had played in securing higher medical education, the speaker described in eloquent terms the tremendous moral power which the code of ethics of the American Medical Association had exerted upon the profession of this country. He declared that this code, which the association had ever defended most devotedly, did not in the least restrict or cripple any right action. Human experience showed that it was unsafe to trust everything to an "unwritten code. In closing, the speaker described the present plan of organization, and predicted for it a brilliant future.

Symposium on Typhoid Fever—Pathology and Bacteriology.—Dr. George Blumer of Albany presented this paper. He said that in 1885 Fraenkel had succeeded in isolating the typhoid bacillus from the blood in one out of six cases. It was four years later before it was discovered that the frequent failures to isolate the organism were due to a faulty technique. Since then there had been reported 154 cases, in ninety-eight of which, or nearly 63 per cent., the typhoid bacillus was isolated from the blood. It was found that large quantities of blood were required, and that this must be obtained in a strictly aseptic manner, and that the blood must be largely diluted in order to offset its germicidal action. A similar modification of technique resulted in the frequent isolation of the bacillus from the rose spots. As a rule, the bacilli did not appear in the urine until relatively late in the disease—the end of the second week—and their presence in the urine was chiefly of prophylactic significance. The percentage of cases showing bacilli in the urine was variously stated by different observers, but might be estimated at 29 per cent. When the bacilli occurred in the urine they were present in enormous numbers. This showed that it was just as important to disinfect the urine as the stools of a typhoid patient, and it should be particularly noted that the cases in which the bacilli were found in the urine rarely presented any symptoms directing attention to the genitourinary tract. The occurrence of the bacilli in the bile had been first observed in 1888. In some cases gall-bladder lesions seemed to take the place of the ordinary intestinal lesions. In most cases the typhoid bacilli probably reach the bile through the blood. In only a few cases, in which an autopsy had been made in the first four weeks of the disease, had no intestinal lesions been discovered.

The Serum Reaction in Typhoid Fever.—Dr. Thomas W. Hastings of New York presented this paper. Many statistics were quoted, and in the aggregate they showed about 95 per cent. of positive Widal reactions, for the most part with a dilution of one in fifty. Negative reactions occurred in from 4 to 6 per cent. The similarity of the reaction in adults and children was worthy of note.

Paratyphoid Fever.—Dr. Nathan E. Brill of New York City was the author of this paper. He said that on December 1, 1897, he had presented to the Society of Alumni of Bellevue Hospital a paper based on seventeen cases which he had observed of a disease which presented the clinical picture, in the main, of typhoid fever, but had not given the Widal reaction. At that time he had expressed the opinion that it was a specific and distinct disease, but his laboratory investigations had been chiefly negative. They had, however, led to the discovery of an unindentified bacillus, which was not thought to be the cause of the affection. In these cases the fever reached its maximum in five days. The apathy was much more pronounced than in typhoid. One of the earliest and most marked features was the extreme prostration. The diazo-reaction was not constantly present in the urine. The blood showed no leucocytosis. The average duration of the disease was a little over two weeks, and relapses were observed in about 10 per cent. of the cases. The speaker added that paracolon infections were now known not to be very rare, thirty-eight cases having been reported in the past year.

Arteritis and Arterial Thrombosis in Typhoid Fever. Dr W. S. Thayer of Baltimore spoke on this subject reporting in detail five cases He said there was a complex of symptoms occurring occasionally in typhoid fever more particularly in the latter part, to which the French had given the name of "arteritis." It was suggested that acute arteritis might be the cause of some of the peculiar cases of aphasia developing during the course of typhoid fever.

The Modern Treatment of Typhoid Fever.—Dr. W. Gilman Thompson of New York City discussed this topic. Regarding the antiseptic treatment he said that there was good reason to doubt the possibility of giving intestinal antiseptics in such potency as to result in the destruction of the typhoid bacilli in the bowel without at the same time injuring the patient. Moreover, recent knowledge pointed to such a wide distribution of the bacilli throughout the body that it weakened greatly the argument in favor of such antiseptic treatment. A recently published series of over 200 cases showed the presence of the typhoid bacillus in the blood in 87 5 per cent. of the cases. An initial dose of calomel was useful, but the daily administration of calomel throughout the course of the disease was more apt to effect the salivation than the salvation of the patient. Where, for any reason, milk diet was inadvisable, the patient should be nourished by giving broths, egg albumin mixture, peptonoids, or panopepton. Flatulent distention could be best relieved by the use of the rectal tube. Water should be given very freely. There could be no greater mistake than to treat all typhoid cases by one dietetic rule. The diet should be increased as soon as the temperature reached the normal; sometimes even when it hovered about 100°F. Soft-boiled eggs, junket, and boiled rice could be given, followed in a day or two by scraped beef. It should ever be borne in mind that undigested milk curds were almost as irritating as ordinary solid food. He had seen relapses occur even with an exclusively milk diet. In some a moderate elevation of temperature was maintained by starvation. The Brand bath treatment, if employed at all, should be practised with the courage of one's convictions, and not, as it often was, in a half-hearted manner. These baths should be given with the object of securing nerve stimulation rather than the reduction of body temperature. His present practice with regard to baths was to give a tub bath at a temperature of 75°F. for fifteen minutes whenever the temperature reached or exceeded 102.5°F., using frictions applied by two nurses, during the entire time the patient was taking the bath. Increasing experience had taught him the folly of adhering to rigid rules. Alcoholic stimulants should be administered fully twenty minutes before the bath, a matter of no little importance. The shivering experienced by the patient would be less if the back was first rubbed. On no account should the patient be left to shiver in the bath while the nurse was preparing the bed. If pneumonia developed, sponging should be substituted for the tub baths. He was positive that the bathing gave rise to no serious results. Except where the temperature remained constantly very high, it was well to omit one or more baths at night in order to give the patient sufficient rest. Apparently, we were as powerless to control as to foresee the occurrence of intestinal hemorrhage. When such hemorrhage took place, food should be withheld from the stomach, but if the hemorrhage were repeated at intervals of a few days it would be better to give some digested meat or peptone preparation by the mouth, or resort to rectal feeding in small quantities. The patient should be kept well under the influence of opium, and this was better effected by giving the tincture by the mouth than by hypodermic medication He had seen cases in which the suprarenal extract had apparently controlled intestinal hemorrhage in typhoid fever. particularly when occurring early in the disease. as a result of congestion. In other cases. however, he had known it to fail signally. He had abandoned the practice of applying cold locally to the abdominal wall. He had observed a number of cases in which either saline infusion or hypodermoclysis had been remarkably effective, and at times had proved to be a life-saving measure. If there was much prostration from an intestinal hemorrhage at least 1,000 cc. should be used.

Report of an Interesting Case of Typhoid Infection.—Dr. Albert W. Preston of Middletown presented this report. The case was one of hemorrhagic typhoid pleurisy, in which repeated tappings had been made. The typhoid bacilli were found in the fluid so removed. The speaker said that only about a dozen cases were reported in the literature. His case was specially noteworthy because of the occurrence of chronic nephritis. From a study of the subject, he drew the following conclusions: (1) Hemorrhagic typhoid pleurisy may be actually limited to the pleura and lung without involvement of the intestine; (2) typhoid fever may begin in the thorax and may extend later to the intestine, and (3) pleurisy may appear later in the evolution of typhoid, or during convalescence, as a mere complication or sequela.

Dr. S. J. Meltzer of New York City, in discussing the foregoing papers, expressed the opinion that the agglutination tests made in the laboratories of most boards of health were not thoroughly reliable, because it was the custom to use only a dilution of one in twenty.

Dr. E. Libman of New York City said that the colon bacillus differed from the other organisms under discussion by its power of coagulating milk. The agglutination reactions obtained with paratyphoid organisms were not a reliable aid in diagnosis, because these paratyphoid organisms would not all respond to the same blood. There was a group of pathogenic organisms resembling the typhoid bacillus in cultural characteristics, but not agglutinated by typhoid serum. For the present, cases of paratyphoid fever should be treated the same as typhoid; the etiology was not yet known, and the pathology had not been definitely determined.

Dr. W. H. Thornton of Buffalo said that the physicians of his city had been using quite extensively a substance known commercially as acetozone. There was little doubt that it was an intestinal antiseptic and antifermentative and, as a rule the cases in which it had been used had run an unusually mild course, and the duration had been apparently shortened. There did not appear to be any special contraindications to its use, and its administration. The plan that they had followed had been to make a 1-to-5,000 solution in pure water, and allow the patient to take a glassful of this at intervals of two to four hours. The taste was not particularly objectionable. The tongue was kept moist and comparatively clean.

A Study of Landry's Paralysis.—Theodore Diller reports three non-fatal cases of this disease. He suggests the following as a definition of the disorder: An infection, or toxæmia, produced by various poisons, in which the spinal cord (including the bulb), and the peripheral nerves, and especially the lower motor neurone, are attacked, and in which parenchymatous degeneration, hemorrhagic and inflammatory exudates of various kinds and degree, are usually found, post-mortem, in this portion of the nervous system. But in a few cases no post-mortem changes are discoverable, and in still others changes which are inadequate to explain the symptoms. The author holds that the term Landry's paralysis may be conveniently retained to designate cases of a certain clinical type, some of which can be made out to be poliomyelitis, others of multiple neuritis. But the term is especially useful to designate those cases which cannot be made out to be either cases of multiple neuritis or poliomyelitis, and those in which the post-mortem findings are negative.—*Journal of Nervous and Mental Disease.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 18, 1902:

	Cases.	Deaths.
Measles	43	2
Diphtheria and croup	281	31
Scarlet fever	93	8
Smallpox	2	..
Varicella	13	..
Tuberculosis	244	151
Typhoid fever	130	22
Cerebrospinal meningitis	..	..

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending October 18, 1902:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, San Francisco	Sept. 28–Oct. 5	11	
Colorado, Denver	Sept. 27–Oct. 4	1	
Illinois, Chicago	Oct. 4–11	13	
Freeport	Oct. 4–11	7	
Indiana, South Bend	Oct. 4–11	2	2
Michigan, Detroit	Oct. 4–11	7	1
New Hampshire, Nashua	Oct. 4–11	23	
New Jersey, Elizabeth	Aug. 31–Oct. 11	9	4
New York, Binghamton	Oct. 4–11	1	
New York	Oct. 4–11	1	1
Ohio, Cincinnati	Oct. 3–10	3	
Cleveland	Oct. 3–10	24	12
Hamilton	Oct. 4–11	1	
Toledo	Sept. 27–Oct. 4	1	
Youngstown	Sept. 27–Oct. 4	2	2
Pennsylvania, Altoona	Oct. 4–11	4	
Johnstown	Oct. 4–11	5	2
McKeesport	Oct. 4–11	2	
Philadelphia	Oct. 4–11	1	
South Carolina, Charleston	Oct. 4–11	5	
Utah, Salt Lake City	Oct. 4–11	3	
Wisconsin, Green Bay	Oct. 5–12	1	
Milwaukee	Oct. 4–11	12	

SMALLPOX—FOREIGN.

		Cases.	Deaths.
Barbados	July 13–Sept. 29	793	30
Belgium, Brussels	Sept. 20–27		5
Ghent	Sept. 20–27		1
Canada, Amhertsburg	Oct. 4–11	2	
Ecuador, Guayaquil	Sept. 13–27		4
France, Paris	Sept. 20–27		1
Great Britain, Dundee	Sept. 20–27	1	
Liverpool	Sept. 20–Oct. 4	9	1
London	Sept. 20–27	4	
Sunderland	Sept. 20–27		1
India, Bombay	Sept. 9–16		5
Calcutta	Sept. 6–13		1
Mexico, City of Mexico	Sept. 20–28	1	
Russia, Moscow	Sept. 13–20	2	
Odessa	Sept. 20–27	3	
St. Petersburg	Sept. 13–27	13	3
Spain, Corunna	Sept. 20–27		1
Straits Settlements, Signapore	Aug. 23–30		1
Switzerland, Geneva	Sept. 13–20	1	

YELLOW FEVER.

		Cases.	Deaths.
Colombia, Panama	Sept. 29–Oct. 6	15	
Ecuador, Guayaquil	Oct. 20–27		1
Mexico, Coatzacolcos	Sept. 27–Oct. 4	1	2
Merida	Sept. 19–Oct. 3	11	6
Vera Cruz	Oct. 4–11	5	2

CHOLERA.

		Cases.	Deaths.
China, Hongkong	Aug. 16–30	25	21
New Chwang	Aug. 16–30	90	85
Egypt, Alexandria	Sept. 20–27	208	177
Suez	Sept. 10–16	20	16
India, Calcutta	Sept. 6–13		10
Japan, Osaka and Hiogo	Sept. 6–20	26	62
Java, Batavia	Aug. 31–Sept. 6	48	40
Korea, Chenampo	Aug. 17	92	50
Syen Chun	Aug. 17	20	11
Straits Settlements, Signapore	Aug. 23–30		1

PLAGUE—UNITED STATES.

California, San Francisco ....Oct. 7..........(1 death. Bacteriological confirmed

PLAGUE—FOREIGN.

		Cases.	Deaths.
China, Hongkgng	Aug. 16–30	19	19
Egypt, Alexandria	Sept. 20–27	4	2
India, Bombay	Sept. 9–16		51
Calcutta	Sept. 6–13		6
Karachi	Sept. 7–14	8	6
Madras	Sept. 6–12		1
Rusisa, Odessa	June–Sept. 29	38	11

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Original Articles.

THE USE OF CONCENTRATED ACTINIC SUNLIGHT IN THE TREATMENT OF TUBERCULOSIS.

By J. W. KIME, M.D.,
FORT DODGE, IA.
SUPERINTENDENT BOULDER LODGE SANATORIUM FOR THE TREATMENT OF TUBERCULOSIS.

SUFFICIENT time has now elapsed since first I began the use of concentrated actinic sunlight in the treatment of tuberculosis of the lungs, lymph glands, and skin, to warrant me in making a report on the method, and in offering some suggestions regarding the place which light now holds in the field of therapy.

My first contribution to the literature of this subject was made in March, 1899. This, and Finsen's paper on lupus, during the same year, then embraced practically all that was known upon this subject, or, at least, all that had been published up to that time.

Since that date both Finsen and the writer have pursued their original investigations, and others have entered the field, until the literature upon this subject is now quite voluminous.

Finsen has continued his work on lupus; the *x*-ray has been utilized for the same purpose and, recently, for the treatment of epithelioma; and the writer has collected additional material for a forthcoming report on lupus; but especially have his recent investigations been extended into the more important field of phthisiotherapy by means of light.

In my former contributions I have felt a delicacy in presenting the facts which have been brought to light in this new field of investigation, fearing that prejudice which naturally holds against new ideas and new remedies, and especially since these new uses were to be aimed against those forms of disease which have hitherto been most intractable, viz., lupus, epithelioma, and tuberculosis. But recently so many able writers have commented favorably upon the work which has so far been presented, while others have also made valuable additions to our knowledge in collateral fields, that this restraint is no longer felt. So, at the present time, I feel that no apology is necessary for the presentation of this subject. It is, in fact, most surprising that this universal and omnipresent force which exercises so potent an influence all about us, and which we have always known to be absolutely essential to our existence, has so long been neglected as a remedial agent.

Its two principal correlative forces, electricity and heat, have from the beginning of medical history been employed for the relief of suffering, but this important member of the trio has been passed by with singular indifference.

Enough is now known that we may safely say that light, in one form or another, is proving the specific treatment for epithelioma and lupus, two affections which have always proven most invincible to all known methods. In lupus vulgaris, and in lupus erythematosus, concentrated actinic sunlight is a specific remedy. After the deeper tissues are involved, and when necrosis of the underlying bones exists—when, in fact, the lupus has assumed a more malignant type, as practically all these advanced forms of lupus do, then the light exercises a less marked influence, and, up to the present time, it is extremely doubtful if any known agent will arrest the course of the disease.

But it is to the therapy of laryngeal and pulmonary tuberculosis that the present contribution is made.

In laryngeal tuberculosis light is the most efficient remedy yet tried; and this is as we would expect it, judging from the known effects of light on lupus, since the laryngeal structures are so readily accessible to its influence.

In my published reports on "The Penetrability of Actinic Light," I have shown that light may be made to pass very deeply into, and even through, the adult body (MEDICAL RECORD, October 13, 1900; *Scientific American*, September 29, 1900; *Photographic Times*, October, 1900). Hence light of great intensity must reach to the depth of the larynx.

Laryngeal tuberculosis has, in my experience, yielded most readily to treatment by means of light. After a few applications the pain disappears, the aphonia diminishes, and gradually the voice sounds reappear.

As the laryngeal cases which have fallen under my observations have in each instance been accompanied by pulmonary tuberculosis, I report them in connection with the full case reports.

In all, sixty cases of pulmonary tuberculosis have been treated, or are still under treatment. These have either been in my own practice at Boulder Lodge Sanatorium, at Fort Dodge, or in that of my associates at Denver, Col., and at Salt Lake City.

Of those treated, in twelve the disease has been arrested; in eleven more the improvement has been so marked that a practical arrest has been effected; one has not improved; five have been dismissed, after a few days' rest, as incurable, and thirty-one are still under treatment, most of them showing satisfactory improvement.

I prefer the term "arrested" to "cured," although to all possible means of physical diagnosis the cure has been complete.

Before taking up a report of cases in detail, it may be well to call attention, briefly, to the manner in which the light is used.

The reflector made use of is thirty-six inches in diameter, and is so constructed that all the light falling upon it is focussed three feet in front of it upon a spot eight inches in diameter.

An intense blue light, which is rich in actinic rays, is thus utilized. This is thrown upon the bare chest of the patient for from two to three hours each day when the sun shines. Although this light is quite warm, it does not produce blistering of the skin. Direct sunlight less than one-half as hot produces extensive blistering of the skin. The illustration shows a number of patients being treated on a roof-garden.

TREATMENT ON ROOF GARDEN, FORT DODGE, IA.

The light thus used brings about the desired result in one or both of two ways:

1. The powerful light penetrates the chest wall and reaches the diseased structures, and there produces the same results that are noted in external tuberculosis (lupus). The light produces engorgement of the parts with blood; this influx of blood brings increased nutrition to the part and gradually repair is effected. The light also has an inhibiting effect upon the bacilli.

2. The effect of the light upon the blood which circulates through the skin must be very great. This blood finds its way immediately to the parts diseased. What effect, in a depurative way, this light may have upon the blood has not yet been discovered, but it is certain that a high percentage of the light is absorbed by the blood. The clinical effects are prompt and easily apparent. Hope is stimulated beyond that under any other treatment which I have ever witnessed.

In cases that are practically *in extremis* this hopefulness is painful to witness. In the case of one young man, reported below, it was plainly manifest that he would not go through the night. I told him that he would not see the light of another day, and, as he was alone in the sanatorium, I asked him to make his final business arrangements. This he did, and then immediately began telling me what he was going to do when he got well. In ten hours he was dead. This great faith and the determination to follow out in detail the use of the light and the accompanying hygienic and dietetic arrangements are powerful factors for good in cases that are not too far consumed by the raging fires within.

The appetite and all the bodily functions improve, and within a few days a new interest in life is manifest in every act. Of course, there is a limit beyond which no human power can hope to prevail. There is a time when every case of tuberculosis is curable, but this is not in the last part of the last stage of the disease. Early recognition, and early application to the disease of those things which are of value, will bring back life and health and strength. But hope does not lie in the direction of polypharmacy. Light, air, diet, and hygiene are the essential factors, and beyond these nothing is needed except constant, intelligent medical supervision.

I would not have it understood that light alone is made use of in the treatment of tuberculosis. Life in the open air and sunshine, good nutritious food, forced feeding, freedom from dust and smoke, a hygienic life, every act under the eye of the physician or of his specially-trained nurses, medicines as indicated for intercurrent symptoms of importance—these are the factors relied upon, and the factors which contribute to the end attained.

But without the light I should be greatly handicapped, and far less could be accomplished for those who come for treatment. I admit that the psychical effect of the light is of value, but it is not psychics that cures external tuberculosis which from the first treatment begins to improve, and it is the same power which, externally applied, cures lupus that, internally applied, brings about a like result in internal tuberculosis, The visible changes that take place in lupus are engorgement of the parts with blood, a cleaning of the surfaces by falling off of the crusts, a healthy, granulating surface, and a beginning cicatrization.

In laryngeal tuberculosis, which is not different from external lupus, except that it is differently situated, similar changes take place until healing is complete.

In pulmonary tuberculosis there is usually, for the first few days or weeks, an increased dyspnœa. This is, without doubt, due to engorgement of the lung tissues with blood. Later, this difficulty of breathing disappears, the dulness lessens, and in early cases normal resonance returns.

Case I.—B. W., Missouri Valley, Ia.; female, aged seventeen years; family history good. Disease of two years' standing; percussion, right, normal; left, dull at apex; loose râles over upper part of left; pulse 120, temperature 105°; cough dry and constant; some expectoration; bacilli present. Has been at Boulder, Col., for six months; has had two quite profuse hemorrhages; weight ninety-two pounds, former weight 108; appetite poor, menstruation suppressed four months. Began treatment October 13, 1900. Improvement was marked and rapid. On August 28, 1901, I made the following entry: "No signs or symptoms of tuberculosis present; temperature normal, respiration 20, pulse 85, weight 97. Menses normal; feels perfectly well; no cough or expectoration, and no bacilli. Advised taking up two studies at school." This patient gradually increased her school work, and graduated from the high school in June, 1902. Perfectly well at the present time, and to all appearances the cure remains complete. Weight 100.

Case II.—Miss H. J., Worthington, Minn., aged seventeen years; family history very bad; a number of the immediate family dead from tuberculosis; slight dulness at right apex, and moist râles in same region; slight cough and expectoration; bacilli present in small numbers; temperature 100°; night sweats; weak and listless; weight 133. Began treatment March 6, 1901. Returned home, improved in every way, June 5, 1901. Her family physician wrote me, under date of August 31, 1901, stating that he then found no evidence present of the disease, and adds, "I am convinced she is permanently cured." Patient well at time of this report, June, 1902.

MEN'S TREATMENT ROOM, DENVER, COL.

Case III.—Miss M. J., Avoca, Ia., aged twenty-eight years; two sisters dead from tuberculosis; noticed failure of health in April, 1901, soon after the death of a sister; feels weak; has night sweats, cough, and slight expectoration; menses regular; bacilli present; weight 123, former weight 140; pulse 86, temperature 99.6°; appetite poor. Began treatment July 31, 1901, remained twelve weeks, and gained twenty-three pounds; at time of this report, June, 1902, patient perfectly well and weighs 163 pounds, twenty-three pounds above her usual weight. This was an incipient case, and shows the great value of early treatment in this disease.

Case IV.—Miss L. D., Rock Rapids, Ia., teacher, aged twenty-three years; referred as dernier ressort, there being little prospect of life being extended more than a few weeks; unable to take more than a few steps at a time; health began to fail three years ago; two sisters dead from tuberculosis at ages of twenty-two and forty; cough irritating and constant; appetite poor; night sweats; menses suppressed for several months. Flatness over apices of both lungs; loud moist râles; pulse 120, temperature 102°. Much expectoration and bacilli numerous; weight eighty-nine pounds, former weight 120 pounds. Began treatment January 26, 1901, and remained until October, 1901. Weight increased from eighty-nine to ninety-seven pounds, and menstruation returned in August, since which time it has been normal; night sweats disappeared in May; can walk a mile without fatigue; cough much improved; percussion sounds normal and no râles. Bacilli still found when patient was compelled, for financial reasons, to return home. At the time of this report she is still improving and with good prospects of ultimate recovery.

Case V.—Miss H. G., Odebolt, Ia. aged twenty-nine years; mother and one brother dead from tuberculosis; has had cold abscesses over various parts of the body for three years, accompanied by necrosis of tibia, clavicle, sternum, ribs, and scapula. Weight 103, former weight 130; temperature 103°, pulse 116; menses suppressed for four months; bronchial breathing over left side; left side shrunken from destruction of ribs on that side; respiration 32; placed in sanatorium to remove source of danger from friends. This patient remained twelve weeks. During this time she gained thirty pounds, her wounds were healed, and she returned to her home, to all appearances, entirely well.

Case VI.—Miss A. A., Fort Dodge, Ia., aged twenty-seven years; domestic; mother and one sister dead from tuberculosis; patient very tired; soreness of lungs; constant cough and considerable mucopurulent expectoration; many bacilli; night sweats and fever; temperature 103°; menses suppressed for three months; weight 113, former weight 120; flatness over upper part of left lung, bronchial breathing, and loud moist râles; right, normal. Remained three months; improved in every way; weight increased to 128. No night sweats or chills, and but little expectoration. Bacilli still found. Returned to her work, and for the past year has continued at work.

Case VII.—Miss C. B., Ackley, Ia., aged twenty-four years, family history free from tuberculosis; past two years spent in Colorado; tires easily; not been well for ten years; cough dry and but slight expectoration; night sweats and chills; has had two attacks of pleurisy; weight 109; very few bacilli found; dulness and bronchial breathing at apex of left lung; no râles; evening temperature 99.6°; pulse 85, respiration 28; remained at sanatorium three months and gained twelve pounds and is much stronger. Bacilli still present when she returned home. This patient also had morphia habit, which was relieved while here. No report since returning home.

Case VIII.—Miss A. F., aged twenty-five years, Popejoy, Ia. Health began to fail in fall of 1900; cough appeared in March, 1901, followed by enlargement of the cervical glands; one gland suppurated and was incised; hemorrhage in April, also in August and September, 1901; has night sweats, chills and fever; has had considerable diarrhœa; menses suppressed for two months; present weight 118, former weight 140; temperature 99.5°; pulse 100; a number of glands on both sides of neck enlarged; percussion sounds normal, dry râles near lower end of sternum; respiration 36; very pale, almost chlorotic; bacilli present. Began treatment November 1, 1901; during her stay a gland on right side of neck suppurated and was incised and curetted; menses reappeared in December. Returned home February 12, 1902; no physical signs, except audible expiratory murmur on both sides. Cough very much improved, no sweats or chills, complexion good; weight 140 pounds. Examined June 1, 1902; is well, but still has two or three small glands in the neck.

Case IX.—E. B., Fort Dodge, Ia.; aged twenty-four years; father dead from tuberculosis; two paternal aunts dead from tuberculosis; trouble began two years ago with a cold; has had some fever, and cough for a good while; present weight 138, former weight 140; considerable expectoration, creamy and gelatinous; some pain in chest. Dulness at left apex; sibilant râles at left apex; hoarse most of the time; pulse 80; temperature 99.8°; dipplococcus of pneumonia found, no tubercle bacilli; Remained until April 24, 1902; weight then 148; looks well and feels well. Returned to the farm; temperature normal, pulse 76. Disease arrested. Laryngitis disappeared early during treatment.

Case X.—Miss L. D., Burnside, Ia., aged thirty years; admitted October 9. 1901; family history free from tuberculosis; patient has had hemorrhages for fifteen years. has had cough for same length of time; hemorrhages more severe for past three years; now almost daily; three weeks ago bled two quarts; has some chills and night sweats; menstruation slight and irregular; percussion sounds tympanitic and of emphysematous character; chest prominent and ribs widely apart—has chronic pulmonary emphysema. Hemorrhages occurred daily after admittance during the first week, averaging half a teacup of frothy blood; pulse 100; temperature 99.6°; respiration 24; a few bacilli found. Weight 103. On October 11 had hemorrhage of six ounces, was then put to bed for two weeks, carrying her to roof-garden for treatment. Remained until December 1, 1901. Hemorrhages have completely ceased, weight increased to 111 pounds, and patient is able to walk several miles each day without inconvenience. Temperature and pulse were normal. This patient was doing remarkable well, but was compelled to return home on account of private matters.

Case XI.—J. M., Riceville, Ia.; admitted December 30, 1901; little known of family; has been in Oregon and has used the Hoff treatment; severe hemorrhage in March, 1899; two smaller hemorrhages since; weight 124, former weight 130; has had severe chill each day since July, followed by fever and sweating at night; chills about 3 P.M., sweats toward morning; cough loose and considerable expectoration; tubercle bacilli and dipplococcus of pneumonia found; pulse 120, temperature 103° and reached 105°. Has considerable pain in knees and ankles; percussion sounds normal, except slight dulness over middle lobe of left lung, bronchial breathing at upper part of left. Sg. of urine, 1,025; no albumin, pus, or sugar. Thinking a malarial complication might exist, quinine, and, later, methylene blue were tried without effect; plasmodium malariæ not found in blood. Put on rest treatment last few days of his stay and began to improve. Went home February 3, 1902. No subsequent report.

Case XII.—Mrs. J. D. C., Humboldt, Ia.; aged thirty years; paternal uncle died of tuberculosis; until five years ago patient weighed 120 pounds, now weighs 175 pounds; health began to fail July, 1901; soreness and bronchial breathing at upper part of left lung; some cough and expectoration; bacilli present, temperature 100°; pulse 90; remained one month, cough and soreness disappeared. Reported June, 1902, in perfect health.

Case XIII.—G. A. Y., Harlan, Ia.; aged fifty-two years, farmer and merchant; no tuberculosis in family. Had influenza two and one half years ago, subject to colds since then; confined to bed part of the time; considerable loose cough and mucopurulent expectoration; temperature 101, pulse 90; diarrhœa at times since 1897; probably, primarily, intestinal tuberculosis; former weight 155, present weight 122; râles over both sides; percussion sounds not much altered; hoarse constantly for two years; diarrhœa now nearly all the time, some dry râles over upper part of left lung. Remained from September 1 to November 7, 1901; at time of going home weighed 136 pounds, a gain of thirteen pounds. Respiratory murmur normal; no diarrhœa for past six weeks; temperature normal, pulse 90; some bacilli still found; report May, 1902, remains in about the same health as when he returned home. Disease arrested.

Case XIV.—Mrs. L. W., Harlan, Ia., aged twenty-eight years; admitted August 31, 1901; mother dead from tuberculosis; three sisters and one brother living, but all delicate. Patient sick four years; has had cough and fever; considerable expectoration; bacilli present, also found in urine; average weight 115 pounds; present weight ninety-four pounds; menses suppressed three months; has had pleurisy; night sweats; diarrhœa for three months; chills; temperature 103°; has been in Oklahoma, Kansas, and Colorado; now suffering from pulmonary and laryngeal tuberculosis; voice completely lost from October to February, 1901; has had slight hemorrhages; diarrhœa quite severe after admission; slight dulness over upper part of left lung; bronchial breathing and loud moist râles over same region; quite hoarse; remained until October 10, 1901. Has had chill nearly every forenoon. Temperature has ranged from 101° to 105°. Very weak; pain in region of bladder. Hoarseness disappeared, but other symptoms not improved. In last stages of more or less generalized tuberculosis. Returned to her home with letter to family physician requesting notice of termination of the case. Died about February 15, 1902.

Case XV.—Miss L. M., Vinton, Ia., aged twenty-two years; admitted December 8, 1901; occupation, trained nurse; mother dead of tuberculosis at age of twenty-eight; patient took cold about the middle of August, 1901; has been hoarse since August, and now has almost complete aphonia; in August had temperature of 102.5; tires easily, and has aching of limbs; night sweats and some chills; coughs a great deal, cough dry; considerable expectoration in morning; some soreness in chest; no loss in weight; former weight 125, present weight 122; bacilli present; morning temperature slightly subnormal, evening temperature a little above normal. Dulness at right apex, extending below second rib; audible expiratory murmur; remained until February 27, at which time had appearance of perfect health; weight 132 pounds. But little cough and expectoration. A few bacilli still found, temperature practically normal, but heart a little fast, about 90. Returned May 5, 1902. Can find no evidence of tuberculosis on most careful physical examination; dulness at right apex has entirely cleared up, but still coughs some, and there is slight expectoration; bacilli are found; has been nursing, and has overtaxed her strength; respiration normal, pulse 90; weight now 125. At the end of June, 1902, after being under observation for six weeks, is very much improved, and disease now appears to be arrested. Temperature is normal, and all danger is believed to be past if a proper mode of life be maintained.

Case XVI.—Miss A. L., Clarksville, Ia., aged twenty-two years; admitted November 21, 1901; maternal aunt died of consumption; patient's former weight 112, now 80; first noticed cough in February, 1901, cough loose from first; considerable expectoration, sweats since March; temperature 101°, pulse 110; diarrhœa during past two weeks; menses suppressed since May; has had chills since February; has had three small hemorrhages; percussion sounds on right side not much altered from normal; loose râles over entire right lung; on left, dulness over middle lobe and loud moist râles, with gurgling; some nausea and vomiting; December 14, weight eighty-four pounds.

This patient was suffering from a rapid form of pulmonary tuberculosis; she was very frail and emaciated. She remained under care one month. During this time she gained four pounds in weight, and her temperature declined one degree, evening average, over time of admission.

While she showed improvement, prognosis was unfavorable, and although no report has been received, it is more than probable that she has since died.

Cases XVII, XVIII, XIX, and XX were all very similar to Case XVI. The patients were very far advanced, and were kept under observation but a few days. They were permitted to rest and return home, and all are now dead.

Cases that are hopeless are not permitted to remain longer than to rest for the return trip to their homes. They are entered, and histories are taken for reference, but they are not counted in making up percentages, as they are not received with any view toward effecting a cure.

Cases XXI and XXII were both hopeful ones, but neither of the patients would consent to the necessary requirements of treatment; both had been reared in luxury, and preferred to die in luxury rather than to accommodate themselves to the conditions necessary for a return to health.

Case XXIII.—E. L. K., Memphis, Neb., aged thirty years; pharmacist and teacher; family history good; present weight 129, former weight, 136; primary tuberculous infection right upper lobe; first symptoms in fall of 1901; cough dry, frequent, frothy expectoration; bacilli present; night sweats, chills, and diarrhœa; no temperature; respiration 22, pulse 70; tongue furred, appetite fair; anæmia marked; dulness over upper right lobe and loud mucous râles. Began treatment March 1, 1902. On June 1, 1902, examination shows improved general nutrition; all outward signs of the disease have disappeared; slight roughness of breath sounds over right apex in front, otherwise normal vesicular murmur over entire lung area; respiration 18; cough and night sweats have disappeared; appetite good; sleeps well; no râles; has gained eleven pounds, and now weighs 140 pounds. Returned to work.

Case XXIV.—S. E. B., Michigan; cigarmaker, aged twenty-nine years; father dead from tuberculosis; cough began about July, 1901; one limb amputated for tuberculosis of bone; night sweats; has lost ten pounds. Has much headache and diarrhœa; is weak and nervous; interscapular pains and irritable bladder. Various râles over upper part of both lungs; coughs constantly, and has considerable expectoration, frothy in character. Respiration 26, pulse 80; tongue furred; appetite fair; marked anæmia; bacilli present; dulness over right upper lobe; bronchial breathing. Entered March 14, 1902. After one month, gained thirteen pounds; feels well; anæmia much improved; coughs but little, and but little expectoration. Went to work at his trade.

Case XXV.—G. W. G., New York; bookbinder, aged fifty-two years; history of overwork and confinement; four years ago had measles, followed by tonsillitis; tonsillotomy done; cough, hemorrhage, night sweats, and gradual decline from 140 to 117 pounds; appetite fair; is irritable and despondent; asthmatic breathing; râles numerous over right upper lobe, principally moist. Expansion diminished on right side. Began treatment March 13, 1902; June 1, improvement general, and has gone to work.

Case XXVI.—N. B., Winnipeg, Manitoba; aged forty years; farmer; first symptoms twelve years ago; cough troublesome and frequent; expectoration mucopurulent and frothy; has had two or three light hemorrhages; night sweats off and on for past seven years; chronic laryngitis; former weight 188, present weight 179; respiration 24, pulse 64; tongue furred, appetite fair; facial neuralgia on right side and chronic otitis media; dulness at right apex; pleuritic friction murmur at upper part of left lung; râles few, principally dry. Began treatment March 20, 1902. June 1, 1902, much improved, less cough and expectoration; has gained six pounds; laryngeal trouble gone; still under treatment.

Case XXVII.—G. W. C., Jr., Elgin, Ill., aged twenty-one years; never strong; father has tuberculosis; has had pneumonia and rheumatism several times; cough and considerable expectoration, yellow and foul smelling; mixed infection present; râles numerous, and pleuritic friction sounds; dull over consolidated portions and tympanic over cavities; respiration 23; night sweats and pain in chest. Began treatment March 25. June 3, no night sweats, appetite improved, strength increased. Has gained five pounds. Still under treatment.

Case XXVIII.—G. W. C., Sr., Elgin, Ill.; merchant; one year ago noticed continuous cough and expectoration; has pain in chest and difficulty in breathing; troubled very much with hemorrhoids; respiration 26; moist bronchial râles, large; has lost some in weight; began treatment March 22, 1902. June 15, 1902, marked improvement, breathing much better; has gained ten pounds in weight and hemorrhoids are well.

Case XXIX.—W. A. G., Iowa City, Ia., farmer, aged thirty-one years; first noticed failure of health in June, 1901; former weight 155, present weight 128; cough very troublesome, slight hemorrhages; night sweats, chills and fever; bacilli in abundance, appetite poor; râles over apices of both lungs; respiration 32, pulse 120; can walk but a short distance. Began treatment March 30, 1902. June 5, walks eight blocks for treatment, and shows improvement in every way. Still under treatment.

Remaining cases are still under treatment, and while nearly all are showing improvement, they have not been under observation long enough to warrant a review of changes which have occurred.

From my experience and observation concerning the use of powerful doses of actinic light, derived directly from the sun itself, the dosage being given daily in the open air, except in the coldest weather, I am convinced that it is at the present time the most important therapeutic agent in the treatment of tuberculosis. Without it many cases that come to me for treatment would at once be dismissed as entirely without hope or encouragement, which soon begin to show improvement, and in whom the disease is eventually arrested.

Since the publication of my paper in the Medical Record, October, 1900, describing the technique of photographing through the human body, others, both in this country and in Germany, have made similar experiments with results the same as originally found by myself. In at least one of these papers the author, two years after the publication of my paper, claims that he has first demonstrated the penetrability of the human body by the actinic ray.

Pure actinic light is invisible to the eye and lies beyond the violet rays of the solar spectrum and is more refrangible than are the visible rays of the sun. We are as yet unable to harness these rays alone for use, but since the violet band of the spectrum, which lies next to the pure actinic rays, is rich in this chemotactic light, we may, by use of the violet ray, obtain a light which is very powerfully actinic, and which contains but few of the heat rays which lie at the opposite end of the solar spectrum.

It is this ray which produces the chemical changes of light. Its principal and most powerful source is the sun. It is the ray used in photography, and the value of actinic light obtained from the sun over that from artificial light is here best shown. While the electric-arc light may be made use of in photography it is always the light of necessity and not of choice.

The writer is very strongly of the opinion that light taken directly from the original source of all light is very much to be preferred over that from any other source.

As to the action of actinic light: (1) The human body is translucent to it. (2) The irritant action of the light on the living body cells is a direct stimulus to them. (3) A high percentage of the light is absorbed by the tissues through which it passes. (4) The light which is absorbed by the cells of the body produces definite chemical changes in them. (5) Actinic light inhibits and destroys bacterial life.

As none of the structures of the body are beyond the reach of strongly concentrated actinic light, none of its tissues lie beyond the therapeutic application of the light.

SOME EXPERIMENTS WITH PARAFFIN.

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Considerable has been written of late concerning the subcutaneous injection of paraffin for the correction of deformities, and in other surgical procedures. So successful have been the reports, that all doubt as to the possibilities of harm to the patient, if properly used, has been eliminated.

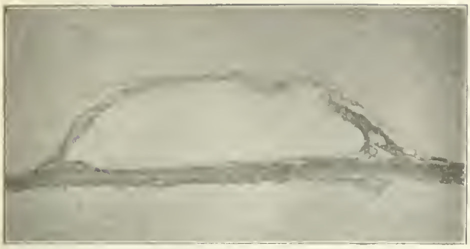
There is a great difference of opinion as to what the melting point should be. I thought, therefore, that it might be interesting to present the results of a few experiments I have been performing with paraffin injections at different melting points; and also to show a few of the microphotographic views which have been prepared, illustrating the development of the new tissue that perforates the imbedded paraffin, forming a new, firm, and well-organized mass. I wish to give credit to H. D. Newkirk for the excellent preparation of the slides, which have required a great deal of time and skilful technique; also to Mr. G. Schmidt for the careful preparation of the microphotographic views. Both of these are in the junior class at the University.

As is known, paraffin is a coal-tar product; first in the hydrocarbonic series, with a general formula of C_nH_{2n+2}, colorless, odorless, non-toxic, and nonabsorbable, with a melting point of 120° to 180° F.

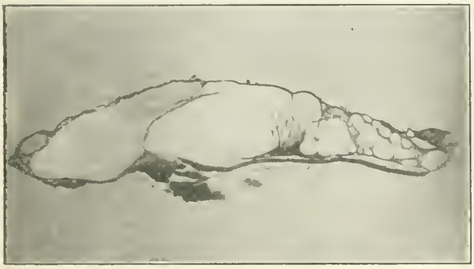
It has a wide range of use in the commercial, and a promising field in the surgical world. The subcutaneous use, if outside of the vessel walls and not in large quantities, produces no ill effect further than local inflammation and swelling for a few days, reaching its height in about one week, and then gradually becoming normal.

The preparations I used were a mixture of the soft commercial paraffin, having a melting point of 120° F., and white cosmoline, melting at about 100° F. I made mixtures of these so as to have samples melting at 102°, 104°, and 110° F. These were sterilized by boiling for thirty minutes over a flame. The beaker was protected by an asbestos screen, so as not to burn the paraffin; after this it was decanted, so as to leave all sediment behind, and was then ready for use.

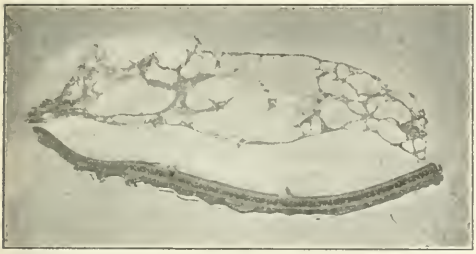
The syringe I find best adapted is a metallic aspirator, because it is large enough to hold the heat, and stronger and better in every way. The



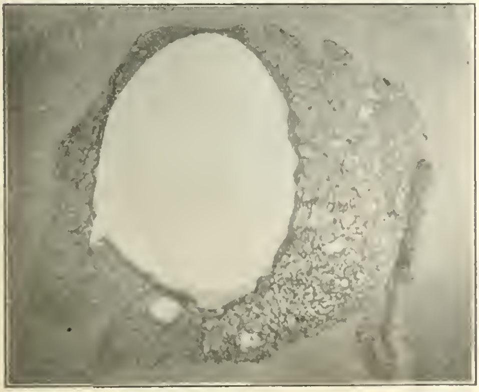
No. 1, A.—Temperature 102° Two weeks; ear. × 7



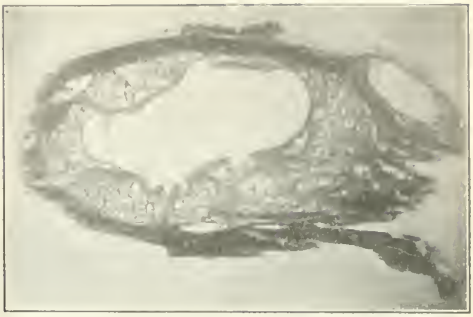
No 2, A.—Temperature. 110° Four weeks; hip. × 7.



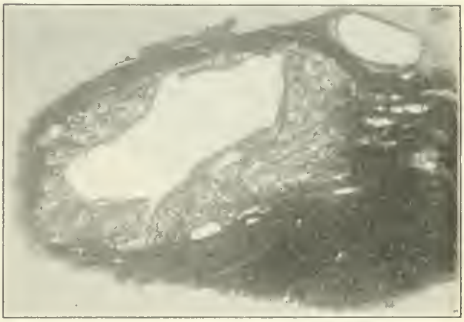
No 3, A.—Temperature, 104° Six weeks; ear. × 7.



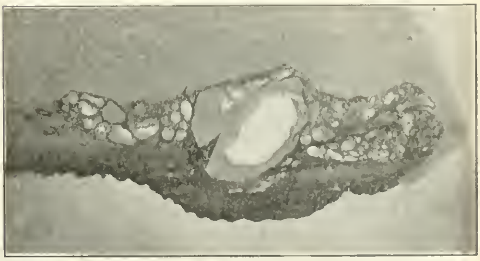
No 8 A—Temperature 110° Sixteen weeks; hip. × 7



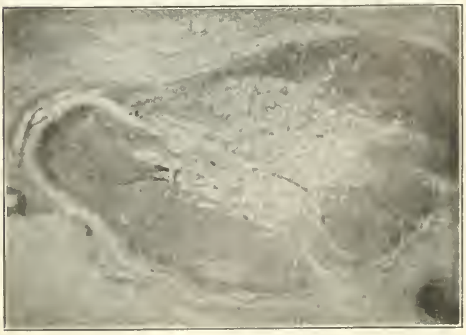
No. 4, A.—Temperature, 110°. Eight weeks; hip. × 7.



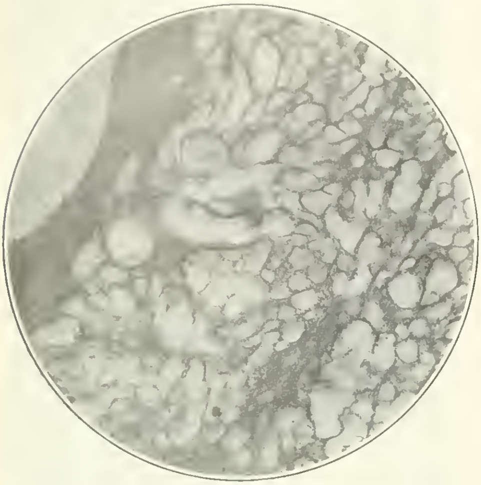
No. 5, B.—Temperature, 110°. Eight weeks; hip. × 7



No. 6, B—Temperature, 104° Fourteen weeks; ear. × 7.

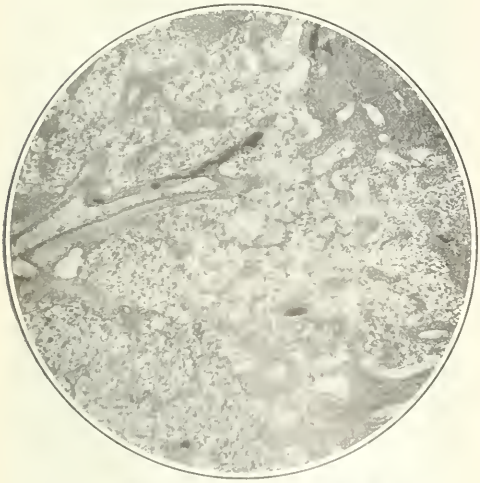


No 7, B.—Temperature, 110°. Sixteen weeks; hip. × 7 needle must be of a fairly large size, because it is difficult to force the paraffin through the smaller ones. It must be a perfectly-working instrument, with a plunger, and all joints very tight, for the reason that melted paraffin goes every road but the right one.

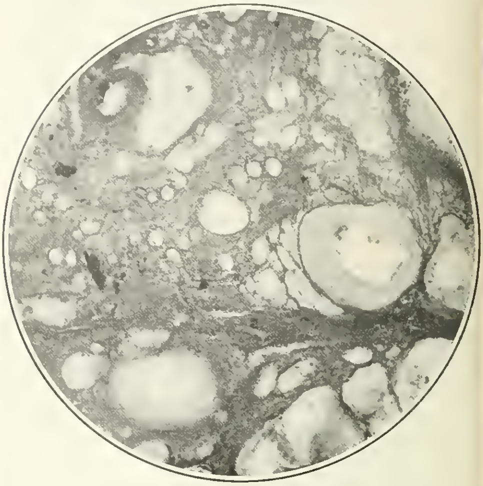


No. 7. A.—Temperature, 110°. Sixteen weeks; hip. × 65

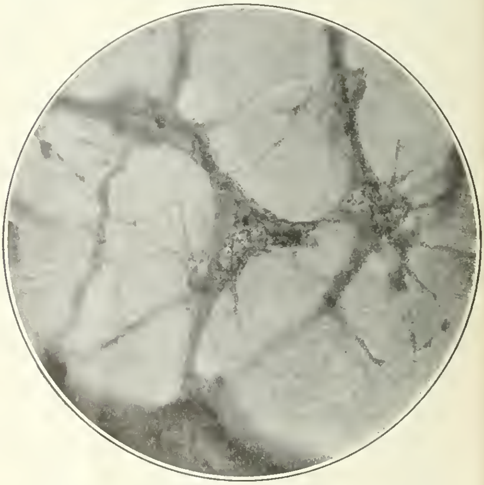
After the instrument has been filled with melted paraffin, it is left in hot, sterile water until ready for use. After the parts have been thoroughly sterilized, the instrument is taken from the water; then, forcing out the air, and waiting a second until the paraffin becomes a thready mass, as it comes from the opening, the needle is inserted into the cellular tissue to the point where you wish to begin the elevation. Then gradually inject the paraffin, withdrawing the needle as you do so. Care must be taken at this point, as the paraffin cools rapidly in the needle, making it come out unevenly and in spurts unless the pressure on the piston is firmly controlled. When this occurs, it is liable to bulge out and separate tissue where it is not desired, thus destroying the symmetry of the part. The mass now presents a doughy feel, and can be moulded, to a certain extent, into form, unless it is where there is too great tension on the skin surface, when it will assume its own form and flatten out.



No. 7. B.—Temperature, 110°. Sixteen [illegible]



No. 6 B.—Temperature, 104°. Fourteen weeks: ear. × 65.



No. 3.—Temperature, 104°. Six weeks; ear. × 235

This is more especially true in the loose, subcutaneous tissue, and when the paraffin is at a low melting point.

In one instance, experimenting on a rabbit with paraffin which had a melting point of 104° F., it remained liquid, and presented a soft, fluctuating mass, for about one week, gradually becoming firm, and afterward organizing. I attributed this to the rise of temperature, which none of the others had.

This same animal had an injection of the higher-melting paraffin, which held its form, not being disturbed by the temperature, and therefore made better progress. I believe it is because it was stationary, and thus did not destroy, by change of form from pressure or motion (as easily as did the soft), the little tissue cells in their attempt to penetrate the foreign substance. In all cases I have noticed a certain amount of apparent shrinking as the mass hardened and organized, which is probably due to absorption of the small amount of oil which is in the paraffin, leaving only the solid residue. This change leaves minute, softened openings, through which the little tissue cells make their first entrance in their attempt to bring into the fold this stranger from the material world.

The microphotographic views I have here represent the paraffin injections in intercellular and muscular tissues at different temperatures, and for periods varying from two weeks to four months; and show the comparative development. (All specimens marked "A" are those from which the paraffin has been dissolved; those marked "B" have the paraffin still in place.)

1. The first is two weeks old, being injected between skin and cartilage of the left ear; melting point, 102° F. In this we find the mass quite firm; all signs of active inflammation have subsided, and the mass appears encapsulated, with here and there a few giant cells at the periphery, showing the paraffin to be the irritant for the development of new tissue.

2. In this we have a specimen which was injected into the loose tissue of the flank. It had a melting point of 110° F., and shows the development which has taken place in four weeks' time. We find, also, numerous giant cells, fibroblasts, and small capillary growths following the connective tissue development; the thinner parts of the paraffin are entirely perforated by new tissue, the thicker parts remaining as yet unchanged. I should say that fully one-third of the new body has gone through the primary stages of organization.

3. Is a specimen from the ear with a melting point of 104° F., and six weeks old. This shows a larger number of fibroblasts, which have permeated the paraffin, and which have thrown out numerous spindle-shaped processes, showing the further development of connective tissue, which is conclusive evidence of the beginning organization of the mass. In this we see about one-half of the foreign body that has become organized.

4. Is a specimen eight weeks old, with a melting point of 110° F. The paraffin was injected into both cellular and muscular tissue. Three-fourths of the mass is organized. The connective tissue has thoroughly formed, running between and surrounding the paraffin particles to such an extent that one might think the paraffin entirely absorbed; but such is not the case. To illustrate, I will present one of the microphotographic views (No. 5) of the same specimen from which the paraffin has not been dissolved, showing how much more densely the tissue appears with the paraffin in place. It was found necessary, on this account, to take out the paraffin in the earlier specimens to show better the tissue changes.

6. Is a specimen fourteen weeks old, and was somewhat of a disappointment. The melting point was 104° F., and injected at the base of the ear. The small particles of paraffin are larger and more irregular than the other specimens of the harder variety, with still quite a large mass in the center as yet unchanged. The one seems characteristic of the paraffin with a low melting point, and in no instance have I found it so finely organized as those of the higher, while the other (or centrally unorganized bodies) are practically the same in both.

7. Is a sample showing this point nicely when compared with the above. This has a melting point of 110° F.; was in the body sixteen weeks; and shows a full development which seems to have taken place. The animal was injected, before killing, with chrome yellow gelatin solution, which stained some of the blood vessels of the new tissue, and is represented by the dark lines and specks.

The minute development shows much plainer in the microphotographic views of the higher powers, a few of which are given you here simply to show the structures when magnified by a stronger lense. These views are taken from some of those already described, as can be recognized by the markings.

In all cases in which paraffin was used at 102° F., the animal died within two weeks' time, hence the specimens of that temperature are limited (death being caused by thrombosis); consequently there is a break in the comparison of the development of the soft variety, with those of the hard, after the second week. It demonstrated its point, however, and the development in the other cases can be successfully observed. It will be remembered that the temperature of the rabbit is about 102½° F., hence the lower-melting variety of paraffin was slightly less than the bodily temperature. In all of the other cases, with the higher-melting point, no unpleasant results were experienced whatever.

"Jukuff of Strausberg found, in animals, that unpleasant and fatal results from subcutaneous injections occurred only when one-tenth of the bodily weight was used; and in cases in which the melting point was below the bodily temperature. In the latter the post-mortem examination revealed lung emboli and thrombi in small veins."

From this, and my own experience, I would draw the conclusion that paraffin must be used where it will be at all times above the bodily temperature, in order to prevent any danger from emboli forming. Furthermore, from Jukuff's experiments, we see that the toxic dose would be anywhere from ten to fifteen pounds for the average person, so there can be little danger from over-dose, for no surgeon would attempt by this means simply to increase the avoirdupois of his patient.

In selecting the melting temperature point, for surgical uses, allowance will have to be made for the difference in temperature between the rabbit and human species, which is about 4° F., making a choice of 106° or 107° F., the best for use in subcutaneous injections, for the reason that it gives a substance firm enough to hold very well its form, especially when confined by the surrounding tissue; and at the same time, with a melting point out of reach of the system at all times. Furthermore, the difference from congestion and inflammation between the different temperatured paraffins was scarcely perceptible. The harder paraffin, when it reaches the thready consistency, as it does coming from the needle, causes no more pain or local irritation than the lower temperature; and in comparison of the specimens here a firmer, finer, and better tissue will be found in the paraffin with a melting point at 110° F. As for a local anæsthetic, the pain is so trifling, if properly done, that a 1 per cent. solution of cocaine at the point of puncture is all that is necessary. I do not believe in filling up the space with any form of liquid before using the paraffin, as some have advised, because it disguises the deformity, and makes it more difficult to tell exactly how much paraffin should be used, and is simply an unnecessary step.

On account of the natural shrinkage, you may find it advisable to use more than one injection; if so, it might be well to make it in two or three weeks, and either a little above or below, or to one side, of the primary injection, so as to leave some of the tissue elements between the two masses; and thus prevent the destruction or retarding of growth of the new tissue cells, which are beginning, about this time, to perforate the paraffin. From the rapidity of the tissue growth, shown by these experiments, we calculate that at least four months are required to fully organize specimens of this size, which were two centimeters in length, one and one-half in width, and one in thickness, as they appeared in the specimens prepared for section.

This is not so, however, in all cases, as, in some of the specimens of the same age and melting points, the central portion became capsulated after three-fourths or more had become organized, and was retained within a membrane which is distinctly visible. This also occurred in specimens of other temperatures, and under the same conditions.

But in no instance have we a specimen that is not at least three-fourths organized, and, perhaps, time would have completed it.

No. 8 is a photo of this capsulated portion. Both conditions have been given, take them for what they are worth; personally I am quite sure that the latter in no way detracts from the promised usefulness of this procedure.

As it has been my pleasure to present these few evidences here to prove the fact that we have a substance which will fill in spaces of lost tissue, and not remain entirely a capsulated foreign body, but become a bridge-work, and, in fact, a part of the new tissue, I leave you to ponder and to draw upon your own imagination for the various uses and ways this may be of service; and the benefits that may be derived therefrom.

The evidences, however, are sufficient to warrant an extended trial of this branch of surgery, for it seems to me we have been given a substance which, although discovered by accident, fills a long-desired want.

416 New York Life Building.

THE USE OF THE CLINICAL THERMOMETER AS AN AID IN QUARANTINE INSPECTION.

By A. H. DOTY, M.D.,

HEALTH OFFICER, PORT OF NEW YORK

Experience has shown that in the examination of passengers and crews of incoming vessels the requirements of modern sanitation are not fulfilled by the method of inspection which has hitherto been employed. I refer to a visual examination in conjunction with the statement of the person under observation. As a rule, it is difficult to secure frank statements regarding their physical condition from those who are ill on arrival at Quarantine, if they have reason to believe it may cause their detention. Aside from this, sailors and others who are subject to hardship and exposure, pay little or no attention to mild attacks of disease, which do not actually interfere with their work. Furthermore, in the examination of persons held at Quarantine there is a class of cases of infectious disease to be carefully guarded against which constitute a most serious menace to the public health, viz., mild, ambulant, or convalescent cases. These are not always promptly or easily recognized, and are responsible for many outbreaks of infectious disease, the origin of which are unknown, but which are commonly and erroneously believed to be due to the transmission of infection through the medium of clothing, bedding, etc. A passenger, or a member of the crew of an incoming vessel, may report on deck for examination and appear in good health, while suffering from an infectious disease, either in its initial stage or in a mild form. Therefore, it is necessary to surround an examination of this character with every safeguard which is reasonable and practical. Even in the early stage, or in a mild form of an infectious disease, the temperature of the body is almost always raised at least to a slight degree. This is detected by the thermometer when there is no other evidence of it, and when no constitutional symptoms are present. For the past five years I have used the thermometer in the examination of persons arriving at the New York Quarantine from infected ports, and the results have been exceedingly satisfactory. In this way many cases of infectious disease have been discovered where a visual examination indicated a normal condition of health. While there is no question as to the practical value of this test when properly employed, it becomes worse than useless if carelessly or indifferently carried out.

When thermometers are used for the purpose above referred to, they should be of the best quality and carefully tested. Furthermore, persons under observation should never be allowed to take their own temperature or report on the same. This should be personally attended to by the medical officer in charge, who is directly responsible for the examination. Care should be taken that the lips are closed while the thermometer is in the mouth, and that the instrument is not removed until the maximum period required for taking the temperature has expired. Those whose temperatures are to be taken must be cautioned not to break the thermometer with their teeth—this frequently occurs, particulary among the more ignorant class of steerage passengers, who, as a rule, do not understand the English language. In such an instance the services of an interpreter is urgently called for. It is very important that careful attention should be given to the details just referred to.

The following method employed at the New York Quarantine Station will serve to illustrate what I have already said regarding the use of the thermometer. When the temperatures of a large number of persons are to be taken on shipboard, a good-sized, well-lighted apartment is selected, which will permit the proper entrance and exit of passengers and crew. In this is placed a table sufficiently large for the material necessary for this work, *i. e.* passenger, or crew list; soap and water, bowls, and towels for cleaning thermometers, etc. At least fifty properly-tested instruments are made ready for use. These are carefully examined, to be certain that the mercury is below the normal register. Twenty-five or more persons of those who are to be examined are brought to the apartment; thermometers are carefully placed in their mouths, and the necessary instruction given by an officer of this Department, who passes up and down the line, to see that the thermometers are kept in place. When the proper time arrives, the latter are removed one by one, and the degree which the instrument registers is set opposite the name of the person examined. Those whose temperatures are sufficiently high to call for their detention are immediately conducted to the boat which is waiting to transfer them to Hoffman Island, while another group is called for. In this manner the work is continued until the entire number is examined. By having a large number of thermometers, a portion can be made ready for immediate use. Soap and water should be used for cleaning. This quickly accomplishes the desired result, and is more practical and better than dipping them in solutions of carbolic acid, etc., where they cannot remain long enough to insure disinfection. Besides this does not properly clean the instrument. Tepid, not hot, or even very warm water should be used, otherwise the thermometers may be broken, or the mercury driven to a very high degree; this may be overlooked, or it may be difficult to force it back to the normal point. The register of every thermometer should be carefully inspected *immediately* before use. If plenty of assistance is at hand, and the examination is carried out methodically, it will be surprising to see how rapidly the temperatures of four or five hundred persons can be properly taken.

In this method of examination it is necessary to know at least approximately the degree of temperature which indicates an abnormal physical condition, and which justifies us in holding persons for observation. Many thousand temperatures are annually taken at this station. In addition, surgeons of vessels coming from infected ports are requested to take the temperatures of passengers while in transit, and to report the same to this Department on arrival at Quarantine. Therefore, ample opportunity has been offered here to ascertain the variations of the normal temperature. In order to present this, I have selected a group of temperatures which were taken practically under the same conditions. The persons examined were in good health while in transit and on arrival at this port. They were of the same class of passengers (steerage), and their temperatures were taken by the same officer, and about the same time of day. In the test which I am about to present, 16,152 temperatures were taken with carefully registered Hick's thermometers, with the maximum exposure, and with careful attention paid to all details necessary to secure the correct temperatures. The results are as follows:

TABLE NO. 1.

582 were between 96 and 97° F.
1,124 were between 97 and 98° F.
2,108 were ....98° F.
779 were ....98.2° F.
7,340 were between 98.4 and 98.6° F.
2,432 were..................99° F.
976 were...............99.2° F.
811 were...............99.4° F.

While this test practically confirms the belief that the normal temperature of the human body is about 98.5° F., it also shows that considerable variation from this register may exist in the healthy subject.

In addition to the above, I have recently made the following test with some of the employees of this Department. The temperatures of eight men were taken for twelve days, at three different periods of the day; between 5 A.M. and 7 A.M.; 2 and 3 P.M., and 8 and 9 P.M. In all there were 279 temperatures registered with the following result:

TABLE NO. 2.

58 were between 96 and 97° F.
67 were between 97 and 98° F.
46 were...............98° F.
*92 were between 98 and 99° F.
11 were...............99° F.
5 were between 99 and 99.5° F.

The low temperatures found in table No. 2, as a rule, occurred during the early morning hours, between 5 and 7 A.M.—two of the eight men in this test were firemen, whose duties required them a part of the time, at least, to be exposed to a high temperature. However there was no marked difference between the temperatures of these men and others who were employed in the office. Apparently, exposure to a high temperature for a short period is not likely to raise the body temperature, as its equilibrium is maintained by sweating. However, when there is prolonged exposure, as among stokers of transatlantic steamers, etc., an elevation of temperature not uncommonly occurs. In comparing tables Nos. 1 and 2, it will be seen that by far the greater number of temperatures in both tables were between 98 and 99° F., or, more correctly speaking, about 98.5°. However, there is a marked difference in the percentages of high and low temperatures in these tables; for instance, in table No. 2, which gives the temperatures of the eight employees of this Department, about 20 per cent. are between 96 and 97° F., whereas in table No. 1 this low register (96-97) represents only about 4 per cent. of the total number (16,152). This, I believe, is readily explained by the fact that one-third of the temperatures of the employees of this department (in table No. 2) were taken very early in the morning, at which time low registers are common, while the temperatures of the steerage passengers in table No. 1 were taken, as a rule, not before 10 o'clock. On the other hand, in table No. 1, it is found that over 25 per cent. of the temperatures (4,219) were from 99 to 99.5° F., whereas in table No. 2 there is less than 5 per cent. within this register (99 to 99.5° F.). The large number of temperatures above 98.5°, found among steerage passengers referred to in table No. 1, were undoubtedly due to excitement. This factor was not present among the employees of this department concerned in table No. 2.

I believe that the foregoing tests can be regarded as reliable, and that the result shows the following important facts: (1) That the usual temperature in health is about 98.5° F., although subject to considerable temporary variation without denoting an abnormal condition; (2) That a temperature below 98° F. is much more frequent in healthy persons than is generally supposed, and that this low temperature is usually found very early in the morning; (3) That a temperature of 99° F. and above, is frequently found in the normal condition, although it is, as a rule, probably transient and due to excitement or some other temporary cause.

It is practically impossible to decide upon the degree of temperature which calls for the detention of persons coming from infected ports. When the clinical thermometer was first used at this station as a part of the examination of passengers and crews of incoming vessels, I frequently detained those whose temperatures were above 99° F., but it was soon shown that a temperature below 99.5°F. did not indicate an abnormal condition, for the reason that after the excitement of the transfer to Hoffman Island was past, the temperatures almost always dropped to 98.5° F. This elevation of temperature, 99.5° F., is very commonly found among immigrants who are sent to Hoffman Island for observation, having been passengers on vessels arriving at this port with smallpox on board. Many have also been removed with temperatures of 100° F., which quickly return to the normal register. Therefore, I believe that passengers and crews should be allowed to proceed if their temperature does not exceed 99.5°, provided there is no other reason for detention. While I am satisfied that a temperature of 100° F. by the mouth, is not inconsistent with perfect health, and is frequently temporarily found among those who are held for observation at Quarantine, or otherwise subjected to some form of excitement, I am of the opinion that this register (100° F.), should always be looked upon with suspicion.

In connection with this part of the subject, it may be of interest to state that, as the results of tests

*Almost all of these were between 98.4° and 98.6°.

made at Swinburne Island Hospital among the patients and nurses in sickness, convalescence, and in health, it was shown that the rectal temperature was usually from two-tenths to six-tenths higher than the temperature of the mouth, and that this variation occurred both in sickness and in health.

In many instances, however, the rectal and mouth temperatures were the same.

Although it is necessarily arbitrary, I believe we are justified in assuming that a temperature above 99.5° F. may indicate an abnormal condition, even in persons who otherwise are apparently perfectly well. If such a temperature is due to excitement or other temporary causes, it will not require a long detention to prove this fact, and therefore will not interfere to a serious extent with passengers and crews in transit.

X-RAYS IN THE TREATMENT OF CANCER AND OTHER MALIGNANT DISEASES.

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REALIZING that the reporting of immature results and deductions has been the bane of current medical literature, we have deferred giving for publication our experience with the *x*-rays in the treatment of malignant diseases because we wished to give the remedy the test of time. Since, however, so many articles have appeared lately upon this subject, based upon the reports of a few isolated and indefinitely stated cases with poor histories, we venture, at the risk of being accused of prematurity, to express our opinion upon the therapeutics of the *x*-ray.

This is only a preliminary report, but the writer wishes to state that the conclusions herein arrived at are not based upon cases of doubtful diagnosis, for most of them have been post-operative, and, therefore, the question of diagnosis is not an open one. We have treated with the *x*-ray, during the larger part of the past year, an average of over seventy patients each day, which we believe to be the largest number of daily *x*-ray treatments yet reported by any individual. Having had such a large number of cases to study from, and doing pioneer work in this line, we have, of course, formed some opinion of the value of the treatment; and although we do not wish to be understood as announcing this as our final opinion, owing to the fact that time may materially change it, we present what we have learned to the profession for what it may be worth.

The use of the *x*-ray as a therapeutic agent is not so new as many would suppose; in fact, several *x*-ray operators have patients now under observation who were discharged symptomatically cured by the *x*-ray more than two years ago.

At first the treatment was taken largely on faith, but now, facts, illustrating the value of the *x*-ray as a therapeutic agent, appear in nearly every issue of most medical journals, and it must be familiar to every one that an agent which can at once demand the attention of so many minds from all parts of the world, must have some merit. Have the results obtained by dozens of different writers in treating hundreds of cases all been exceptional? Have they all been spontaneous cures? Certainly not. The only logical conclusion which it is possible to form is, that there must be great value in the use of the *x*-ray for therapeutic purposes.

As a remedy for lupus, this treatment has successfully passed through the crucial test of practical experience. None who have experience will gainsay that. Since it is a fact conceded by everybody who has investigated the subject, that trophic changes, such as dermatitis, exfoliation of the skin, falling off of the hair and nails, result from exposure to *x*-rays, and since it is also a fact that lupus and epithelioma are cured, clinically at least, by the *x*-rays, why may not this agent be of value in the more malignant or deeper-seated affections?

Aside from the speculative part of the value of the *x*-ray, it certainly is perfectly logical, from every standpoint, to suppose that if we admit that tuberculosis of the skin is curable, which we must from statistics at hand, tuberculosis of the lungs or the bones, and other forms of this disease must be amenable to *x*-ray treatment, for tuberculous conditions are similar in whatever part of the body they may be found. Again, if we admit that epitheliomas are curable by the *x*-ray—and no one in the present light of things can doubt that—we can also suppose that cancer in any other part of the body is amenable to this treatment. First, because cancer tissue is primarily the same in whatever part of the body it may be found, being composed of epithelial cells; and, second, because of the ability of the *x*-ray to penetrate tissue there is no part of the body which is beyond its reach.

Many theories have been advanced as to the action of the *x*-ray in the various conditions for which it has been used. By some the belief is held that restitution of the tissues takes place under *x*-ray treatment; that is, cancer tissue becomes transformed or is developed into normal tissue. Others, taking for granted that the parasitic or bacterial theories of the origin of some of the diseases treated by the *x*-ray have been conclusively proven, believe that the *x*-ray, due to its actinic action, destroys these conditions. These theories seem rather far-fetched, however, for, aside from the lack of proof of the parasitic or bacterial origin of the diseases referred to, it does not seem probable, from observations which have been made by various investigators, that the success of the *x*-ray treatment in these diseases is exclusively due to any bactericidal power which the rays may possess.

Personally, we believe the action of the *x*-ray is the same in all the diseases in which it has been found of value, and also that that action is most plausibly explained when viewed from the standpoint of the theory of phagocytosis followed by leucocytolysis.

First, it must be admitted that, aside from whatever chemical or electric property the *x*-ray may possess, the sum total of its action is that of an irritant. Now if we irritate a certain part of the body by making frequent *x*-ray exposures, we produce ultimately a simple focal inflammation. Inflammation means the determination of much blood to the part, hyperæmia. Due to the increased volume of blood, leucocytes accumulate in large quantities and, finally, stasis occurs, the circulation being cut off, the part dies for want of nourishment. When no suitable nutritive material is at hand there is developed a tendency toward degeneration. No doubt this degeneration is partly, at least, due to an accumulation of the products of the metabolism of cells.

Primarily, then, the *x*-ray affects the essential tissue-forming elements of the body. The parts which are walled off decompose chemically and are either discharged or absorbed. The rapid decrease in the size of some growths under *x*-ray treatment also points to a more general or systemic action, probably due to stimulation of the lymphatics.

The fact that nearly every case, no matter how severe, treated by the *x*-ray seems to improve at the beginning of the treatment, shows that it exerts an influence which is not only local but also systemic. From our personal observations upon several hundred patients we have come to the conclusion that the nutrition of the entire system is affected, through reflex action probably, and this produces a general stimulating and tonic effect. As to the special characteristics of the *x*-ray in different conditions our experience teaches that the vitality of all patients is increased. It is surprising how long life may be maintained in some cases. Relief from pain is found in the majority of cases, although if a neuritis is coexistent with cancer, especially in breast cases, very little can be done for the relief of the pain.

Tuberculous conditions, especially lupus vulgaris, have been most favorably affected by the *x*-ray. In our own use of this agent the following is the relative order in which we should classify the diseases for which the *x*-ray treatment has been given, and the order in which we should expect results, relatively: lupus, epithelioma, nodular returns (post-operative), primary breast cases, tuberculosis of the lungs, tuberculosis of the bones, cancers of soft internal organs, sarcomas, osteosarcomas.

In making this classification we do not wish to assert that all the above-named conditions have positively been cured by *x*-ray treatment. Statistics to that effect are not yet at hand. We are not optimistic enough to assert that all cancers can be permanently arrested or cured by this or any other known method of treatment, but we do believe that the *x*-ray has established for itself a field in the therapeutics of lupus and epithelioma. Not only that, but the future will see its greatest application in the treatment of patients immediately after operation, to prevent the possibility of recurrence.

Without in any way wishing to depreciate the splendid work of surgery, we must say that recurrences are only too numerous. It is a well-known fact that in only a small percentage of the cases of cancer operated upon does the growth fail to return. Concerning the status of the value of the surgical treatment of carcinoma, we quote from an editorial in the Medical Record of April 5, 1902, in which it is said that "we know our limitations in the radical surgery of carcinomatous diseases, and we recognize the fact that our best efforts do not cure, but only in a small proportion of cases annihilate the neoplasm."

It is not recommended that the *x*-ray take the place of the knife in primary or operable malignant growths, but the results so far obtained by *x*-ray treatment following operation are certainly sufficient to warrant the careful consideration of the profession. In general, the results of *x*-ray treatment speak for themselves, and it is unnecessary to present here any argument concerning the practicability of the use of this agent. Enough has already appeared upon this in medical literature.

It may be well, however, to point out that the whole matter resolves itself into the question of a proper understanding of *x*-ray phenomena. It is the correct use of this agent for special conditions, with ability to vary its power when necessary, that is essential for obtaining proper results, and not its use in the haphazard manner which is so common to-day, when, through ignorance of its virtues, the *x*-ray, which is hailed as a triumph by the physician in his struggle against tuberculous and cancerous conditions, becomes a dangerous force in the hands of the incompetent operator. We must not forget that we have a great variety of *x*-rays to deal with—in fact, to use a comparison, the variation in quantity and quality of *x*-rays obtainable with one piece of apparatus is much greater than all the varieties and qualities of tones which may be produced upon the keyboard of a piano. Again, different tissues demand different degrees of *x*-ray value.

When we understand these facts we can readily see why the treatment of an epithelioma must be different from the treatment of lupus. Ignorance of these facts probably accounts for much of the difference of opinion which exists to-day regarding the therapeutic value of the *x*-ray.

A few words concerning the so-called *x*-ray "burns." The continued administration of the *x*-ray in any one locality produces, at first, through its irritating influence, a dermatitis. If the treatments are unduly continued, ulceration of the tissues may occur, but an *x*-ray "burn" need never be considered serious. This statement is made because of the many bold announcements which have appeared concerning the "dangers of burning under *x*-ray exposure." Relatively, the inflammatory reaction, or dermatitis, produced by the *x*-ray is harmless, and, in most cases, if the parts were not meddled with by the application of strong chemicals, especially carbolic acid in some form or other (which, of itself, may cause gangrene), nature would assert her power and make repairs. We believe we have "burned" every patient treated, and several of them have been "burned" repeatedly. Concerning the development of the dermatitis, we find that susceptibility varies considerably. Certain individuals develop a decided reaction after the first treatment, whereas others resist the action of the rays to such a degree that it is only after from one to two months of daily treatment that we are able to develop a reaction. In one case daily treatments have been given for over two years, and, although the tube has been placed very near the body, nothing more than a slight redness has developed. It is evident from this that an idiosyncracy must exist.

To prevent the action of the rays upon surrounding tissues, a special lead-foil mask is used, which resists the passage of rays to healthy parts. Another precaution might be recommended, in order that the "burning" stage may be retarded—it is the application of plain vaselin to the parts exposed directly to the rays. This substance retards the superficial irritation very much, and is especially useful when treating the deeper tissues, and when there is no open ulcer. In all open or broken-down conditions a dermatitis should be rapidly produced.

The following are brief reports of a few cases:

Case 1.—Mrs. M., aged forty years, recurrent carcinoma of right breast. Radically operated upon first time in August, 1900. Recurrence immediately, followed by second operation. Six months after second operation nodules again began to appear in scar tissue, and third operation was performed. After this the nodules remained away for nearly one year, but finally they appeared again, and the patient undertook *x*-ray treatment. The whole scarred area was filled with a large number of small nodules, each about the size of a pea, which extended even into the axilla. Under *x*-ray treatment these nodules gradually began to fade away. The patient's appetite improved, pains disappeared, and she felt stronger, and was visibly improved in general health, so much so that her friends constantly inform her of her improvement. In this case the treatment was not taken as regularly as recommended. Sittings were given daily for about one month, and on alternate days for nearly four months. Although we do not consider this patient absolutely cured, she certainly shows so much improvement that we think we are justified in calling this a symptomatic or clinical cure.

Case II.—Mrs. L., aged forty-eight years, case of scirrhous cancer of right breast. Three years ago last January a small hard tumor was noticed, which was painful to the touch. Her physician suspected a malignant condition on account of the family history, and an operation was performed, the breast being moved. Last August three nodules began to develop simultaneously in the operation scars. These nodules grew quite rapidly, and since another operation was refused, patient was recommended by her surgeon to try *x*-ray treatment, which was accordingly begun on September 5, last. Treatment was given daily until November 15, when decided dermatitis developed. The patient was allowed to rest until December 5, when treatments were begun once more, and continued daily until January 20, at which time all three of the nodules had entirely disappeared. This case also presented a condition of keloid, which extended over an area of six inches, and which also was very markedly affected by the *x*-ray exposures.

Case III.—Mrs. O., aged fifty-six years, cancer left breast—so diagnosed by several prominent physicians who had treated her. The original growth presented an ulcerated surface measuring seven by five and one-half by two inches. Several severe hemorrhages had taken place, and patient was very weak. Discharge foul and very profuse. Glands in axilla swollen and very tender. Pain in growth and surrounding parts constant and, at times, excruciating. Many methods of treatment had been tried during a period of nearly three years, but were found to be of no value, the condition gradually getting worse. Finally, *x*-ray treatment was advised and undertaken. Treatment given every other day for twenty minutes. No improvement or effect was noticed, other than relief from pain, until after the third week of treatment, when decided dermatitis had developed and pains again returned, due to dermatitis. Treatment, however, was continued every other day, tube being placed farther away from affected area, and in about two weeks more a marked change was noticeable. The hollow cavity of the growth seemed to fill in, the edges of the ulcer began to approach one another, and in three months from the beginning of the treatment the wound had healed over entirely, and the patient presented the appearance of having been born with only one breast, so slight was the scar. This patient has been under observation for nearly one year, and during this time no recurrence has been noticed. Patient is a very active woman, and travels extensively.

Case IV.—Mrs. A., aged sixty-five years, case of lupus involving entire forehead, left temporal region, left cheek and eye, and extending to the middle of the left side of the nose. The most extensive lupus formation we have ever seen. Primary lesion a pimple, which developed on left cheek bone over fifteen years ago, constantly grew larger until thirteen years ago medical aid was sought. Various local preparations were tried without avail. Lupus area became constantly larger, even though patient has been practically under treatment of some kind or other for the past thirteen years. Two years ago plaster treatment was resorted to without any beneficial result, and since then the growth discharged constantly and itched intensely, and patient became very weak, due to constant irritation. *X*-ray treatment began December 2, 1901, and continued every day until January 10, 1902, at which time the looked-for dermatitis had developed over the entire area, and the patient was allowed to rest from treatment. Three weeks elapsed before the irritation had run its course, and, at that time, all parts were covered with new and healthy skin. A month later the hair again began growing, on head, eyebrows, and eyelashes, and not a vestige of the old trouble can be found.

Case V.—Mr. P., aged fifty-five years, lupus on left cheek, surface size of twenty-five-cent piece. Ten years ago patient noticed small festering pimple on cheek, which was opened by scratching with the finger nail. This has never healed over in spite of the fact that he has been constantly under treatment, and tried, among other things, the actual cautery three times, excision once, and plaster treatment five times. Patient was sent to us by his son, a physician, and *x*-ray treatment recommended. Treatment given daily for seven weeks, at which time considerable dermatitis had developed, and patient was allowed to go home, and instructed to return as soon as the irritation, due to the treatment, had subsided. The dermatitis did not subside for nearly three weeks, when patient appeared, and we found a small area in the center of the old formation, which needed treatment. Accordingly, treatments were again given daily for two weeks, when dermatitis once more developed, and patient was again allowed to rest from treatment. On returning two weeks later we were unable to find any trace of the previous trouble, and since that time, now nearly six months, we have seen and examined this patient several times, and have been unable to find any return of the lupus.

Case VI.—Mrs. F., aged fifty years, large scirrhus on left breast of three years' standing. Had injection treatment without any favorable effect. Would not undergo surgical treatment because she had heard of many recurrences following operation. *X*-ray treatment undertaken April 15, 1901, daily for first two months, after which decided dermatitis developed, and the breast began to break down, and discharged not only a large quantity of fluid, but also much solid cancer tissue. This breaking-down process continued for over one month when the parts began to heal. The growth seemed to have been entirely enucleated. Treatments were now given every other day, and in the course of two months or more the wound had entirely healed, and, indeed, without much scarring. This patient has been examined frequently, and no return detected.

Case VII.—Mrs. E., aged fifty-two years. Early in the year 1900 the patient complained of pain in the pelvic region. On consulting several physicians the diagnosis of cancer of the uterus was made and operation was recommended. Operation for removal of entire uterus was performed March, 1900. Following this operation, a persistent discharge was noticed. The patient took a severe cold in the month of December, 1900, and symptoms of congestion appeared in the pelvic region, followed by the development of an abscess, which broke and discharged through the vagina. Discharge continued offensive, with occasional very profuse hemorrhages. A second operation was recommended and performed by a prominent surgeon in May, 1901. On making an incision the surgeon found that the cancer had returned, and was so extensive in character that he decided not to remove anything. The wound was closed, and the husband was told that nothing could be done to save his wife's life, and that she would probably die within a month. During the last week of May, 1901, patient was brought to Chicago, and *x*-ray treatment was undertaken. Daily treatment of ten minutes' duration were given, and at the end of two months the patient had gained twenty-two pounds, was free from pain, and the foul discharge had almost entirely ceased. At the end of three months she was discharged symptomatically cured, and she remains so to this writing. During the past eleven months she has gained thirty-five pounds, and writes "I continue to keep well; have not felt so well in years."

We have a number of other patients who have taken *x*-ray treatment, and who have remained free from recurrence for periods ranging from six months to a year and a half. Many other cases could be cited, but time and space forbid.

In conclusion, we wish to submit the following deductions:

1. The *x*-ray is the most remarkable therapeutic agent of the last decade.
2. In properly selected cases of so-called "incurable conditions" the *x*-ray has brought about remarkable results.
3. Relief from pain is one of the most prominent features of the treatment.
4. Retrogressive changes are noticed in all primary cancer or tuberculous growths.
5. The *x*-ray has a pronounced effect upon internal cancers.
6. The greatest value of the *x*-ray is obtained in treating post-operative cases to prevent recurrences.
7. The proportion of clinical cures by this treatment is greater than that obtainable by any other method of treatment.
8. We are positively justified in assuming an idiosyncrasy to *x*-rays.
9. The peculiarities of each case must be studied in order to get the best results, *i. e.* no strict rules for treatment can be laid down.
10. Dermatitis, if properly produced, is within certain limits a desirable feature of *x*-ray treatment.
11. Since the vacuum of an ordinary *x*-ray tube changes constantly, such tubes are useless for radiotherapeutic work, and only tubes which allow of perfect control of vacuum should be used.
12. The *x*-ray has a selective influence upon cells of the body; abnormal cells being effected more readily than the normal.
13. Hemorrhages and discharges are decidedly lessened and, ultimately, cease in the majority of cases.
14. Even in the hopeless, inoperable cases, the *x*-ray prolongs life, makes the patient comfortable, and the last hours free from pain.

The use of the *x*-ray is, without doubt, a very valuable addition to the therapeutics of malignant diseases, and cannot demand too much attention from the progressive physician.

Whatever may be the real action of the *x*-ray in these diseases, the results obtained certainly have been astonishing, and while it would be premature to claim that malignant diseases can positively be cured, it is to be hoped that further investigations may surpass our expectations.

126 STATE STREET.

An Early Sign of Pleural Exudation.—Przewalski has noted in very early stages of pleural effusion a narrowing of the intercostal spaces and a marked resistance of the intercostal muscles of the affected side. This seems to be analogous to the muscular contraction observed in a limb in cases of arthritis. He regards this as a constant and typical sign of pleural effusion, and considers it due to a fixed attitude of the rib corresponding to the seat of the disease, the immobility being due to reflex contraction of the internal intercostal muscles.—*Medical Times and Hospital Gazette.*

HYDRÆMIA AND MALARIA

By R. CADWALLADER, M.D.,
WINTERS, CAL.

The town of Winters, Cal., has an unenviable reputation for malaria. It is on the north bank of a stream which, while running the summer through, diminishes to less than a foot in depth before the winter rains swell its thirty-foot banks nearly to overflowing. This stream has very few back-water eddys, none of which are undrained, and is filled with small fish. Mosquitos of the Anopheles variety exist in not great numbers, but sufficient to be annoying to those who want to follow a local custom and sleep out of doors during the hot nights.

One street runs parallel to this stream, the lots going back to the bank, and I wish to call attention to the cases of malaria found in the houses on that side for some four blocks.

First house—Three adults and one boy of twelve. The father, a hard-working blacksmith, had one mild attack; the others had several each. A daughter, aged twenty-four, had three severe attacks. Earlier in the summer, for constipation, I had advised her to drink water freely.

Second house—Two adults. Both had mild attacks. They had worked hard all summer.

Third house—Father, mother, and four children. The family, except the husband, were away all the summer, but returned September 1. The mother and one child took sick September 17 and 23. The father drank only bottled water at meals and escaped.

Fourth house—Man over eighty years—free.

Fifth house—Old man and wife—free.

Sixth house—Father and son. I had advised the father to drink water freely because of urinary sediment, in July. He had a severe attack in August and another in September.

Seventh house—Four persons absent during most of the summer, except the father, who was a small eater and drinker, because of dyspepsia.

Eighth house—Three adults. Father dyspeptic; young man, absent all summer. The mother I had advised to drink freely of water, and during the summer she had two severe attacks.

Ninth house—Old couple, who were advised, in July, to drink plenty of water, as in both cases the urine was loaded with salts. Both had severe cases of malaria in August.

Tenth house—Four adults. Wife and daughter had mild attacks each.

Eleventh house—Two adults. Wife had a mild touch early in the summer; but, at the close of the summer's work, and after being advised by me to "flush out," the husband was taken with one of the most troublesome cases I have had this year.

Twelfth house—Three adults. Two of these were advised to drink water for constipation, and these two were sick in July.

Now, opposite these four blocks, I had, in one family of seven, two cases, and to both of these I had advised water. In a second, water was advised to the wife, who had a severe attack two weeks later. The husband drank only at meals, and has been free.

This street is well shaded, is eighty feet wide, and the prevailing wind is toward the creek, which accounts for the great number of cases on that side. I might add that there were only three families that escaped entirely, and that four more had malaria, but were under the care of a brother practitioner.

In thinking of these cases, I was struck with the fact that on the north side I had only three cases, and to these three, out of the other members of the families, I remembered to have prescribed the free use of water. I then looked over the cases noted above. Here are thirty-five persons, of whom nineteen had malaria this season. To eight of the nineteen I had advised water in large quantity, and, it is worthy of notice, that, with one exception, these eight had been my most severe cases.

Thinking that this might be a coincidence merely, I ran over my cases for August and the first half of September, and selected those at least two miles from town, twenty-five in all. Four of these had been advised to "flush out"; two followed within two weeks of a changed water supply, the old being impure and hardly fit to drink; two had started to school after a summer's work, and the others, excepting two, had finished the fruit season of hard, perspiring, outdoor work from one to two weeks before and were "resting up." In each case there was a history of increased amount of water taken in or lessened excretion. This, then, was the same condition that was found in the patients of the four city blocks.

In connection with this it is worthy of note that the fruit season, *i.e.* the time of hardest work and hottest weather as well, ended with August, and was followed by cooler weather, without rain, during the first ten days of September. This change was marked enough to make blankets at night necessary; and as the elimination of water by the skin was decreased, the hydræmia was, of course, increased, and this was also the very time when I had the greatest number of cases.

There is a firm belief in this locality that eating watermelons will cause "the chills." Forgetting the fact that back of these popular fancies there is often a truth, I was inclined, a year ago, to consider a coincidence merely in the time of ripening. In considering the deductions from these cases and the etiology of malaria, it has occurred to me that perhaps an increased proportion of water in the blood to the normal may play a very important part in the causation of malaria. To do this, it must either render the system more susceptible to the infection, make the effects more severe when once the body is infected, or favor the flow of saliva from the mosquito to the subject. The season is too far advanced and the material too limited for me to prove this theory at present, but it fits in with one other observation that I have never heard or read. This is the lack of thirst in the fever of malaria. A temperature of 103 or 104° is not followed by demands for water, when in fever from any other cause patients will want to drink continuously. If it be proven that hydræmia is a predisposing, and it may be an indispensable, prerequisite to infection, then the drenching sweats are probably Nature's way of reducing the fluids of the body to a point causing the death of the plasmodium. It has been said that the pyrexia is the cause of death to the germ, but this is hardly possible, for at its height the plasmodium can be found in abundant numbers.

I called attention to dyspepsia in houses 7 and 8 because it was atonic in character, and the patients have been unable to eat or drink much at a time.

This theory furnishes a reason why the disease is more prevalent with colder weather in the fall at a time when the mosquito is sluggish and is found in fewer numbers, and when in this locality the habit of sleeping on lawns has been given up. It has been noted that "in malarious regions the number of cases is usually materially greater during a summer attended with a heavy rainfall than during a dry summer. In tropical countries the first notable increase in the number of cases occurs when the dry season is first terminated by the autumn rains, but when the rainy season has continued a sufficient length of time to more or less completely inundate the surface of the ground, a decrease in the prevalence of the disease takes place. When, however, upon the termination of the wet season the sun regains its full vigor, the evaporation of the moisture from the ground that ensues causes the number of cases again to be largely augmented." (Mannaburg, in Sajous' Cyclopædia.) Or, in other words, the cases of malaria exactly follow inversely the water excretion of the people, which may be taken as a fair index of the hydræmia of their blood.

Quinine is the one specific drug for this disease, and, besides a germicidal action, it has the marked effect of increasing vasomotor constriction, as Sollman says, "a quickened pulse with rise of blood pressure." This greater blood pressure increases the amount of urine excreted therefor, and lessens the water in the body. Now, consider the substitutes for quinine. Except for arsenic, which relaxes the capillaries, but, while doing this, acts energetically on the intestinal canal, producing watery movements, they are all diuretics. In this list are methylene blue, strychnia, nitrate of potassium, iodide of potassium, myrrh, eucalyptus, lemon juice, guaiacol, and phenocol, pepper, etc., every one of which have diuresis as their principle, if not only, action. While they are poor substitutes for quinine, the fact that diuresis is their only common action is a strong presumption that that is the line of their beneficial action. It is also well known that brisk purgation by mercury, while taking quinine, wonderfully assists in the cure. In his work on estivo-autumnal malaria, Craig states that "of returned soldiers from the Philippine Islands, 65 per cent., showing estivo-autumnal parasites in the blood, were suffering from acute or chronic dysentery." This does not seem to me, as at first might be thought, the tissues being thereby drained, to disprove my theory. It is the effect of the economy to deplete the body to a point of killing the germ, though often in those severe cases an unsuccessful one. Almost in the next lines we find him stating "that the administration of quinine in cases of estivo-autumnal malaria, complicated by dysentery, not only removes the malarial infection, but, in many instances, the dysentery improves, and a return to health is more rapid." His explanation of this is that the intestinal membrane is invaded by the parasite causing an irritation, and hence the diarrhœa; but it would seem equally plausible to consider it also as an effort to get rid of all the water possible. And not without significance, also, are his statements that "during the paroxysms the amount of urine passed is increased," and that in "tertian and quartan fevers convalescence is often marked by the occurrence of polyuria," and that "a slight polyuria is very common, and is probably more so than is generally known," and also, "that, on the whole, there is little variation from normal in the specific gravity of the urine."

He also calls attention to how infrequently typhoid and malaria coexist, quoting Dr. Lyon's list of only twenty-nine authentic cases, and giving but five as his own experience. He says, "As a rule, the malarial attacks occur during convalescence from typhoid;" namely, after the characteristic diarrhœa of the disease is over.

It may be that this theory is incorrect. A few cases in one locality prove nothing, though it does seem to fit in nicely with the known facts of malaria. If it be proven correct, then we have an interpretation of how and why certain drugs act as they do, and surely gives us a hint toward prevention as well.

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THE OPERATIVE TREATMENT OF EXOPHTHALMIC GOITER.

THE name of Kocher has long been associated with the treatment of all forms of goiter, and the bearer of that name has had unequaled opportunities for observing the disease in all its forms. Any contributions, therefore, coming from the Berne clinic must have unusual interest. In a paper in *Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie*, Band IX, A. Kocher, a son of the well-known surgeon, offers a paper containing the results of treatment in ninety-three cases of exophthalmic goiter, occurring during the period between 1883 and 1899, and coming under the charge of the elder Kocher. Among these cases seventy-four are said to have been examples of true exophthalmic goiter, fifty-nine of which were subjected to operation. It is hardly necessary to mention that cases of exophthalmic goiter belong in a special category, and cannot be judged by the same standards which we use in the case of other forms of thyroid enlargement in which we do not have a serious constitutional derangement to contend with, and for which we can recommend operative treatment with considerable assurance.

Kocher exercises a careful selection of cases for operation, and does not permit patients who are evidently in an exacerbation of the disease to be operated upon until an attempt to mitigate this condition has been made by whatever form of medicinal, hygienic, and dietetic treatment seems to hold out the greatest prospect of success. In this series of cases it is interesting to note that all operations were done under local anæsthesia with a 1 per cent. cocaine solution. The nature of the operation varied from excision of one lobe of the thyroid gland to ligature of the thyroid arteries. In three cases we may note that the arteries were tied, and at the same time that the cervical sympathetic was resected.

Among these fifty-nine cases operated upon there were four deaths within ten days of operation from what was apparently well-marked tetany, and in thirty-nine other cases there were well-marked constitutional disturbances, most of which could not be considered as merely usual after a considerable surgical operation. Many of the symptoms were clearly referable to the sympathetic system, such as tremor, palpitation and irregular cardiac action, sweating, vomiting, and, in a few cases, a transitory increase in the symptoms observed before operation. It was noted that in all of these thirty-nine cases operation was followed by a more or less protracted elevation of temperature, and by rapid heart action. This circumstance suggests that some of the symptoms, at least, of exophthalmic goiter depend upon the circulation in the blood of a toxic substance, the presence of which is occasioned by the faulty or perverted metabolism of the thyroid gland, and that during operation an unusual amount of this is forced into the blood-current. According to Kocher, this view of the matter is looked upon more as a possibility than as a probability, but further observation may lead us to a more definite conclusion.

The ultimate results in this long series seem to have been very good, since among the fifty-nine cases operated upon cure is said to have resulted in forty-five, and marked improvement in eight others. When we compare these figures, which have undoubtedly been very carefully considered before being given out, with the results reported to have been obtained by medicinal treatment, the superiority of the operative method is evident.

There is a class of cases of thyroid enlargement in which the chief feature is a great increase in the size and the number of the blood vessels, with a consequent increase in the size of the gland itself. The disease is not true exophthalmic goiter, though in many instances there is a close resemblance. In Kocher's series, nine such cases were subjected to the operation of ligature of the thyroid arteries, in all with exceedingly satisfactory results. Cases of this kind must be kept in mind, and it must be remembered that they are much more amenable to treatment than are cases of the true exophthalmic variety. It was possible in three of the fatal cases to obtain autopsies, but the findings did not show any cause of death which could be referred to the operation, and there were no uniform pathological appearances. Our knowledge of exophthalmic goiter is still unsatisfactory, and our best treatment is empirical when it is not operative. With many of the symptoms we can cope, but why the symptoms should be present we do not know, except in the case of those which are dependent upon the pressure of the enlarged organ in the neck. Why exophthalmas should be very marked in some cases and very slight in others, as, indeed, why it should ever occur, we do not know. There is a vicious circle in the disease, but which of its elements is the primary offender we cannot at present affirm. Our experience, confirmed by every new series of cases reported, is that by a judicious operation we relieve the patient of one of the most important elements in his disease, and in many cases make it possible to overcome the rest by appropriate treatment. It is still a matter of doubt whether the removal of the thyroid enlargement is beneficial because a source of mechanical pressure is removed, or because a secreting organ whose metabolism is so changed that its product is toxic is thus prevented from any longer sending this product into the blood current. Certain of the symptoms of exophthalmic goiter seem without doubt to depend upon some form of toxæmia.

This series of Kocher's is interesting because it is so large, and because it comes, as we have said, from a clinic where so much has been done with diseases of the thyroid. The results intrench the surgeon behind his dictum that the proper treatment of exophthalmic goiter is first operative, and second medicinal and hygienic.

HUMAN AND BOVINE TUBERCULOSIS.

Ever since Dr. Koch gave expression to his views on the intercommunicability of human and bovine tuberculosis, scientists in all parts of the world have been delving into the question. The majority of these have declared that Koch had not sufficient basis from which to launch an argument so destructive of existing beliefs, and that, consequently, he was ill advised to propagate a theory which might do an infinite amount of harm.

At the Sanitary Congress, held a short time ago in Manchester, Eng., Professor Edward Nocard of the Veterinary College, Alfort, Paris, vigorously antagonized the opinions advanced by the German scientist. Professor Nocard is one of the foremost veterinary surgeons in the world, and is especially distinguished for his knowledge of the scientific branches of his profession.

Professor Nocard, in the paper he read at Manchester, said, in part, Koch's communication resolved itself into these two declarations: (1) Bovines are refractory to human tuberculosis; (2) All measures taken to protect man from bovine tuberculosis are unnecessary. He then proceeds to dissect these propositions as follows: "(1) It was already known that it was both difficult and rare to communicate human tuberculosis to healthy bovines; attempts to inoculate almost always fail; but occasionally they succeed, and in these cases the lesions caused are absolutely analogous to those of the natural disease. The facts recently published by Thomassen, Ravenel, Prettner, Arlaing, Spronck, Max Wolff, myself, and others, entirely conform to the old experiments of Chauveau, Kitt, Bollinger, Crookshank, Sidney Martin, Fotheringham, Smith, and Dinwiddie, therefore the first proposition of Koch's is erroneous; the bovine race is not refractory to human tuberculosis. (2) But admitting, for an instant, the truth of this proposition, would this oblige us to conclude that man is not susceptible to bovine tuberculosis? No, a hundred times no. All comparative experiments in every country prove that the bacillus of bovine tuberculosis is far more virulent for all species of animals than the bacillus of human origin. No matter what the process of infection adopted, no matter what the species of animal experimented on, the bovine bacillus kills more quickly and more surely than does the human bacillus. Why should the human species alone prove an exception to the rule? It is difficult to experiment upon men, but there are recorded numerous scientific observations which prove the possibility of inoculating man with bovine tuberculosis. Most of these cases relate to veterinarians or butchers, who, in the course of autopsies of tuberculous cattle, have wounded themselves. Such wounds have generally developed tuberculous lesions, which usually have been cured by a slight operation, but occasionally such lesions have generalized themselves and to so great an extent as to cause the death of the victim."

The history of two cases of this nature which resulted fatally is then given, and Professor Nocard asserts "Koch is no more accurate in his second proposition than in his first. Tuberculous bovines can give tuberculosis to man." The French professor ends his paper by declaring that experiments confirm the results arrived at by observation. With all mammalia the ingestion of large quantities of milk from cows with tuberculous udders speedily provokes tuberculosis of the intestines, the peritoneum, and the mesenteric ganglia. All mammalia, including monkeys, become tuberculous after ingestion of milk from tuberculous cows. It would be absurd to contend that man alone offers an exception to the rule.

The array of well-known authorities who hold that bovine consumption can be communicated to man, and that the ingestion of milk from cows with tuberculous udders may convey tuberculosis to those who drink it, should be sufficient to warn the public that there is danger from this source, which needs to be carefully guarded against.

PARASITOLOGY OF ACUTE ARTICULAR RHEUMATISM.

Evidence is rapidly accumulating to show that acute articular rheumatism is a disease of bacterial origin. Many facts in its clinical course, its complications, and its therapeutics, point to this conclusion, but the crucial test of isolating the specific microorganism and producing the disease experimentally by inoculation with cultures of the same has hitherto failed. Fritz Meyer has, however, recently made some investigations (*Zeitschrift fur klinische Medicin*, Vol. 46, Nos. 5 and 6, 1902) which have the promise of most important results.

In a first series of studies he cultivated the blood and inflammatory exudate of the joints from more than thirty cases of acute articular rheumatism with absolutely negative results, never being able to demonstrate the presence of microorganisms therein. Starting anew from the assumption that, in this disease, the tonsils are the portal of entry of the infection, twenty-six cases of tonsillar angina, all of which immediately preceded an attack of acute articular rheumatism, were examined bacteriologically. Portions of the tonsils were excised and cultivated for twenty-four hours in peptone or ascites bouillon. This bouillon was then inoculated intravenously into rabbits. The rabbits thus inoculated regularly developed symptoms of acute articular rheumatism which were practically identical with those observed in the human subject. Of 100 animals inoculated, twenty-one showed, at autopsy, lesions of endocarditis. From the inflammatory joint exudate of these rabbits, and from the endocardial excrescences (in those animals in which endocarditis was present), there was isolated a peculiar streptococcus which was identical in morphology and cultural characteristics with a streptococcus present in the original tonsils examined. This microorganism was, however, obtained from the joint exudate only when such was examined very soon after the initial appearance of the symptoms. In all of the animals in which the examination was delayed the exudate proved to be sterile.

Morphologically, these organisms appeared in short chains of diplococci. They did not, however, show the lancet-shaped forms so characteristic of the pneumococcus. When taken directly from the tissues the chains were much shorter than after cultivation upon artificial media. They stained readily with the ordinary aniline dyes. With Gram they took a lighter blue than the ordinary species of streptococci. They grow most abundantly in 2 to 3 per cent. peptone bouillon, to which a little human blood serum or ascites fluid had been added. They grew better anaerobically than aerobically, especially if 1 to 1½ per cent. of glucose was added to the culture media. They grew abundantly upon ordinary agar, but only poorly upon potato. Upon all media their growth was of very short duration, the cultures dying after four or five days, their virulence, however, did not seem to be altered up to the time death occurred. Although their inoculation with rabbits regularly produced the symtoms of acute articular rheumatism, as above stated, the death of the animal did not result therefrom unless an endocarditis developed. Repeated animal transference did not seem to increase the virulence of these microorganisms. The examination of the endocardial excrescences in the cases in which endocarditis appeared showed that the microorganisms were inclosed in these inflammatory masses, so that the latter were, apparently, sterile unless they were broken up previous to cultivation. For this reason it was found that the organisms were much more easily obtained from these growths in recent than in chronic cases. In none of the animals was any infection of the various bodily organs present, nor did any necrosis of the tissues seem to be present as the result of the microbic infection. Control experiments were conducted in which animals (rabbits) were inoculated with a variety of other bacteria (B. typhosus, pneumococcus, ordinary streptococcus, staphylococcus, etc.), but in no instance were lesions, in any way similar to the above, produced. Rabbits were also inoculated with mixed cultures of these other bacteria and the special microorganism here described. In all of these cases the latter was obtained from the articular lesions produced, but the other bacteria could never be found in this location.

From all of these facts it is apparent that this special variety of streptococcus has a marked affinity for the joints, and localizes itself in them whenever it is introduced into the animal body, and that in this location it produces an inflammation known as acute articular rheumatism. The microorganism could not be obtained from the blood, and only from the inflammatory joint exudate when this was examined early in the disease. Its simultaneous presence in the tonsils would appear to show that these organs are the portal of entry of the infection.

The Berlin Congress on Tuberculosis.

The medical journals of every country have discussed consumption in all its aspects almost *ad nauseam*. The persistent harping upon the same subject, however, has had the effect of arousing the attention and interest of the general public, and of loosening the pursestrings of the rich. It may be safely said that more has been effected within the past ten years to save consumptives and to abolish tuberculosis than in the hundred preceding years. On October 23 the International Congress for the Prevention of Consumption opened at Berlin. There were present leading authorities on the disease from all the foremost countries of the world. France was represented by no less than twenty delegates. The papers read were all of a practical nature, and demonstrated the remarkable progress which has been made in successfully fighting tuberculosis. Professor von Leyden has initiated a system of sanatoria for the working classes, and, in accordance with this scheme, large public sanatoria have been built in the pine forests, in the vicinity of Berlin. These institutions are run in connection with the workmen's insurance fund, and provide every accommodation for the victims of consumption, as well as of the various forms of kidney affections. The sanatoria are built on the cottage plan and, of course, the part devoted to the care of consumptives is isolated from that in which sufferers from kidney complaints are housed.

Professor Brouardel sketched the advance made by France in the sanatorium treatment of consumption, and said that France now has twenty-five sanatoria, and that, owing to public and private generosity, many special establishments would be erected.

Mr. Hillier, speaking as the mouthpiece of the British association, submitted four measures for the prevention of the spread of tuberculosis. First, the prohibition of expectoration under penalties; second, systematic notification of phthisis; third, efficient ventilation and lighting in all factories and public and private buildings, and, fourth, the establishment of sanatoria for tuberculous cases in early and advanced stages, and for the treatment of phthisical cases.

The Congress at Berlin has been the means of bringing prominently into evidence the system introduced by Professor von Leyden for the benefit of working people suffering from tuberculosis. Persons of this class are the most difficult to treat with much hope of permanent relief. They are unable to enter sanatoria at their own expense, and are thus not only compelled to lead a life of misery and suffering, but are the chief factors in spreading the infection. It would be to the advantage of all—rich and poor alike—if the German professor's system were adopted everywhere.

It is stated that the delegates to the Berlin Congress were greatly impressed with the successful working of the sanatoria conducted on Dr. von Leyden's plan, and would recommend that institutions of a similar kind be established in their own countries.

Professor Koch recapitulated and adhered to all that he said with regard to the non-communicability of bovine tuberculosis to man, at the Congress held in London last year. He defended stoutly the position he had taken against his numerous critics, and questioned the statement made by many English medical men, that contaminated milk is a frequent cause of intestinal tuberculosis among children. His remarks at the Berlin Congress will doubtless raise another storm of discussion on this much-disputed matter

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The Strenuous College Football.

The football war is once more waging, and several of the battles have been hard fought and bitter. Many casualties have already happened. Two or three men have been killed and several others have been more or less severely injured. In a match played between Princeton and Columbia Universities on October 26, the contest was especially fierce, and marked by some rather serious mishaps. One man had his collar-bone broken and his trainer declared that it was the worst fracture of this kind he had ever seen, and that he would not allow him to play again during this season. Another man was compelled to retire with a similar injury, while yet another was hurt.

In a game—so-called—which took place at Baltimore on the same day, the proceedings were enlivened by a free fight between some members of the respective teams. Police interference prevented an amusing interlude from developing into a Donnybrook Fair on a small scale.

The Medical Record, on several occasions, has protested against the unnecessary brutality of college football as at present played. The term game is scarcely applicable to up-to-date football. Not only does a proper knowledge of its intricacies require an undue proportion of a student's time, causing him to neglect studies which are to fit him for his career in life but in addition he runs the risk of being seriously maimed.

There is no reason why American football should have gained so unenviable a notoriety as a distinctly dangerous game. In Great Britain the game is even more popular than here, but is free, to a great extent, from the objectionally rough tactics which mark it in this country. It would be well, and in the best interests of both students and parents, if the rules governing American college football underwent a radical reform.

The Dust Problem.

At the Sanitary Congress recently held in Manchester, England, among other important matters relating to sanitation which were discussed, the question of how to effectively deal with superfluous and harmful dust occupied a prominent position.

Sir J. Crichton-Browne—the orator of the medical profession in Great Britain—delivered an address, as President of one of the sections, and took dust as his text. He said, in part, that industrial dust, apart from poisonous or pestilential mixture, was a sufficiently interesting theme from a sanitary point of view, for the returns of mortality revealed that, notwithstanding the highly successful crusades against it, it was still responsible for an appalling amount of suffering, disablement, and death. A detailed examination of the condition of work in each of the twenty-two principal dusty trades brought out clearly that it was the dust that was primarily at fault in causing their unhealthiness, for there was always a relation between the death rate and the quantity and quality of the dust present. There could be no doubt that it was ganister dust that was responsible for the alarming mortality amongst those who worked in mines, brought to light by Dr. Birmingham and Dr. Robert Shaw, and that it killed, not by inducing phthisis in the ordinary sense of the term, although that was the commonly certified cause of death, but by setting up a more or less widespread fibrosis in the lungs, to which tuberculous phthisis was merely secondary. The miners, who suffered most seriously from the effects of dust, were, of all the classes of workers amongst it, those whom it was most difficult to protect, but their safety would be greatly enhanced by improved ventilation of the mines on well-recognized principles, perhaps by the spraying of them from time to time, so that the dust might be laid, and by the use of flameless explosives that get rid, as far as possible, of carbonic oxide, and by insisting upon long intervals for meals, during which open-air breathing might be enjoyed.

A miner's life is not only dangerous by reason of the chance of accident, but also on account of its menace to health. Unless a coal mine is thoroughly well ventilated, it is obvious that it cannot be a healthy place in which to live. But of all the causes which render picking for coal an occupation harmful to health, no one is more injurious than the constant presence of dust. If some workable plan could be devised whereby the amount of dust might be diminished in coal mines, the lot of the miner would be made far more endurable than it is under the conditions now generally prevalent.

Campaign against the Plague in the Punjab.

The *Indian Medical Gazette*, September, referring to the plague in the Punjab district of India, says: "The Punjab, during the past six plague-stricken years, had, up to 1900—all except a couple of districts—practically escaped. From 530 deaths in 1899-00, the mortality rapidly rose to over 6,000 in the next year, and in the official year 1901-02 the number of deaths rose to the enormous figure of 200,000." Segregation and disinfection have been the means used up to the present to fight the epidemic, but with little or no success. Segregation, under the strict conditions alone useful, is out of the question. Disinfection must also be put on one side, because of the unconquerable dislike of the people to it, for religious and caste reasons, and still more on account of the physical impossibility of disinfecting millions of houses.

There therefore remains only inoculation. When it is considered that the Punjab contains six and a half millions of people, the gigantic nature of the scheme will be readily understood.

Nevertheless, the Punjab Government thinks that the experience which has been gained of the protective effects of inoculation, and the practicability which has been proved, of inducing the inhabitants of the Punjab to submit to it extensively, in anticipation of an outbreak of plague, point to inoculation as a measure on which considerable hope and reliance may be placed. The tremendous experiment in inoculation about to be undertaken in India will be watched with interest everywhere. If successful, or even partially successful, it will be a great triumph for the advocates of the principle of inoculation as a protection against disease.

Medical Ethics.

Medical ethics have been very much to the fore during the past few years. Complaints of unethical conduct are being constantly brought against medical men. Often, however, such faults are committed unwittingly, through the transgressors not having a definite knowledge as to what is really a breach in the observance of the unwritten law of medical etiquette.

The *Edinburgh Medical Journal*, October, takes up the question and discusses it fairly and well. The writer of the remarks to which reference is made says: "There can be no doubt that the general rules of conduct for the medical profession require some authoritative expression of opinion. This feeling is experienced by medical students, as well as by those who are fully fledged. A significant fact which occurred a few years ago may be mentioned. One morning it became whispered abroad that the present popular President of the Royal College of Surgeons, Edinburgh, was about to devote his clinical lecture to medical ethics. The result was that the theater was so crowded that the lecturer could scarcely obtain room in the arena. On his commencing to discuss "hydatigenous moles," or some analogous subject, the anticlimax was too much for the audience—it writhed with Homeric laughter.

The writer goes on to discuss a book recently issued by Dr. Saundby, "Medical Ethics: a Guide to Professional Conduct," and while commending the work as a whole, makes a few criticisms on certain parts of it. Especially are these criticisms directed against Dr. Saundby's suggestion that allopaths should meet homœopaths in consultation—that is, if the latter are duly qualified.

The *Edinburgh Medical Journal* strongly deprecates any steps in this direction, declaring that "Any one who adopts the fetters of an exclusive system of treatment deliberately places himself beyond the pale of scientific methods, and any consultation with such a one must, of necessity, be useless."

Conditions in Great Britain and in the United States are different, and it may be that the feeling of the regular profession with regard to homœopaths is justified there. In New York State whatever prejudice existed against the disciples of Hahnemann is rapidly dying and a spirit of tolerance has taken its place. All graduates of medicine must pass the Regents' Examination before they are allowed to practise in this State, and so are, presumably, on the same plane with respect to medical knowledge.

The *Maritime Medical News*, Halifax, has also an article on medical ethics, and suggests that a short course of lectures on medical ethics should be given to all students in their final year of study. The suggestion is, at least, deserving of consideration.

Insanity and the Negro.

Since the close of the Civil War, and the consequent emancipation of the negro in this country, the prevalence of insanity among the colored race has been extraordinary. A phenomenal increase of mental affections has been observed in those States in which the negro population is largest, and this increase has manifested itself chiefly in those of negro extraction.

Mr. L. Perry read a paper before the Georgia State Sociological Society, at the annual meeting held in Atlanta this year, in which he gave some interesting statistics on the subject.

According to the census of 1860, there were in the State of Georgia forty-four insane negroes. The negro population at that time was 465,698. The ratio of the insane to the total population was 1 to 10,584. In 1870 there were 129 insane negroes in the State, out of a colored population of 545,225. In 1880 the census shows that there were in the State 411 colored insane out of a total of 725,133 or 1 to 1,764. In 1890, according to the census, there were in Georgia 560 insane negroes out of a population of 858,815, or 1 to 1,533. The census of 1900 gives the negro population of Georgia as 1,034,813. The bulletin giving the insane population has not yet been issued, but we can approximate very closely to what it will be. There were in the State Sanatorium on September 1, 1900, 799 colored patients, and, from the number of applications for admission at that time, we may safely estimate that there were at least 100 more insane in the State. Reckoning on this basis for 1900, we find the ratio of insane to the total population to be 1 to 1,149.

Thus, in forty years, the total negro population has been a little more than doubled, while the number of insane has increased twenty-fold. No other such rapid and radical change in the mental stability of a race is recorded in history.

There is every reason to fear that this increase of insanity among the colored race will continue, and probably at a more rapid rate than formerly. Up to the close of the Civil War the negroes of America had been afflicted to a singularly small extent with insanity. Thus at that time heredity was no factor in the causation of the disease. But the remarkable spread of mental affections among the negroes has changed these conditions, and they will now have to contend with predisposition as a probable contributory cause.

The reasons for this proneness to insanity exhibited by the negro inhabitants of the United States lie chiefly in their mental characteristics. At the time when the negro was given his freedom his brain was undeveloped, and he was mentally in no state to be his own master. The sudden plunge into civilization has proved too great a strain for the emotional and child-like nature of the negro, and the consequence has been that his mind, in many instances, has been unable to stand the pressure of excitement and the wear and tear of excess which his freedom has rendered possible.

Modern Life and Disease.

This subject is constantly being made the theme of discussion nowadays. It has been pointed out times without number, that civilization has brought upon us complaints of which our ancestors were almost totally ignorant. These maladies are chiefly those which affect the nervous system, a natural sequence of the high-tension rate of living.

In *World's Work*, October, Dr. Floyd M. Crandall contributes an article upon the diseases of the day, in which he states several instructive facts. He says that "three classes of diseases have increased during the past twenty-five years. These three classes are: degenerations, kidney disease, and cancer. . . . Certain forms of Bright's disease have almost doubled. The power of alcohol in the form of malt liquors to produce degenerative changes is so well known to pathologists that the conclusion is irresistible that the radical increase in these diseases comes largely from changed drinking habits. Conditions which result from the excessive use of distilled liquors have not increased. Cirrhosis of the liver, long known as 'gin-drinkers' liver,' has relatively diminished."

Dr. Crandall says in another part of the article that between 1890 and 1900 the census shows a decrease in the following diseases, per 100,000 population: Consumption, from 245 to 190; diarrhœal diseases, from 104 to 85; diphtheria, from 70.1 to 35.4; typhoid fever, from 46 to 33; membranous croup, from 27 to 9; malarial fever, from 19 to 8. An increase is shown in the following diseases: Pneumonia, from 186 to 191; heart disease, from 121 to 134; kidney disease, from 59 to 83; apoplexy, from 49 to 66; cancer, from 47 to 60; diabetes, from 5 to 9.

The writer points out that the great saving of life during late years, brought about by improved treatment and better sanitation, is not of the middle-aged but of the young. The decrease in infant mortality in cities during the past forty years has been nothing less than phenomenal.

On the whole, then, it may be said that life under modern conditions has been considerably lengthened.

Chiropodists for the British Army.—Recognizing the fact that the care of the soldiers' feet is an important factor in warfare, the British War Office has decided to employ chiropodists in the army. They are to rank not above sergeants, and to perform the duties of enlisted men, but will receive extra pay of 12 cents a day for six days in a week for keeping the soldiers' feet in proper condition

News of the Week

The Berlin Tuberculosis Congress.—The International Congress for the Prevention of Tuberculosis took place in Berlin on Thursday, Friday, Saturday, and Sunday, October 23–26, the meetings being held in the hall of the Prussian Diet. Germany was represented by Professors Koch, von Leyden, and Fraenkel; France, by Professors Brouardel, Calmette, and Nocard; Austria, by Professors von Schrotter and von Dubray; the United States, by Dr. William Eager, and Great Britain, by Drs. Hillier and Theodore Williams. Count von Posadowsky-Wehner, Secretary of the Imperial Home Office, opened the conference. Many papers were read and reports presented.

Prof. Fraenkel reviewed the development of the struggle against tuberculosis up to the time of the establishment of the International Central Committee. In Germany, under von Leyden's influence and direction, a system of sanatoria had arisen for the working classes, and associations had been formed. One of these sanitoria, in the pine woods, distant an hour's railroad ride from Berlin, was visited by the members of the congress, all of whom were loud in their praise of the institution, both for its equipment and for the results of its care of the tuberculous. Prof. Brouardel said that there were now twenty-five public tuberculosis sanatoria in France, the object of which had hitherto, however, been rather isolation than curative treatment of their inmates. The system of sanatoria had, however, entered upon a new era, and every sign of progress in a right direction was evident. Several delegates advised compulsory notification of tuberculosis, and Dr. Hillier submitted the following measures for the prevention of the spread of tuberculosis: (1) The prohibition of expectoration under penalties; (2) Systematic notification of phthisis; (3) Efficient ventilation and lighting in all factories and public and private buildings; (4) The establishment of sanatoria for the treatment of tuberculosis in early and advanced stages.

One of the least practical, but most interesting, papers was one presented by Dr. Kayserling, who showed a series of pictures demonstrating the tuberculous tendency in art. He instanced the case of Simonetta Catania, who served as the model for Botticelli's famous "Venus," in the Berlin National Gallery. She died of consumption at the age of twenty-four years. The speaker said that the whole Botticelli school was strongly influenced by tuberculosis.

On the third day of the congress the proceedings were enlivened by what all had been waiting for, namely, a discussion on the relation of bovine to human tuberculosis. The discussion was opened by Professor Koch in a paper, which was in its conclusions practically a repetition of the one read last year in London. He said that his experiments were not yet complete, but so far as he had perfected them he had not found the slightest evidence that would tend to shake his conviction. He sought to discredit the experiments of de Schweinitz, who had succeeded in transmitting tuberculosis to calves by inoculation with material from a tuberculous human being, saying that the experiments were too hasty and that sufficient time had not elapsed to allow of positive conclusions being drawn. He added that the American literature on the subject of bovine and human tuberculosis was one-sided, and often couched in terms such as might be used by a lawyer, who, in defending a criminal, would suppress all points telling against his client. Professor Nocard of Alfort spoke on the other side. He said Koch's assertions, if true, would lead to the conclusion that all precautions against the transmission of tuberculosis from the lower animals to man were unnecessary. But a number of experiments made since the delivery of Koch's sensational address in London proved conclusively that beasts could be infected by human tubercle bacilli. The speaker said he himself had killed five monkeys through inoculation with bovine bacilli, and he asked why human beings should be immune. He said he regarded the danger from tuberculous animals as established, and he declared that such animals should be destroyed and those suspected of being infected should be isolated. Other papers were presented by the supporters and the opponents of the doctrine of the practical identity of human and bovine tuberculosis, but no new facts or arguments were brought forward.

At the final session of the congress, held on Sunday, Dr. Williams of England made an address in which he advocated the classification of patients in sanatoria according to the progress each makes toward recovery. The congress then adjourned. It will meet next year in Paris. On the whole, the congress seems to have been rather barren of results, but perhaps not more so than most gatherings of the sort.

A Suit for Damages for X-Ray Burns.—Suit has been brought by a brewery employee against a physician of this city to recover $50,000 damages for a dermatitis alleged to have resulted from an *x*-ray examination. The man had some abdominal trouble and was subject to a Röntgen examination, after having been warned of the possibility of a burn and having given his consent. As a result of the examination a diagnosis of probable relapsing appendicitis was made and this was confirmed at the operation, when a diseased appendix was found and removed. The man subsequently suffered from a dermatitis of the abdomen, and claimed that it was caused by carelessness of the physician taking the radiographs. The fact of a dermatitis is not denied by the defense, but the claim is made that all possible care was employed in the examination, and that the inflammation was caused by strong antiseptic applications made prior to the operation.

A Year of Freedom from Yellow Fever in Havana.—In the recently-issued report of the Chief of the Sanitary Department in Havana, Dr. Charles Finlay, the announcement is made that, with the end of September, an entire year has passed in which not a single case of yellow fever, so far as known to the authorities, has originated in Havana. Such a period of immunity has not been seen before in one hundred and forty years. During five months of the twelve, and these among the most dangerous months, the sanitary department has been under Cuban control, so that, so far as Havana at least is concerned, the fears that the health conditions established by the medical officers of the United States Army would be allowed to deteriorate have not been realized. Dr. Finlay has earned the gratitude of our seaboard population, especially in the south, for keeping off the menace of a fever-ridden Havana by his efficient administration of the health department of that city.

The Plague in San Francisco continues to claim its victims in spite of, or maybe in a measure because of, the reiterated official denials of its existence. During September ten cases were added to the list of deaths from bubonic plague, bringing the total, to October 1, up to eighty-one. In every instance the diagnosis is confirmed by autopsy. The *Occidental Medical Times* says that the "Public Health and Marine-Hospital Service is notified promptly as the cases occur, the State Board of Health is immediately informed of a death, and usually has a representative present, who is supposed to state the facts; while the local board is at the mercy of a mayor and a governor, who scowl at the mention of their existence. Our only appeal therefore is to the health boards of the country at large and the possibility of the election of a governor whose honesty will rise above the dictations of politics and money to the welfare of our people and that of the other States of the Union."

A Specific Pertussis Serum.—Dr. Leureaux of Brussels claims to have prepared an anti-pertussis serum of therapeutic value. He asserts that he has used the serum in a number of cases, and has succeeded in cutting the disease short within a week or ten days, when the injections were given at an early stage. The first effects are manifest at the end of from thirty-six to forty-eight hours, the paroxysms of coughing being markedly reduced.

Heart Suture.—A woman was stabbed in the heart last week and taken to Bellevue Hospital, where the cardiac wound was successfully sutured by Dr. George D. Stewart. The woman died some days after the operation of septic poisoning, the source of infection being the knife employed. The autopsy showed union of the wound in the heart muscle. A similar operation was reported by Dr. Luther L. Hill of Montgomery, Ala., in September. The patient was a negro boy, thirteen years old, who had been stabbed by a companion. There was a wound half an inch in length in the wall of the left ventricle, which was closed by catgut sutures. The boy made a perfect recovery, and was shown to the members of the Southeast Alabama Medical League at a meeting in Dothen last week.

Dr. Lorenz Breaks a Leg.—In operating on a child at Mercy Hospital, Chicago, on Wednesday of last week, Dr. Adolf Lorenz fractured the patient's femur. According to the daily press, which fully and carefully chronicles all his professional labors, the surgeon was in no way disconcerted by the mishap. He merely stopped the operation and explained that the accident was the tenth that had occurred in the course of his caring for more than 1,000 cases of dislocation of the hip. "It postpones the operation," he said (so runs the newspaper account), "but in no way affects the ultimate outcome. In fact, the patient is in better condition than before the fracture, and there is better assurance of her complete recovery from the deformity."

Christian Scientists Arrested for Manslaughter.—A child died of diphtheria in White Plains, N. Y., last week. The Chrisian Science healer, who attended her for one dollar a visit and carfares, said she had a "claim" of tonsillitis, but the "claim" of the coroner that the disease was diphtheria was stronger, and so the healer was held for manslaughter. With him were also held the child's parents on the same charge, but the mother's arrest was technical only, as she and another of her children were sick at their home with diphtheria caught from the child who died. There are other cases of diphtheria in the town which are directly traceable to the same source.

St. Luke's Hospital.—At the annual meeting of the Board of Managers of St. Luke's Hospital in this city on St. Luke's Day, October 18, the report for the year ended September 30 was read. It announced that 2,663 persons had been treated; of these, 1,536 had been discharged as cured, 434 discharged as improved, 75 discharged unimproved, 292 had died, and 201 remained in the hospital. The number of hospital days was 73,556. The training school for nurses was reported to be in a satisfactory and flourishing condition, with seventy-eight in it at the close of the year.

A Report on Plague.—A cable despatch to *The Sun* from London states that the Local Government Board has just issued an important volume, giving the results of an investigation of the bubonic plague in all parts of the world for the last three years. A curious feature of the disease is its mimicry of other affections when it first invades a new region. The plague when it first appeared in a new field often presented curious resemblances to some commonplace current malady, such as influenza, typhoid fever, or malaria. Repeated mistakes were made in the diagnoses at the beginning of the outbreaks not only where the plague was not looked for, but in countries where the officials and practitioners were alert in watching for it, and believed that they were prepared to detect its appearance. The records tend to confirm the belief that man and rat are reciprocally infective, yet they fail completely to afford sufficient data for determining the degree that man is in danger through the rat. In some localities man and rat suffered at the same time. In other localities the man suffered before the rat, and in still others the rat was attacked first. Moreover, when in a particular district either the man or the rat was the first to suffer, the interval between the invasion from the first to the second species has often been long, extending for weeks and months. Finally, it would appear that the plague may prevail largely among men without rats being affected, and, conversely, among rats without men being affected.

General Addresses at the Madrid Congress.—The following addresses will be delivered at the general sessions of the Fourteenth International Medical Congress, to be held in Madrid, April 23–30, 1903: S. Laache of Christiania, on "Reciprocity in Pathology"; Ivan Petrovitch Pavlov of St. Petersburg (subject to be announced); Arthur Thomson of Oxford (subject to be announced); Wilhelm Waldeyer of Berlin, on "Phylogenic Theories and Darwinism"; Eduardo Maragliano of Genoa, on "The Struggle of the Organism against Tuberculosis"; P. Brouardel of Paris, on "Adulteration of Food"; A. Politzer of Vienna, on "The Necessity of the Official Teaching of Otology"; Rodriguez Carracido of Madrid, on "Pharmacological Complexity in Medical Prescriptions"; Santiago Ramón y Cajal of Madrid (subject to be announced); Rafael Rodriguez Mendez of Barcelona (subject to be announced); Howard A. Kelly of Baltimore, on "Urinary Infection"; Juan Santos Fernandez of Havana on "Diseases of the Eyes in the Tropics"; Emilio R. Coni of Buenos Ayres, on "Public Medicine in South America."

Hospital for the St. Louis Exposition.—It is planned to erect a permanent hospital building for use during the St. Louis World's Fair in 1904, and to give it to the Washington University at the close of the exposition. The hospital will be built on cht university property adjoining the fair grounds, in a style in keeping with the university buildings already in existence.

Statement of the Commission in Lunacy.—The New York State Commission in Lunacy has issued a statement declaring without foundation in fact the assertions recently made by political opponents of the Governor regarding the State hospitals. These assertions were to the effect that, owing to decreased appropriations, the efficiency of the State hospitals for the insane had been seriously impaired, that scurvy had resulted from diminished food supply, and that the hospital officials had in various ways been intimidated. The Commission defends the changes made in the pathological department, and says that, in consequence of the improved methods of research introduced by Dr. Meyer, there is reason to hope that at no distant day tangible results will be manifest in an enhancement of the recovery rate. It is admitted that the hospitals are overcrowded, but it is asserted that if the contractors having buildings now in course of construction, adequate appropriations for which have been made, had complied with the terms of their contracts requiring the completion of the buildings during the present year, the accommodations thus provided would have met every requirement. No case of scurvy, the Commission says, exists or has existed in any State institution since the inauguration of State care, so far as can be learned by those in responsible charge of the hospitals. It can be asserted that at this time, and for several months past, the insane of this State are receiving a better quality, quantity, and variety of food than any similar class of persons are receiving anywhere in the United States. Regarding the intimidation charge, the report says that the system of rules and regulations which has been prescribed by the Commission and approved by the Governor was prepared by the medical superintendents themselves—the very slight modifications therein having been made by the Medical Commissioner, Dr. Frederick Peterson.

Charges of Grave Robbery in Indianapolis.—A number of cases of "body snatching" have been the subject of investigation in Indianapolis, and a week ago the Grand Jury brought twenty-five indictments. Five of these were against physicians, who were charged with complicity in the grave robberies in failing to keep records of the bodies received. According to the testimony of one of the men accused, over one hundred bodies have been stolen from cemeteries in the neighborhood of the city during the past year.

The Plague in Odessa.—The city and provincial authorities have become alarmed at the continuance of the plague in Odessa, and have taken energetic measures to avert the threatened epidemic. Many old wooden buildings in the market place, which were infested with rats, have been burned, and war is being waged against the vermin in all parts of the city and in the harbor. The city government has appropriated 25,000 rubles, equivalent to about $12,500, monthly to provide medical assistance, and it has been determined to keep the public informed regarding the progress of the disease and the measures taken to combat it. The deaths number only fifteen, yet all this is done in Odessa; in San Francisco the deaths number over eighty, and nothing has been done.

Treatment of Unconscious Patients by Ambulance Surgeons.—A man in Brooklyn, who was knocked down by a trolley car, was examined by an ambulance surgeon, who diagnosed a case of simple alcoholism. The man was locked up, but, failing to recover from his "alcoholism," he was subsequently removed to the hospital, where he died of a fractured skull. To prevent such occurrences in future, a health department order has been issued, directing ambulance surgeons in that borough to take all persons suffering from partial or complete loss of consciousness to the nearest hospital, whether they are apparently under the influence of alcohol or not.

Free Consumptives' Clinics in Philadelphia.—Through the generosity of Mr. Henry Phipps, formerly of Pittsburg, but now of New York, several free clinics for the treatment of tuberculosis are to be established in Philadelphia. The gift of a large sum has already been made for the purchase of ground and erection of buildings,and a further donation for the maintenance of the clinics is promised. The clinics will be under the charge of Dr. Lawrence F. Flick, who is at the head of the Sanatorium for Poor Consumptives in Luzerne County, Pennsylvania.

Dr. T. D. Crothers of Hartford, Conn., has been elected consulting Neurologist by the Board of Trustees of the New York Metropolitan Hospital and Dispensary.

Philadelphia Pediatric Society.—At a stated meeting, held October 14, Dr. D. L. Edsall reported a case of tuberculous meningitis without focal symptoms. The child exhibited a marked tetanoid condition, with convulsions on the slightest provocation, but there was no retraction of the head and no Kernig's sign. The convulsive seizures were temporarily allayed by lumbar punctur, performed for diagnostic purposes. After death internal hydrocephalus was found, all of the ventricles of the brain being greatly dilated, with tuberculous meningitis at the base of the skull from the anterior portion of the medulla forward, as well as miliary tuberculosis of lungs and spleen. Attention was called especially to the frequency with which retraction of the head and Kernig's sign are absent in cases of tuberculous meningitis. Drs. A. H. Davisson and D. J. McCarthy presented a communication entitled "Autopsy Report of a Case of Spinal Paraplegia in the New-born." The case had been one of difficult labor, with head-last delivery, and not a little traction had been made in the extraction of the child. To this circumstance the mother attributed the flaccid paraplegia that was observed. Post-mortem examination disclosed an attenuation of the cord below the cervical and above the lumbar enlargement, and this, on section, was shown to be due to destruction of the cord, in consequence of an extensive extravasation of blood into its structure. It could not be stated with certainty whether the hemorrhage was due to the traumatism at birth or had existed previously, although the probability seemed in favor of the former. Dr. Thompson S. Westcott read a paper entitled "A Suggestion for Greater Clearness in the Designation of Milk-dilutions." He pointed out the want of uniformity in the description of milk-mixtures, and, in order to avoid ambiguity and uncertainty, he proposed that the degree of dilution be expressed in terms of the number of parts of milk in the total mixture. Thus one part of milk and an equal part of diluent would be spoken of as one in two; one part of milk in four parts of diluent as one in five, and so on. Dr. J. Herbert McKee reported a case of cerebellar tumor from an infant of eighteen months. He also demonstrated a specimen from a patient with congenital cardiac disease. The little patient exhibited marked cyanosis and various murmurs during life, while after death the interventricular septum was found deficient and with a large opening, the valve of Botal was closed imperfectly, the arterial duct was persistent, the pulmonary orifice was constricted and the pulmonary valve was constituted by a single leaflet. Dr. McKee reported also a case of intubation at a very early age. The patient was a child but a few days old, presenting symptoms of obstruction of the lower air-passages, but the operation failed to afford permanent relief. After death marked pulmonary œdema was found. The condition is thought to be due to an attempt at infanticide, possibly by strangling, on the part of the mother, who was unmarried. Dr. McKee presented, further, notes upon a case of probable duodenal atresia. There was persistent vomiting, but an autopsy could not be secured, and the diagnosis, therefore, could not be verified.

New York Academy of Medicine; Anniversary Meeting.—The annual meeting of the Academy will be held on Thursday evening, November 6, at 8 o'clock. Dr. Andrew H. Smith will deliver the anniversary address on "The Past, Present, and Future of the New York Academy of Medicine." Following this, Major William C. Gorgas, U. S. A., Chief Surgeon of the Sanitary Department of Cuba during the American occupation, will read a paper on "The Disappearance of Yellow Fever from Havana."

College of Physicians of Philadelphia—Section on General Medicine.—At a stated meeting, held October 13, Dr. Augustus A. Eshner exhibited a case of gliomatosis. The patient was a woman, forty-five years old, in whom, together with paresthesiæ, there was, in the upper extremities, in more marked degree on the right, impairment of tactile, painful, and thermic sensibility, in varying degree, up to the point of complete obliteration, in different situations, also muscular wasting and contractures, and exaggeration of the knee-jerks, with ankle clonus on the right side. The right pupil and the right palpebral fissure were smaller than the left, and the activity of movement was greater on the left than on the right side of the face. The symptoms had been present for several years, were progressive in character, and there was no known etiologic factor. For these reasons, together with the period of life at which the symptoms had set in, the condition was looked upon as one of gliomatosis, involving the uppermost portion of the spinal cord, and, possibly, also the medulla in some degree, probably followed by breaking down of the new-formed tissue, with the formation of a cavity. Dr. David Riesman read a paper entitled "Hemopericardium, with the Report of a Case Simulating Mediastinal Tumor." The patient was a man, who presented symptoms of cardiac insufficiency, with cyanosis and an increased area of cardiac percussion-dulness, with marked transmission of the heart-sounds and signs suggestive of pneumonia at the left base. Puncture of the pericardium disclosed the presence of blood-stained fluid. Dr. Herman B. Allyn related a case of hemorrhagic pericarditis in which aspiration of the effused fluid was followed by relief. Dr. J. Alison Scott referred to a case of hemopericardium, due to rupture of a sinus of valsalva. Dr. D. L. Edsall spoke of a case presenting enlargement of the area of cardiac percussion-dulness following removal of a fibroid tumor of the uterus, in which the condition was thought to be due to hemopericardium, or acute dilatation of the heart. Dr. J. Alison Scott read a paper entitled "A Case of Acute Intestinal Obstruction Caused by a Large Gallstone; Operation and Death." The patient was an elderly woman, with a history of previous attacks of biliary colic, and the operation was performed for the relief of intestinal obstruction not yielding to ordinary therapeutic measures, and disclosing the presence of a large calculus obstructing the lumen of the bowel, and associated with beginning necrosis of the intestine above the point of occlusion. Resection of the bowel was undertaken, more than a foot of intestine being removed, but the patient failed to react and death resulted. The stone was ovoid in shape, unfacetted, and it consisted principally of cholesterin. Dr. Addinell Hewson referred to a case in which a large gallstone ulcerated its way through the walls of the gall-bladder and the duodenum, and became lodged in the small intestine not far from the ileocæcal valve. The family of the patient long declined operation, but finally, the calculus was removed, but death occurred. Dr. David Riesman referred to a case in which obtruction of the bowel existed and was thought to be due to mechanical causes. Operation was urged and acquiesced in by the surgeon called in consultation. The patient, however, declined. Accordingly, opium was administered and relief from the obstruction followed.

The Pope's Physician, Dr. Lapponi, was successfully operated upon for appendicitis on Sunday of this week, by Dr. Mazzoni, the same physician who assisted him in a slight operation on the Holy Father about two years ago.

The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics will meet in annual session at the Academy of Medicine in this city at 2.30 P.M. on Wednesday, November 5. The program contains many papers of great practical value and interest, among the contributors being Drs. Frederick Peterson, Adolph Meyer, Roswell Park, H. N. Moyer, L. P. Clark, Thomas Prout, W. P. Spratling, and Wm. N. Bullard. Physicians and charity workers generally are invited to attend the meetings. The association was founded to promote the general welfare of sufferers from epilepsy; to stimulate the study of the causes and methods of cure of this disease; to advocate the care of epileptics in institutions in which they may be educated, acquire trades, and be treated by the best medical skill for their malady, and to assist the various States in making proper provisions for this class. The association has no membership dues. Applications to join it should be made to Dr. W. N. Bullard, chairman of the executive committee, 89 Marlboro street, Boston, or to Dr. W. P. Spratling, secretary, Sonyea, N. Y.

Philadelphia County Medical Society.—At a stated business meeting, held October 15, in addition to election of members, nomination of officers, reception of the reports of the nominating committee, of the censors, and of the delegation to the Medical Society of the State of Pennsylvania, the following amendments to the by-laws of the society were adopted:

SECTION 1.—Within fifteen days after the business meeting in January, the Board of Directors shall appoint an attorney-at-law for the term of one year, who, in addition to representing this socety in all suits for malpractice and threats against its members as hereinafter provided, will assist the district attorney in prosecuting illegal practitioners of medicine and representing the society in other legal affairs.

SECTION 2.—The Board of Directors may, upon request and in compliance with the conditions hereinafter named, assume the defence of suits for alleged malpractice brought against members of this society.

SECTION 3.—The Board of Directors shall not undertake the defence of any suit based upon acts prior to the qualification of the accused as a member of the society.

SECTION 4.—Any member desiring to avail himself of the provisions of this article shall first present his case to the Board of Censors, who shall decide upon the validity of his claim. He may then make application to the Board of Directors through the secretary, shall sign a contract renouncing his own and vesting in the Board of Directors sole authority to conduct the defense of said suit, and shall make such other agreements as the Board of Directors may require. *Provided*, That nothing in the foregoing shall conflict with united action in the defense by the officials of any corporation organized for this specific purpose, with which a member may be connected.

Section 5.—The Board of Directors shall thereupon contract with said applicant to take full charge of said suit, to furnish all necessary legal services, to furnish all medical expert services, and to pay all necessary expenses of the accused. *Provided*, That if the accused is insured in a corporation organized for the legal and financial defense of physicians, the foregoing responsibility of the Board of Directors may be divided with said corporation. The Board of Directors shall not obligate the society to the payment of any damages awarded by decree of court or upon compromise.

Section 6.—The Board of Directors shall have authority to name the sum for the compensation of the attorney.

Obituary Notes.—Dr. Thomas G. Underwood of Brooklyn died on October 19 at the age of sixty-three years. He was born in Castleton, Vt., but went to Brooklyn when a young man and became a clerk in a pharmacy. While there he studied medicine and obtained a degree, but continued in business as a druggist.

Dr. James D. Wade of Brooklyn died suddenly on October 19 while writing a prescription at the bedside of a patient. Just before leaving his home he had been informed of the death of Dr.. Underwood, a life-long friend, which affected him deeply. He was born in this city in 1838. During the civil war he served with distinction in the line, and, after receiving his discharge, took up the study of medicine, receiving his degree from the New York University Medical School in 1866.

Dr. Henry C. Matthews of Brooklyn died of apoplexy at Clifton Springs on October 21. He was born in Vermont in 1841, and was graduated in medicine from the University of Vermont in 1869.

Dr. William E. Doughty died at Hartsville, Pa., on October 15 at the age of sixty-six years. He was a graduate of the medical department of the University of Pennsylvania in the class of 1868, a veteran of the civil war, and a member of the Bucks County Pension Examining Board.

Dr. Francis E. Martindale died at his home in Port Richmond, New York City, on October 26, at the age of seventy-two years. He was a graduate of the Albany Medical College in the class of 1853. He retired from active practice several years ago.

Dr. William Young died at his home in Cold Spring-on-Hudson, N. Y., on October 26, at the age of eighty-two years. He was born in Portglenone, Ireland, in 1820, but when two years old was brought to this country by his parents. He studied medicine in Scotland and was graduated from the University of Glasgow in 1842. After a time spent in post-graduate study in Dublin and Vienna he returned to this country and practised for a while in New York City, going later to Cold Spring. Dr. Young was the last surviving charter member of the New York Academy of Medicine.

Statistical Inquiry.—A committee has been appointed by the Council of the Royal Statistical Society for the purpose of inquiry into the production and consumption of meat and milk in the United Kingdom. One very important side of this inquiry is that which involves the collection of statistics as to the consumption of these articles of food by private householders. The committee is particularly anxious to secure a very large preponderance of returns from the laboring classes and small consumers.—*Public Health.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondont.)

HUXLEY LECTURE—MEDICAL EDUCATION IN THE NEW UNIVERSITY—SURGICAL ADVANCES—PAY PATIENTS IN INFECTIOUS HOSPITALS—ROYAL ORTHOPÆDIC HOSPITAL—FIRES IN HOSPITALS—CHEMIST'S DANGEROUS PRESCRIBING,

London October 10.

The Huxley lecture has been a very successful institution. The fourth was given this year by Professor W. H. Welch of Johns Hopkins University, and it is gratifying to us to have heard so prominent an exponent of American medical science. But I will not pretend to estimate his distinctions or the value of his work. They are better known, perhaps, to you; though science being of no country we, on our side, could not be altogether ignorant of what he has done. He began with an expression of some embarrassment at undertaking to follow his three predecessors, Michael Foster, Virchow, and Listen. But he soon passed to a few words on Huxley, and quoted from the son's "Life and Letters," a valuable testimony to the late Wharton Jones, who taught physiology at Charing Cross Hospital when Huxley was a student there. Then he paused to pay a tribute to Virchow, whose recent death leaves such a blank. The Huxley is required to be devoted to recent advances in science, and their bearing upon medicine and surgery. Accordngly Professor Welch chose for his subject, "Recent Studies of Immunity, with Special Reference to their Bearing on Pathology." He dwelt more particularly on some aspects of the subject which he thought might be less familiar to physicians unless they have closely followed recent researches in this department. Needless to say that to compress a condensed review of so abstruse a subject would be impossible in a letter, and if it were possible your readers will be well acquainted with some of the points made, while as to others, those who follow such investigations will have an opportunity of perusing the lecture, for two of our journals have announced that they will issue it *in exenso* to-morrow. Professor Welch uses as a working hypothesis Ehrlich's side-chain theory, but not altogether without some modification. How he has himself applied it, and what he suggests as the benefits likely to accrue to humanity, were stated with great lucidity, and the lecture may be regarded as an up-to-date statement of the position of immunity.

It was only natural for the position of the reconstructed London Unversity in relation to medicine to be glanced at in some of the ceremonies of the opening session. At St. Mary's Hospital Sir A. Rucker, the principal of the university, distributed the prizes, and expressed a hope that his presence was a good omen for the future relations between the school and university. He said it had long been one of the most scandalous anomalies of London that there was no teaching university in its midst, and until recently the metropolis was inferior in this respect to other cities. The new system made it possible for a medical student to enter on a university course.

The question was looked at from a different point of view by Mr. Flemming at University College. He remarked that after much travail a new university was born a year or two ago, and the feeding of this infant is being watched by many experts—the chief food needed being money, without which it may live, but cannot thrive. Now it occurred to some that it might assist matters to give some of the food in a predigested form, and so the college and its equipment had been offered to the infant university instead of actual money. But the expert attendants thought the entire college might prove too much for the infant's constitution, the particular part of the college likely to disagree being the medical faculty. Now negotiations are still going on, and many rumors are floating about, but at present no result has been reached. Mr. Flemming remarked if the medical faculty ceased to be a part of the college, it would not go out empty-handed. It would have the hospital—the latest, newest, and best equipped hospital of the largest city of the world—and it would carry its traditions of the school, which boasted of names such as Cooper, Liston, Marshall, Tuain Wilson Fox, Marcus Beck, Jenner, Walsh, Hare, Russell, Reynolds, not to mention those still working there.

Whatever may be the conclusion of the negotiations as to University College, there can be no doubt that the new university will exercise the predominant influence over medical education for a long time to come. I may as well, therefore, tell you of some of the points that are so far practically decided. The teaching of anatomy and physiology is to be concentrated into two or three centres instead of the existing twelve schools. Whether these subjects will be better taught is an open question, for the ability and devotion displayed by some of the past teachers cannot be surpassed. No doubt the fewer institutions may give more remuneration to the teachers employed, but the change must necessarily leave others unemployed. Howbeit the university is committed to "concentration," and there is to be established near it an institute of medical sciences second to none for the training of medical students; that is, provided the money can be obtained. The clinical instruction must, of course, continue to be carried out at the hospitals. Incidentally, it is probable that the number of examinations that students will have to pass will be diminished, and a good degree will be attainable by all who have faithfully worked through the curriculum.

The matriculation examination has been rearranged on the broadest lines, and will be the one portal through which every student must enter the university whatever faculty he may wish to proceed in—and we are threatened with a number of new faculties. Latin, as I have told you, becomes an optional subject, but it is to be hoped all medical students will select it, though, perhaps, some Eastern gentlemen may choose Arabic, Sanskrit, or any other language in the list.

At Leeds Mr. Mayo Robson gave a luminous account of the advance of surgery during the last thirty years, but while as a surgeon he exalted his own art, he did not disparage medicine. On the contrary, he said that just as the surgeon has taken over the treatment of certain cases of disease in the brain, chest, and abdomen, so he looked for the day when the physician, in his turn, might take over the treatment of cancer. Already rodent ulcer is passing from the domain of surgery proper and being cured by Röntgen rays. Even the treatment of epithelioma, a more rapid form of malignant disease, is, in some cases, yielding to similar treatment, as shown in the Leeds infirmary. But as yet surgery is the sheet anchor in most cases of cancer, and when treated radically and early enough, many patients live active and useful lives for many years after the removal of undoubted cancer.

The recent discussions on paying patients in hospitals seems to have suggested to the Asylums Board that they might very well provide more privacy in their fever hospitals for patients who would willingly pay for it; in fact, would prefer to do so. A resolution in this sense has been adopted, and it is hardly likely that the Local Government Board will withhold its consent. There really seems no reason why infectious patients should be taken care of at the ratepayers' expense when they are anxious to bear their share of the cost if only they can have more privacy and a few minor comforts to which they are accustomed.

The history of the Royal Orthopædic Hospital reflects no credit on its managers, and the recent proceedings to which I have more than once alluded, show that the present board is unfit to conduct its affairs. They have lately, after about two years' urging, issued a statement of which business men should be ashamed. On the pretence that the freehold site was too valuable to retain, they have agreed to sell it for less than they might have obtained. The opposition to the sale increased the price by £12,000, but still more might have been had if the matter had been properly attended to. Now they are to remove, rebuild on a leasehold site at a rental of £500 a year. It is said that the charter has been disregarded, and the courts might set aside the sale if any one was interested enough to litigate. It would certainly be a good thing if the managers could be held personally responsible for squandering the most valuable asset of the institution.

In my last letter I mentioned that a fire had occurred at Addenbrooke's Hospital, Cambridge. A similar occurrence has since been reported elsewhere, and some uneasiness is felt as to whether this danger is properly provided against in our great hospitals. There is a feeling of relief when reading that only some property was destroyed, the patients being all safely removed; but there is also a foreboding of a tragedy that may be impending. The mere necessity of removing patients on account of an outbreak of fire must be very injurious to them from the shock and alarm caused. What would the consequence be of a great fire in a hospital or asylum, or even close by? From various circumstances I fear that in some directions the danger is not fully appreciated.

The risks cheerfully run by prescribing chemists were illustrated at an inquest the other day. One of these unqualified persons had prescribed and dispensed prussic acid. A verdict of misadventure saves him from a trial for manslaughter, and the public will, no doubt, continue to patronize prescribing druggists.

THE EYE-FACTOR IN SEA-SICKNESS AND OTHER TYPES OF VERTIGO.

To the Editor of the Medical Record

Sir: In your issue of October 11, 1902, appears a clinical article by Dr. E. Castelli of Washington, D. C., entitled "A New Theory in Regard to Sea-sickness." In fairness to others, I must say that that title is misleading.

For many years (prior to 1890, I think) I incorporated in my annual lectures before the medical students of the University of Vermont and the Post-graduate Medical School and Hospital of this city positive demonstrations of the fact that the eyes are an important, and too often, an unrecognized factor in causing both vertigo and sea-sickness.

I say "fact" instead of "theory," because the time has passed, in my opinion, when that statement can be intelligently questioned or disproved.

Quite a large proportion of the human race can be made to be not only dizzy but actually nauseated by various forms of visual impressions. Even a strong plus-glass on some children (if persistently worn for a few minutes) will frequently cause a marked feeling of nausea. Gazing from a height affects many people seriously—causing vertigo and nausea of a pronounced type. Looking at a waterfall, or at any rapidly revolving object, will also make a certain proportion of children and adults both dizzy and sick. The condition known as "car-sickness" is unquestionably excited, in many instances, by looking at rapidly-moving objects through the window of the car.

There is positive clinical evidence to-day that abnormal conditions of the eyes and the eye-muscles can not only excite attacks of faintness, extreme nausea, and vomiting, but even epileptic seizures.

I have reported during the past fifteen years, in various medical journals, many absolute and permanent cures of persistent and uncontrollable vomiting, fainting attacks, car-sickness, and epileptic seizures without the use of drugs, simply by the correction of congenital defects in adjustment of the eyes to each other. In my late work entitled "Eye-strain in Health and Disease," published by F. A. Davis Co. of Philadelphia, I have gone extensively into the physiological basis of such symptoms and their rational treatment; and I have published in that work complete clinical reports of a large number of illustrative cases in support of the views therein advanced.

There is another factor that bears a relationship to sea-sickness, which is, perhaps, almost as important as the ocular factor. I refer to abnormal conditions of the general muscular system produced by both unconscious and voluntary efforts on the part of the sufferer to adjust the body as well as the eyes to the ever-varying conditions entailed by the motion of the ship. In 1884 Drs. F. X. Dercun and H. A. Parker of the University of Pennsylvania published in the *Journal of Nervous and Mental Disease*, pp. 579 and 636, some very remarkable experiments to show that general convulsive seizures, closely allied to epilepsy, could be artificially produced in healthy subjects by prolonged muscular tension of a single muscle or groups of muscles in the limbs. These experiments have been frequently confirmed by other observers.

The physiology of sea-sickness is, unquestionably, this: The eyes first give information to the sufferer of the changing of horizons produced by the movement of the vessel. The sufferer immediately begins unconsciously to adjust both his eyes and his body to varying planes to which he is being subjected. He struggles, in consequence, to adapt himself to conditions which he cannot anticipate and prepare for, until, at last, he loses the normal control over his nervous mechanism, and experiences the reflex nervous conditions manifested by dizziness and nausea.

Even when the prone position in the bunk is sought, and the eyes are closed, the involuntary effort of the patient to adjust his trunk and limbs to unexpected rolling and pitching motions of the ship tend to keep up these reflex nervous disturbances until the patient becomes too weak to make such efforts or the motions of the vessel cease. Then the nervous equilibrium becomes reestablished gradually, and the nausea and vertigo subside.

Why some people become easily seasick and others do not is simply a personal equation. Those who are most susceptible to reflex ocular disturbances are almost invariably those who are victims to "heterophoria" (a term that covers all the different forms of congenital muscular unbalance in the orbit). Whenever the eyes of such patients are properly examined by modern methods, and the eye-muscles scientifically adjusted to the normal standard, it is not uncommon, in my experience, to see car-sickness, sea-sickness, vertigo, persistent nausea, and fainting attacks materially modified or made a thing of the past.

The following suggestions relating to the prevention of sea-sickness, car-sickness, vertigo, and nausea will prove of great practical benefit to sufferers of this class:

1. Have the eyes carefully examined for errors of refraction and muscular unbalance (heterophoria), in order to ascertain what abnormal eye-factors exist. These tests should be made by modern methods and with modern apparatus, which insure scientific precision.

2. Any abnormal eye-factors found should be corrected before there is any recourse to drugs.

3. Patients who are peculiarly susceptible to sea-sickness or car-sickness should be instructed to make no efforts of visual-adjustment or of body-adjustment that they can possibly avoid for the first part of their trip. They should not look out of windows or port-holes. They should school themselves to assume the condition as closely as possible of absolute passiveness to all surroundings. This applies to the body as well as to efforts of vision. I instruct my patients to "put themselves in the condition of a person who is stupidly drunk" so long as they feel uncertain of their nervous equilibrium and control.

4. The scheme of looking in a mirror (which tends to prevent the visual impression of changing horizons); the use of red glasses or other befogging media; the prone position, as soon as the trip is begun; and various other suggestions of that character, that have been published from time to time, are not unique or particularly efficacious, unless combined with an effort on the part of the sufferer to keep his general muscular system absolutely passive.

When a sufferer from sea-sickness begins to regulate his breathing and abdominal movements to the ship's motion; when he begins to make various sets of muscles tense in anticipation of some changed position of the ship; when he begins to wonder how long he can last without vomiting, when he is going to vomit, and how long he is to continue; and when he begins to feel that the fight is a hopeless one, he will surely get a case of nervous "rattles," lose the governor to his nervous mechanism, and have all that he anticipates, in spite of drugs or other suggestions of relief.

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Progress of Medical Science.

The Boston Medical and Surgical Journal, October 23, 1902.

Decapsulation of the Kidney for Nephritis.—J. W. Elliot reports two cases. In the first the patient has improved greatly since the operation, the œdema and headache are gone, there have been no convulsions, and he feels splendidly. The blood tension seems to be lower. In the second case there has been little or no improvement, except that the patient seems brighter. A curious point in both these cases is that ether seemed to do them no harm. We used to be afraid of giving ether in cases showing kidney trouble, especially in those with œdema, but in these cases, although they were of the worst type, the operation did not upset the patient at all. The total amount of urine was reduced for only one day, but after that returned to normal. On the whole, the operation seems to be a safe experiment.

Deciduoma Malignum. J. C. Hubbard reports a case of this most malignant of all malignant tumors. Diagnosis is made from the excessive hemorrhages following after some form of conception, and not yielding to the treatment appropriate for retained portions of the pregnancy, endometritis, metritis or subinvolution, the marked cachexia, a uterus enlarged and boggy, containing a friable, soft, easily-bleeding tumor, and from the microscopic examination of a bit of the tissue. The only hope of cure is in an early diagnosis, and the only effective treatment consists in hysterectomy. Whether it shall be by the vaginal or the abdominal route must depend on the choice of the operator and the peculiarities of the individual case. Nothing less radical offers the least hope of cure, and is only wasting valuable time.

Decapsulation of the Kidneys.—A. T. Cabot reports two cases operated on by stripping off the capsule of the kidney, the kidney being afterward dropped into place. The clinical history of the first patient, a man, suggested an interstitial nephritis, while the second, a woman, seemed to be suffering from a chronic parenchymatous nephritis. The operation was well borne in both cases. The man made a good recovery from the ether, his wounds healed quickly, his general condition improved, and in less than a month he was sitting up. Then, suddenly, with no warning except a reappearance of irregularity and intermittency in the pulse, the patient died. The condition of the kidneys was found to be markedly arteriosclerotic. The second case is decidedly improved, her headaches having disappeared, and a certain amount of strength having been recovered. After both operations the quantity of urine was increased, and the number of casts was diminished, but in neither had the casts of albumin wholly disappeared.

Journal of American Medical Association, October 25, 1902.

Trichophytosis.—J. B. Kessler thinks that a frequent source of the trichophyton is cattle, and especially yearling calves. The farmer handles his stock, becomes infected, goes to the barber shop to be shaved, and thus spreads the infection. Several cases are mentioned confirming this view of the spread of the malady.

The Surgical Relations of Traumatism of the Peripheral Nerves.—H. N. Moyer offers the following conclusions: (1) Section or laceration of a nerve, if of some size, is usually recognized at the first examination. (2) Contusions of nerves are common, the symptoms often being latent until neuritis develops; the latter may be delayed some days. (3) Contusion of a nerve may complicate any fracture or dislocation, but is especially frequent in dislocations of the shoulder. (4) Injury to the circumflex nerve merits special mention, because of its frequency, the ease with which it is overlooked, and its serious consequences. (5) The "reflex paralysis" after joint injury is probably due to a traumatic neuritis. (6) The management of the joint tendon and muscular complications comprises, in the main, the treatment of traumatic neuritis.

Under What Circumstances Is It Advisable to Remove the Vermiform Appendix When the Abdomen Is Opened for Other Reasons?—From a collective investigation on this topic, and from his own experience, H. A. Kelly is led to emphasize the following points: (1) The appendix should always be examined and its condition noted whenever the abdominal cavity is opened for any reason, provided no additional risk is involved. (2) The opinion of the majority of surgeons in this country is against the removal of a perfectly healthy appendix, 44 to 26 being the proportion shown in his investigation. (3) The opinion of the large majority of surgeons is in favor of removing an appendix which is even slightly adherent to other structures, 60 to 7 being the proportion shown in his investigation. (4) The fact that the appendix is normal in appearance does not prove that it contains no fecal concretions, for he has found them in a number of instances. Their presence is sufficient reason for the removal of an apparently healthy appendix. (5) After removal of the right ovary the stump should always be covered with peritoneum, in order to prevent the risk of adhesion to the appendix. A long and free appendix should invariably be removed.

The Occurrence of Gout in the United States.—T. B. Futcher analyzes thirty-six cases of gout seen in the Johns Hopkins Medical Clinic. He then considers the occurrence of the disease throughout the country and summarizes his views as follows: (1) Gout in the United States is undoubtedly more common than is generally supposed. (2) Out of 13,400 medical cases admitted to Dr. Osler's wards in the Johns Hopkins Hospital during a period of thirteen years, there were thirty-five gout cases, or 0.24 per cent. of the total number of patients. For the same number of years at St. Bartholomew's Hospital there were 116 gout cases out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. Thus, among hospital patients gout is only about one-third more frequent in London than in Baltimore. (3) All of the thirty-six cases were white males. The largest number of cases occurred in the fifth decade. Twenty-seven of the patients were native-born Americans. (4) The majority of cases appear to have earned rather than inherited their gout. Alcohol and lead seemed to be the most potent predisposing etiological factors. (5) Thirty-three of the thirty-six cases had reached the chronic stage before they came under observation. In seventeen of the cases tophi were present. (6) Among the more interesting complications may be mentioned three cases of gouty bursitis; one case of parotitis; one of pericarditis; one of retrocedent gout, with symptoms simulating intestinal obstruction. (7) There was evidence of disease of the kidneys in the majority of the cases. Albuminuria occurred in twenty-seven, and hyaline and granular casts in twenty-three instances. (8) Arteriosclerosis was present in twenty-three cases, and a mitral systolic murmur in five. (9) Many gout cases are mistaken for rheumatism. Four of the cases were repeatedly diagnosed as such on the early admissions, the appearance of tophi later revealing their true nature. (10) The series illustrates the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritis.

The Medical News, October 25, 1902.

Comparative Toxicity of Ammonium Compounds, a Study in Autointoxication. B. K. Rachford and W. H. Crane in this paper present a table which demonstrates the toxicity of ammonium when combined with most of the ordinary acids which may be found in the body. From the work that has been done on this subject, it may be inferred that ammonium may be an important factor in producing systemic is symptoms in certain acid intoxications. But the importance of the ammonium ions in these intoxications will depend upon the toxicity of the acid ions with which they are combined. The following conclusions are drawn from these experiments: The xanthin bodies are the important toxic principles in the "final fluids," but their toxicity is increased by small quantities of ammonia in combination with them. The quantities of ammonia required to markedly increase the toxicity of these "final fluids" is much too small to give toxicity to any of the inorganic acid ions which have been studied in this paper. In these experiments the amounts of ammonia in a toxic dose of the "final fluids" vary from .0008 to .0003 gram. The toxicity of the "final fluids" is not due alone to the ammonia contained in them, but also to other toxic agents found in migrainous, though not in normal urines, without which the ammonia would have been innocuous. The writer believes that the ammonium compounds of the xanthin bodies give toxicity to the "final fluids," and that these same compounds are toxic agents in producing migraine and other lithæmic disorders, which have been previously described as being due to the xanthin bodies alone.

Note on the Newly-Recognized Sugar-Controlling Function of the Suprarenal Glands.—C. A. Herter calls attention to the importance of the sugar-controlling influence of suprarenal gland in the understanding of the pathology of of human diabetes. A series of experiments were tried on dogs, in which the peritoneal cavity was opened and the suprarenal gland massaged. This manipulation was followed by an increase of sugar in the urine and in the blood. It is probable that an excess of the blood-pressure-raising constituent of the internal secretion of the gland was squeezed into the circulation, and by the action of this constituent on the cells of the pancreas the glycosuria was largely or wholly determined. Removal of the suprarenal glands or ligature of its vessels was followed by a rapid decline in the sugar of the blood. The next experiment described was one in which the suprarenal vessels on one side were ligatured, while on the other side the gland was removed. In a very short time afterward the pancreas was totally extirpated. In every instance the urine, which was previously normal, contained a small quantity of a reducing substance immediately following the operation. But this substance, instead of increasing after the operation, rapidly lessened and left the urine entirely free from any reducing substance. The writer says that one might even suspect that the removal of both pancreas and suprarenals would render pancreatic extirpation inoperative in the production of glycosuria. In his experiments with the effect of the administration of codeine upon the suprarenal gland or its internal secretion, he states that codeine appears capable of rapidly lowering the blood-sugar content of normal dogs.

New York Medical Journal, October 25, 1902.

The Prevention of Smallpox.—M. L. Hughes expresses a firm belief in the efficacy of vaccination, but is not in favor of the use of glycerinized lymph. He advocates isolation, and disinfection with sulphur and formalin gas, and a most rigid quarantine for two weeks. In times of epidemics all should be revaccinated. During convalescence the hair of the patient should be cut close and the scalp thoroughly lathered with carbolic soap. Nothing short of stripping the body before dismissal from the hospital, to review every square inch of skin, and to see and know that all scales have disappeared, will give complete security against further infection.

The Treatment of the Insane in Private Practice.—F. R. Pearce favors the home treatment of many cases of insanity. He says the lesson of acute insanities should be modified and retaught, and the earliest possible treatment instituted; looking toward the cure of the acutely insane in private, long before there is any occasion to think of asylum treatment, valuable as that is in chronic insanity and for the homicidal maniacs and melancholics. Acute insanities of hybrid types, *i. e.* those that savor of two or more types, are the most hopeful in prognosis, and are, therefore, the ones to be kept out of asylums to the last moment. Especially when hysteria enters as an element in the case, the patient should be kept out of an asylum. The physician's duty is to overcome the terror felt by lay folk for the insane, and to engender that hopefulness of treatment of such cases in private which [illegible] general medical affections.

Experimental Gastritis; Early Pathological Changes.—According to F. B. Furch, the following is the sequence of changes in experimental gastritis: (1) The early appearance of an exudate on the surface of the mucosa, composed of cells, granular debris, and fibrillar masses, leucocytes and red cells, within one and two hours after the introduction of the mustard emulsion. (2) Later the debris of cells become more ill-defined, and form a more homogeneous mass. (3) A marked chemotactic effect is shown by the irritant agents employed. (4) The surface epithelium is not destroyed in proportion to the marked changes occurring deeper in the mucosa. (5) There is an early appearance of necrosed acid or parietal cells, which become granular and lose their nucleus. Some cells are found free in the duct, which have the appearance of degenerated acid or parietal cells. (6) Karyokinetic figures make their appearance within six hours, and are very active even deep in the body and fundus of the tubules. (7) Cyst of the glands occurs in twenty-four hours, with accumulation of leucocytes and degenerated epithelial cells. (8) It is important to note that the exudate that forms on the surface at first is not a good soil for the development of microorganisms, but as the exudate becomes changed in character and appearance, bacteria early develop in the coating on the surface. (9) The chemotactic and other effects of irritants evidently are due to peculiar toxic properties.

American Medicine, October 25, 1902.

Arthritis Deformans.—E. H. Bradford concludes that: Arthritis deformans may be regarded as an affection of the organs of locomotion, characterized by a fibrous degeneration of synovial membrane, ligaments, bones, cartilage, and periosteum. This causes an impairment of elasticity, an alteration in shape and stiffness, and is followed by osseous degeneration, bony ankylosis, and irregular bony deposit. The question suggests itself whether these changes are similar in nature to those which produce fibrous degeneration elsewhere, notably arteriosclerosis; and for improvement in our methods of treatment we should look for investigation which will throw light upon the causes of fibrous degeneration and of osseous metamorphosis. What is needed is more complete pathologic reports of the condition of all organs and the whole body in arthritis deformans, through investigations of the changes of tissues in the milder stages of the disease; accurately recorded clinical facts in regard to the arrest of the affection and the apparent self-limitation or long-continued arrest of the disease; careful chemic investigation of the changes of tissues affected; careful examination of the chemistry of the blood in early and late cases of arthritis deformans; careful examination of all the excretions, including those of perspiration and respiration, and thorough metabolism investigations. All this is needed before the disease can be placed upon a satisfactory scientific basis.

Autointoxication in Relation to Mental and Nervous Diseases.—Jay G. Roberts believes that autointoxication is the underlying cause of all cases of neurasthenia. Uric acid itself is not a toxic substance. The manifestations of the so-called uric-acid diathesis are due to the presence of certain products of suboxidation known as the purin or alloxuric bases. These toxic products are the products of the suboxidation of worn-out body materials, and certain articles of food—namely, those containing a large amount of nucleins, such as liver, kidney, sweetbreads, spleen, thymus, etc. These should be carefully excluded from diet of a neurotic patient. The writer concludes his paper with the report of a case of acute confusional insanity, undoubtedly the result of autointoxication from constipation. The patient was a man of fifty two years. There is a marked resemblance between the various sensory manifestations of neurasthenia and those of many infectious diseases. The influence of autointoxication in epilepsy is well known. It is a pronounced factor in migraine. The various neuroses and other nervous psychic manifestations of the menopause may be attributed to this cause. So may the disturbance of pregnancy and the puerperium. Many operation neuroses are probably due to autotoxæmia following sudden inhibition of elimination through fright or the action of anæsthetics. It is a factor in surgical shock. In addition to these disturbances, many cases of temporary mental aberration, unconscious automatism, and acute confusional insanity are due to more or less acute conditions of autointoxication.

The Philadelphia Medical Journal, October 25, 1902.

The Prevalence of Herpes Zoster.—Max Joseph draws the following conclusions: (1) In frequency, herpes zoster causes 1 per cent. of all skin diseases. (2) There appears to be no difference in the occurrence of herpes zoster in men and women. (3) Herpes zoster is a disease of youth (fifteen to thirty years), noted, according to the writer's statistics, in two-thirds of the cases. Before school age the disease is very rare; during school age it becomes more frequent; after thirty years its frequency diminishes, and in old age it is rare. (4) So far as regards the region of the body affected, herpes zoster is, in general, more frequent the more nerves supply the region. There is one exception to this rule, both from the writer's observations and those of Greenough, namely, an exceptionally large number of cases in the trigeminal region. This may, perhaps, be due to the fact that the region supplied by the trigeminus is more open to injury and disease than any other region. (5) Both sides of the body are apparently affected with equal frequency, bilateral herpes zoster being rare. (6) Zimmerleni says that herpes zoster occurs among physicians and nurses in epidemic form; no other occupation seems to predispose to the condition. The final settlement of this point can only be made by consulting industrial and hygienic statistics. (7) Epidemics of herpes zoster occur in the spring and fall. Sporadic cases occur with almost equal regularity throughout the entire year, though some increase is noted in the spring and summer months.

The Value of Diphtheria Antitoxin.—M. Howard Fussell concludes his paper with the following rules: (1) Always make a culture in throat cases; diphtheria cannot be certainly diagnosed without it. (2) When called to see a case of sore throat which is doubtful in character, give antitoxin at once and make the diagnosis by culture afterward. (3) When a case of undoubted diphtheria is seen, administer 2,000 units at once. If there is no improvement in six hours, administer 200 units again. Every twelve hours thereafter administer 2,000 units until improvement begins. (4) Always give a large dose; 2,000 to 4,000 units in the hands of the writer has proven sufficient, but in desperate cases much larger doses may be used, as proven by cases recorded. The writer believes that, given a case of diphtheria in an early stage, it is only a matter of administration of enough antitoxin to effect its cure. If there is delay, even in apparently mild cases, there may develop fatal pathological changes in the organs which will make death or invalidism certain, even though antitoxin be administered later.

A Case of Cretinism Showing the Results of One Year's Treatment.—Alexander Heron Davisson reports this case, in which the signs of rickets and cretinism were very marked. When first seen by the writer, the patient was two years and one month old. Treatment with thyroid extract was begun—one-fourth grain three times a day. A little later the dose was increased to one-half grain three times a day. The next day she suffered with diarrhœa and fever. This may have been a coincidence, but it should be noted that the administration of this drug sometimes causes functional disturbance when first given. It is now more than a year since treatment was begun, and although she still presents undoubted signs of rickets, they are not nearly so marked. The marks of cretinism are also much less apparent. She has gained seven and one-half pounds and has grown three and one-quarter inches in height. She has cut eighteen teeth, and the circumference of both chest and head is one inch greater. The expression is bright and cheerful Twelve grains of thyroid extract are now being taken daily.

The Lancet, October 18, 1902.

Notes on an Outbreak of Septic Sore Throat Caused by Milk.—W. G. Nash reports a series of cases of sore throat without special features. Investigation showed that all the families of the patients were supplied by the same dairyman. In some of the families who boiled their milk no cases occurred, though the milk came from the same source. Examination of the dairy showed no cause of contamination. Cultures from the throats showed only staphylococci and short streptococci.

Double Oophorectomy in Mammary Carcinoma.—Notes of a case are given by L. McGavin, whose patient was a woman of forty-two years. Two years before admission to hospital the left breast and axillary contents had been removed. On admission, seven small, hard nodules were present in the skin of the scar line, also one nodule in the axilla as large as a walnut. Little pain and tenderness were felt. There was no œdema of the arm, nor any enlargement of the supraclavicular glands. Both ovaries were removed and found healthy. Relief was but temporary, and at the time of the report there were symptoms suggesting secondary deposits in the upper dorsal spine and left lung. The chief points of interest in the case are as follows: The patient had not reached the climacteric, and was, therefore, presumably a case favorable for treatment by oophorectomy. The periods ceased at once, proving that the primary object, at least, had been attained. In spite of this, the result was a complete failure to arrest the progress of the disease so far as the breast area was concerned; the mass in the axilla, however, gradually disappeared, and cannot at the present time be felt. It has in no way affected the arm, which is at present free from œdema. This disappearance I imagine to be due to interference with the blood-supply rather than to any trophic influence exerted by the artificial menopause.

Notes on a New System of Treatment in Pulmonary Tuberculosis.—D. Turner advocates the employment of "oil massage," his mixture consisting of four drachms of creosote or guaiacol, one drachm of oil of citronelle (to disguise the smell of the other ingredients), and cod liver oil to make four ounces. At his sanatorium the application of the oil massage is made daily. The patient, after being hardened by repeated cold spongings for two or three days, lies on a couch, all clothing being removed. Then the body is sponged with a weak solution of bicarbonate of soda (one drachm in a pint of water) and dried with a soft towel. The oil mixture is then rubbed in all over the trunk from the neck to the pelvis, back and front, the quantity used at a time being from one to two tablespoonfuls, according to size and age. In cold weather a small blanket serves to keep the body partially covered. The process occupies a quarter of an hour, and its efficacy depends very much on the vigor of the operator; if only carelessly smeared on without being rubbed in, very little benefit will ensue. Over the abdomen some kneading is done in addition to the rubbing. When galvanism is used, generally only one pole is applied over the solar plexus, and the other is moved up and down over the upper part of the spine. If the patient is feverish, the temperature generally falls a degree or more after every rubbing, the cough is easier, the appetite improves, and the night sweats cease; there is a general feeling of well-being, and the improvement in the lung goes on *pari passu* with the gain of weight. In private practice, if the patient is following any vocation, pure olive oil is used. Oil massage is not recommended in advanced cases or in those inclined to hæmoptysis. Results in children are better than in adults.

The Treatment of Atonic Dilatation of the Stomach by Means of High-Frequency Currents.—Personal experience with seventeen cases forms the basis of the remarks of A. Crombie and T. J. Bokenham. The apparatus employed consisted of a Ruhmkorff coil, giving a twelve-inch spark with heavy discharge. The secondary wires of the coil are led to the inner coats of two Leyden jars with adjustable dischargers. The outer coats of the jars are connected through a variable number of turns of thick wire, one of which is connected with the earth, the other with the lower coils of an Oudin's resonator. The current used for treatment is obtained from one of the upper coils of the resonator, and it is a rapidly surging, alternating current of high voltage. It is applied in a variety of ways, by special electrodes, *e. g.* monopolar brush, glass or ebonite condensers, and moistened flexible plates of sheet lead, and of large size. In the early cases treated the patient was placed on a couch and the region of the stomach was "sprayed" by a brush electrode held at a distance just beyond that at which a direct spark would pass between the electrode and the skin. The effect experienced was described as similar to the dropping of a shower of warm sand on to the skin, and after a few minutes peristaltic movements of the stomach would often be distinctly felt. A very convenient condenser electrode can be made by filling a large flat-bottomed flask with salt water and passing a wire through an indiarubber cork fitted to its neck, the free end of the wire being connected to the resonator. With such an arrangement the effect is, perhaps, more exactly localized to the region it is desired to influence. The lead foil electrode is of such a size as to cover the whole gastric area; close contact is secured by interposing a layer of wet flannel between the metal and the skin. With this the patient usually feels scarcely anything over the area of application, and the quantity of the charge depends upon the electrostatic capacity of the individual. The effect of the application is in most cases highly invigorating. After a number of applications the stomach was found to have assumed its normal position and size, and the other parts of the intestinal tract to have returned to their normal relative positions. In all but two cases normal digestion was restored. In one there was no improvement in digestion, owing, apparently, to hypochloridia, although the stomach remained of normal size.

Deutsche medicinische Wochenschrift, October 2, 1902.

Inoculation Tuberculosis.—O. Lassar has collected a series of figures which show that the relations between bovine and human tuberculosis are closer than is thought by many. Ten cases of inoculation tuberculosis were observed among 365 persons employed in some capacity in the handling of cattle. Among persons engaged in other avocations inoculation tuberculosis is very rare, constituting only one-third of one per cent of all cases of tuberculosis. These, together with many observations of other authors, make it clear that man is very far from being insusceptible to bovine tuberculosis.

Chronic Diphtheria.—Ernst Neisser reports an instance where a case of chronic diphtheria in a nurse girl gave rise to two cases of the acute form of this disease in the children which were intrusted to her care. This girl had suffered from a chronic throat affection for several years, which dated from an attack of diphtheria in her brother, whom she nursed. Her clinical history was similar to that which has been described by the author as characteristic of chronic diphtheria, and consisted essentially of a series of attacks of sore throat attended by few or no constitutional symptoms. A culture from the throat revealed the presence of virulent diphtheria bacilli; although submitted to energetic treatment, the bacilli remained in the throat. The blood of the patient was tested for the presence of antitoxin, and it was found by computation that in her entire blood there were approximately 2,000 antitoxin units. We here have an instance in which virulent diphtheria bacilli were constantly present in the throat of a person who possessed a high degree of immunity, and in whom the clinical symptoms were periodical and trivial.

Berliner klinische Wochenschrift, October 6, 1902.

Acroparæsthesias Following Traumatism. Max Sommer reports a case of this rare condition. The paræsthesia first developed three or four months after an injury to the left hand, and at a time when the wound had entirely healed. The symptoms consisted of a feeling of numbness in the hand, which was periodical in appearance. At times distinct pain was present. Combined with these there was a stiffness of the involved parts, and a sensation as if they were swollen. The symptoms were principally present during the day, but occasionally appeared during the night. Treatment was entirely without benefit.

Unity of Streptococci.—Fritz Meyer, as the result of extended experimental observations, agrees with Marmoreck in his stand against the unity of streptococci. Meyer has examined streptococci obtained from the following sources: tuberculosis, measles, erysipelas, scarlet fever, abscesses, phlegmons, puerperal septicæmia, follicular angina, rheumatic angina, ulcerative endocarditis, and the lymphatic glands of horses. The organisms thus obtained differ in morphology, virulence, hæmolytic and minimizing properties, and fail to grow in their own culture filtrates, but grow readily in heterogenous filtrates. The greatest difference in morphology was encountered, including chains of various lengths. According to the species, the individual organisms were of biscuit-shaped, round, or elongated form. The ability to increase the virulence by either cultural growth or animal transmission was also varied. One of the most forcible arguments against the unity of the streptococci relates to their intergrowth in culture filtrates of the various species as originally shown by Marmoreck. Meyer confirms these results in all particulars. Immune serum obtained by inoculation of one variety is totally unable to protect animals inoculated with another variety, although it is fully active against infection caused by its own inoculation. All of these facts demonstrate beyond the peradventure of a doubt that the microorganisms now included under the class name of streptococci include a number of distinct species.

Münchener medicinische Wochenschrift, October 7, 1902.

Gonorrhœal Urticaria.—Orlipski reports a case of this rare form of urticaria. The patient, a male, had experienced two attacks of gonorrhœa, both of which were accompanied by an urticaria which was more or less diffused over the whole body. The usual remedies possessed no action upon the eruption. In both attacks the eruption vanished with the cessation of the gonorrhœa. The patient had never suffered from any eruption when free from the gonorrhœa. The urticaria did not show any peculiar characteristics which could distinguish it from the ordinary forms of that disease.

Operative Treatment of Certain Lung Diseases.—G. Treupel reports a case of non-tuberculous circumscribed consolidation of the left lower lobe, which was operated upon with favorable result. The patient, a child, had suffered with periodical cough and purulent expectoration for several years. The general condition was good. Physical examination showed a circumscribed area of dulness in the location above noted. Careful microscopical examination failed to reveal the presence of tubercle bacilli in the sputum. The ribs were resected over the involved region, and a lung fistula established, through which a purulent discharge was evacuated. Following this the attacks of coughing became very much less frequent and the purulent expectoration entirely ceased The fistula remained open for about seven weeks. The expectoration has not returned since its closure a period of about three months.

Nervous Irradiations in the Region of the Urinary Organs.—Willi Hirt considers the diagnostic value of radiating pains, contractions, and vasomotor appearances in the region of the urinary organs. Many authors have recorded the fact that various surgical procedures, intestinal irritations, and peritoneal inflammations are frequently attended by disturbances of urination, especially retention. In a like manner, various disturbances of the urinary tract may give rise to radiating pains or muscular contractions in other structures. One of the most important of these phenomena from a diagnostic standpoint, is the contraction of the abdominal muscles, since this occurs in many cases of ureter and kidney disease. Such contractions may be unilateral or bilateral When present in cases of abdominal injuries they indicate a severe lesion of the kidneys or ureters, and demonstrate that operative procedures are necessary. There also frequently accompany purulent processes in these tissues. Here they are usually unilateral and are of great diagnostic importance. Especially important are the irradiations which proceed from one kidney to the other in cases of unilateral kidney affection. Among these is included the so-called reflective anuria. In such kidney affections, however, the irradiations are not confined to the sound kidney, but may be present in other portions of the urinary tract. This is particularly apparent in renal tuberculosis, in which disturbances of the ureter, bladder, and urethra are often present and are generally to be regarded as nervous in character. In all cases of kidney affections which show accompanying disturbances along the urinary tract great care should be taken in the treatment of the latter, since careful diagnostic measures may show that such are not caused by any anatomical lesions, but are simply radiations from the diseased kidneys.

Russki Arkhiv Patologii, etc., August 31, 1902.

A Contribution to the Study of the Formation of the Specific Precipitins of Kraus.—B. Belyayev records his experiments with the serum of typhoid patients and that of animals immunized with Eberth's bacillus, conducted with the object of studying the agglutination of the microbes in connection with the phenomenon of precipitation of Kraus. He found that: (1) A high agglutinating power of the serum does not always cause the formation of the precipitins; (2) The agglutinating power of the serum is not diminished after the formation of the precipitins; (3) Longer immunization of the animal is required for the obtaining of the precipitins than for the agglutination. The author concludes that the two phenomena are entirely independent of each other.

Gastric Digestion in Hanot's Disease.—N. Kirikov, in his experimentations, has not found that in hypertrophic cirrhosis with chronic icterus (Hanot's type) hyperpeptic gastritis is always present Rather is there hypopepsia, and even the absence of free hydrochloric acid in the stomach contents. The variations in the gastric contents do not depend upon the icterus alone, but also on the degree and intensity of the causal disease, and the oscillations in the general condition of the organism. The anatomical and functional condition of the cells of the gastric mucous membrane have also an important influence. It is probable that the bile circulating in the tissues has a stimulating influence on the nerve endings of the pneumogastric and on its centers. Hyperchlorhydria in Hanot's disease does not always coincide with hyperpepsia.

Experiments for the Transformation of Non-virulent Diphtheria Bacilli and Pseudodiphtheria Bacilli into Virulent Diphtheria Bacilli.—M. Bomstein says that a study of the literature of the subject shows that there are diphtheria bacilli of different degrees of virulence, and even diphtheria bacilli which have completely lost their virulence and yet have preserved all their morphological and physiological features. The best method for the reinforcement of the virulence of a microbe consists in cultivating the bacteria in collodion introduced into the peritoneum of an animal. By this means the author has transformed inoffensive bacilli into virulent bacilli, and has even obtained a diphtheria toxin which was capable of being neutralized by the antitoxic serum. Experiments conducted in the same manner with the pseudodiphtheria bacillus were a complete failure.

Society Reports.

THE NEW YORK STATE MEDICAL ASSOCIATION.

Nineteenth Annual Meeting, Held in New York City, October 20–23, 1902.

Alvin A. Hubbell, M.D., of Buffalo, President.

(Concluded.)

FOURTH DAY—THURSDAY, OCTOBER 23.

The Advantages of Nitrous Oxide in General Surgery Exhibition and Description of a Stopcock for Its Administration with Varying Percentages of Oxygen.—Dr. H. W. Carter of New York City read this paper and exhibited the apparatus. He said that all food should be withheld for three or four hours before the administration of nitrous oxide. The patient should be shown how to breathe before beginning the administration of the gas, and care should be taken that the face-piece is accurately applied. The gas should be administered as nearly as possible at the atmospheric pressure. The drawing of the gas from the bag through a long tube often gave rise to a suffocative sensation, and under these circumstances stertor was more apt to supervene much earlier and the anæsthesia to be of much shorter duration. The use of the long tube was not so objectionable when the gas was taken from a gasometer under a positive pressure. After beginning the administration of the gas great care should be taken to avoid loud talking or anything else which might disturb the patient. The occurrence of anæsthesia was indicated by stertor, altered color, widely dilated pupils, and diminished or absent conjunctival reflex. Nitrous oxide, anæsthesia would be found useful in connection with painful dressings or the performance of various minor surgical operations, such as dilatation of the sphincter ani, dilatation of the cervix uteri, the opening of abscesses, the breaking up of adhesions in joints, etc.—indeed, in a large class of operations occupying from a few minutes to half an hour. In connection with the paper Dr. Carter exhibited an improved stopcock that he had devised, and which was so constructed that, if desired, it could be used in connection with Bennett's apparatus. It was important to properly arrange the posture of the patient before beginning the lengthy administration of nitrous oxide and oxygen. No other form of anæsthesia required such skill and unceasing vigilance on the part of the anæsthetist. The longer the administration, the larger the proportion of oxygen required. At first the patient breathes only air, then pure nitrous oxide gas for a few inhalations, after which the oxygen is admitted and the percentage is steadily increased at intervals of a few inhalations. If the patient became excited, or began to sing, cry or talk, or the color of the face assumed a bright red, no further oxygen should be admitted, or the percentage of this gas should be reduced for a moment. The rapid and pleasant induction of narcosis and complete recovery, and the almost entire freedom from vomiting and other unpleasant after effects more than counterbalanced for the expense of the method, the difficulty of administration, and the cumbersomeness of the apparatus.

Dr. Alvin A. Hubbell of Buffalo remarked that in his city they had been using a combination of ether and nitrous oxide, a method which was, of course, not entirely new. It had been found in some of the hospitals there to be a very safe and efficient method of inducing anæthesia.

Suggestions Favoring a Standard Technique in Operative Surgery.—Dr. Edward Wallace Lee of New York City presented this paper. He thought that surgery had made sufficient advances to warrant calling a halt and a careful sifting of existing methods, The frequent changes in technique and the great differences of opinion on this subject not only caused confusion and tended to consign certain methods to unmerited oblivion, but such a chaotic state did not tend to inspire confidence on the part of the laity. He thought we should be content to have fewer masters and more followers. Surgical technique should be standardized by a surgical congress, whose membership should be made up of eminent surgeons recognized as leaders in that art.

Dr. A. J. Ochsner of Chicago said that if a surgeon had a foolish idea with regard to some particular operation, and it was harmful, it would certainly be eliminated, whereas if it were harmless it would be allowed to remain. This would eventually result in far greater uniformity in surgical technique. It should not be forgotten that in China about four thousand years ago the people thought they had arrived at the point where everything was done in the best possible way, and consequently ever since then they had continued to do everything that way.

Dr. William J. Mayo of Rochester, Minn., said that he found it impossible to feel, as did the author of the paper, that he had reached the point where he could not improve, and he was free to confess that he looked forward with pleasure to seeing the young surgeons do things in a different and perhaps better way.

Dr. J. J. Walsh said that medical history was full of the effort of the older men to establish a standard against which the younger men should do nothing. It would be nice to have a standard, but art is long and time is fleeting; moreover, medicine is not a science but an art, and must, therefore, allow the pendulum to swing a little here and there.

Dr. Lee, in closing the discussion, explained that he was far from being opposed to progress, but students were necessarily confused when one progressor extolled one method, and, an hour later, in the same room his confrère condemned this same method. It was particularly necessary that the men who only do surgical work occasionally should have fixed ideas as to what should be done.

Points in the Control of Emergency Hemorrhage, Both Medical and Surgical.—Dr. Robert H. M. Dawbarn of New York City was the author of this paper. He said that hæmoptysis and cerebral apoplexy were typical of what was meant in the paper by the term medical hemorrhage. The late Dr. A. L. Loomis used to say that ergot, galic acid, and similar drugs were of no use in hæmopytysis, and that the only useful drugs here were morphine, to allay nervous excitement, and, perhaps, aconite to reduce the blood pressure. In the present paper he desired to recommend the treatment of such hemorrhage by controlling the circulation in three of the extremities by means of a towel or "Spanish windlass." The towel or handkerchief should be loosely knotted around the limb at the junction with the body, and then tightened by twisting with a stick until the venous return is checked, as shown by the swelling of the limb. One should, however, avoid stopping the pulse on the distal side of the windlass, the limbs should be watched and kept well warmed, and after two or three hours the circulation should be allowed to slowly return. To avoid injury to the limbs, they may be bandaged in turn for shorter periods, thus keeping a considerable portion of the blood of the body sequestered for a sufficient length of time to allow of clotting at the seat of the hemorrhage. This method was applicable, of course, to both hæmoptysis and apoplexy—indeed, to any kind of hemorrhage of a dangerous character in an inaccessible part. The older physician sought to accomplish the same thing by bleeding, but after the original hemorrhage had ceased the patient would want this blood; hence, the advantage of the plan to bleed the patient temporarily into his own vessels. In cases of apoplexy this lowering of the blood pressure often resulted in checking the formation of clot.

Treatment of Epistaxis.—Speaking of surgical hemorrhage, Dr. Dawbarn referred to the treatment of epistaxis. Where the bleeding point could be seen, it might be cauterized in an emergency by heating a hair-pin. It was also worth while trying an application of a 10-per-cent. solution of ordinary kitchen gelatin in water. In plugging the nostrils, or, indeed, in tamponing for hemorrhage elsewhere, it was important not to use *absorbent* cotton or gauze. Sterilized cotton batting was far better. After the introduction of a double string into the nose by means of a soft catheter, the middle of this double string, hanging out of the mouth, should be tied to a ball of cotton batting, and the latter pulled tightly into the posterior nares. This operation would be facilitated by holding the soft palate out of the way with a bent tablespoon. Making strong traction on the two ends of the string coming out of the nose, the bleeding side of the nose is filled with saline solution. This "water seal" tends to check the hemorrhage and, at the same time, demonstrates to the operator whether or not the posterior tampon is sufficiently tight. Moreover, this fluid prevents the formation of a huge blood clot in the nose. Having proved the effectiveness of the posterior tampon, the anterior tampon is tightly tied, and the tampons are left in place for about twenty-four hours. They are removed by a reversal of the procedure just described.

Dr. F. W. **Higgins** of Cortland said that he had found the oil of origeron a useful remedy in the treatment of hemorrhage. A small bandage folded squarely and put into the nose, and then pressed from the outside, would, he believed, control any case of nasal hemorrhage, and he had seen some very severe ones. Most nasal hemorrhages came from a spot situated about one-third of an inch from the nostril. If from this situation, the hemorrhage could often be controlled by pressure with the finger.

Dr. **Homer Wakefield** of New York City said that the inhalation of pure nascent oxygen gas in internal hemorrhages had been the nearest to a specific of anything he had tried. He believed the oil of origeron acted as an oxygen-carrier in the blood, for it was known that all terpenes absorbed oxygen, and that if they had already absorbed oxygen before being used, they lost their property of controlling hemorrhage. In all internal hemorrhages it was a very valuable drug, especially where there was marked anæmia and a decided reduction of the hæmoglobin.

A New Treatment for Hæmophilia.—Dr. A. J. **Ochsner** of Chicago referred to a method of treatment in cases of hæmophilia, which had not been published. It consisted in giving albumin in the form of the whites of eggs. When from four to six whites of eggs were given, three times daily, there seemed to be a very definite effect exerted upon the blood of these persons. He added that Mayo Robson had prescribed drachm doses of chemically pure chloride of calcium, largely diluted, three times daily, or as an enema, every four hours for four days, in cases of hemorrhages accompanying cholæmia.

Dr. **William** J. **Mayo** of Rochester, Minn., said that, as hæmophiliacs were often encountered quite unexpectedly in the course of operative work, it was well to learn everything of value that was known with regard to the management of these very troublesome cases. He knew that cases of cholæmia showing purpuric spots on the skin invariably died from hemorrhage if operated upon He bad tried the chloride of calcium treatment in cholæmic cases, and since he had adopted this treatment he had not seen any severe hemorrhages, although he would admit that he was very careful about operating on the purpuric cases. The speaker said that while preparing to tampon the nose for hemorrhage it was well to instruct the patient to hold the nose tightly with the fingers, for often, by the time the surgeon was ready to insert the tampon, the bleeding would have been checked. It was the passage of air through the nose that broke up the clot and caused the bleeding to persist.

Symposium on Pneumonia.—This comprised the following papers:

Pneumonia from the Bacteriological Standpoint.—Dr. A. C. **Abbott** of Philadelphia presented this, the opening paper of the symposium. He said that the striking clinical peculiarities of pneumonia were its occasional epidemic nature and its peculiar mode of termination, and that these had long ago aroused a suspicion that the disease should be looked upon as a typical infection Up to 1883 no effort had been made to cultivate the microorganisms from the lung in pneumonia. It was at this time that Friedlander described his diploccocus. At the present time, however, very few still accepted Friedlander's original views as to its significance. In 1884 A. Fraenkel succeeded in isolating in pure culture from a case of pneumonia the organism known as the micrococcus lanceolatus At the same time the close relationship between this organism and the diplococcus found in saliva in 1881 by Sternberg and Pasteur was first recognized. The work of Wechselbaum in confirmation of the nature and significance of Friedlander's diplococcus was of great importance, not only because of its scientific precision, but because it was founded on a most careful and exhaustive study of 129 cases. The more recent researches of numerous excellent observers afforded good ground for being doubtful of the pathological significance of the Friedlander diplococcus, and of the close relation between pneumonia and the micrococcus lanceolatus It was true that bacteriological proof of this being the cause of pneumonia was not perfect, but there were many difficulties in the way of producing pneumonia experimentally in animals. There was, nevertheless, conclusive proof that this diplococcus does produce spreading inflammatory exudates having all the characteristics of the exudate of acute pneumonia in man. From the fact that the pneumococcus was commonly found in the mouth, it was probable that infection from this source usually took place through the upper air passages, or the accessory sinuses, but there was some evidence pointing to the intestine as an occasional point of entrance. While there was but little doubt as to the toxæmia produced by the pneumococcus in its growth, there was as yet no evidence that there was any relation between the virulence of this organism and the production of toxin.

Dr. **Alexander Lambert** said that he had made experiments in his hospital practice with antipneumococcus serum, using it on thirteen patients, but, so far as he could judge, with practically negative results. The lungs being, so to speak, outside of the blood vessels, the serum does not reach the exudate, where it was most needed. In a certain number of the cases, the serum seemed to prevent the general septicæmia which is observed in fatal cases. In one man, having a pneumococcus septicæmia, the serum controlled this, the pneumonia running a normal course thereafter and terminating in recovery. The non-diffusibility of the immune body was a great disadvantage. It belonged to the globulin type, and was not a nucleoalbumin.

Leucocytosis in Pneumonia. Dr. **Alexander Lambert** of New York City read this paper. He said that for a number of years this had been a favorite field for investigation. Leucocytosis appeared either simultaneously with the chill, or a very few hours afterward. It was now generally acknowledged that the intensity of the leucocytosis was not always in proportion to the intensity of the symptoms, but followed the same line which governs leucocytosis in other diseases. While it varied considerably with the amount of lung tissue involved, it did not always run evenly with the amount of exudate. Good resistance and mild infection would show small leucocytosis, but with good resistance and intense infection the leucocytosis would reach the maximum. Hence, the leucocytosis alone was of no value in prognosis. In general it could be said that mild cases would show from 6,000 to 12,000 in a cubic millimeter, and in very severe cases, 30,000 to 50,000. When one lobe was involved, the average was 20,000; with two lobes, 22,700; and with three lobes, 25,000. If the temperature fell by lysis, the leucocytes diminished gradually and often reached the normal when the temperature reached this point. To be of any great assistance as routine matter of diagnosis, the leucocytosis must be determined almost daily, a fact which practically excluded.

this method from the daily work of the general practitioner. The polymorphonuclear cells formed eighty to ninety per cent; the large mononuclear cells were usually present in considerable numbers, and were often decreased, though never entirely absent. During defervescence, the polymorphonuclear cells rapidly diminish to normal, and the mononuclear cells become more abundent. The speaker then referred to a hospital study that he had made of leucocytosis in eighty-seven cases of acute lobular pneumonia. In this study, it was found that a persistently subnormal leucocyte count, that is, below 7,000, almost invariably pointed to a fatal termination When resolution was delayed, even though the temperature was nearly normal, the leucocytosis did not disappear until the lung was free from exudate. The most puzzling factor in considering the leucocytosis was the tremendous variations which occurred in it. One of the common occurrences of pneumonia was a further extension of the disease either in the same lung, or in the other lung. This was associated with an increased leucocytosis. When a large surface of lung was resolving, there was a marked increase in the leucocytosis. According to his personal experience, empyema developed as a complication, rather than as a sequel, of pneumonia. When it occurred, the doubling of the leucocyte count was very striking.

Treatment of Pneumonia.—Dr. Joseph W. Grosvenor of Buffalo contributed this paper, but, owing to lack of time, only the conclusions were read. They were as follows: Without doubt a mild case of pneumonia would recover without medicinal treatment. Blood-letting as a remedial agent in pneumonia was inadmissible except in rare cases, occurring in very robust persons with marked cyanosis and extremely difficult breathing. So-called abortions of pneumonia were usually abortions of colds. At the onset, the physician should recognize the toxæmia as the main factor in the maintenance of the disease. This was to be combated by elimination of the toxins and increasing the vital resistance. Oxygen should be more generally recognized as an efficient remedy in the last stage of pneumonia. The danger resulting from cardiac depression should be kept in mind, and stimulation begun early. Alcohol, being a cardiac depressant, was not useful in heart failure. Serum therapy, as applied to pneumonia, was still in the experimental stage. The author's concluding advice was: "Treat not only the disease but the patient; Nature is a first-class physician."

The Finsen Light Treatment of Smallpox; Also the Finsen Light Treatment of Various Dermatoses by Concentrated Chemical Rays, with Exhibition of the Lamp.—Dr. Francis P. Kinnicutt of New York City presented this communication. He said that the treatment of smallpox by Finsen consisted in keeping the patient in a room in which the blue, violet and ultra-violet rays of light were excluded by the interposition of red glass or red cloth. The object was to prevent or cut short the stage of suppuration. The treatment must be continued without any interruption until the vessicles have all dried up. It should be commenced as soon as possible after the appearance of the rash, for the nearer the suppurative stage the treatment was begun the poorer the results. Finsen claimed that if the treatment were faithfully carried out in all its details, the patients would usually recover without suppuration and without scarring. Since 1894 the treatment had been carried out by many physicians both in institutions and in private practice, with results comparing very favorably with those claimed by Finsen himself.

Concerning the therapeutic effects of concentrated chemical rays, the speaker said that tuberculosis was a dermatosis which was especially favorable for a study of this subject. At the Finsen Institute, of 456 cases in which the treatment had been completed at the end of 1900. 130 were free from recurrence at the end of periods of from one to five years. Of forty-nine cases of alopecia areata a cure was obtained in thirty. Of twenty-five cases of acne vulgaris which had resisted ordinary therapeutic measures, thirteen were cured. Dr. Kinnicutt presented a lamp similar to those used in the London hospitals It allowed of an electric arc's being used close to the patient's skin. The body of the lantern formed a water jacket, and through the latter cold water was kept constantly circulating, thereby preventing the heat rays from reaching the skin. The lamp was readily adjustable, the parts were all open for inspection and management, and the instrument could be readily sterilized. This lamp required ten amperes with the continuous current and sixteen with the alternating current, and about forty-five volts with either form of current. The lens of the lamp is placed directly in contact with the diseased area, and the parts are exsanguinated by the pressure of the lens on the skin. This is done because the blood is found to be the largest absorbent of the chemical rays of any tissue of the body. The application was usually continued for fifteen minutes. The technique of the treatment was simple, and no constitutional reaction was ever noted. The speaker said that he thought it was generally recognized to-day that this treatment with concentrated chemical rays was a new and valuable therapeutic resource. This apparatus was now in use at the Presbyterian Hospital of this city. Those who had tried both the *x*-ray and the Finsen treatment in lupus vulgaris were of the opinion that the latter was better. The lamp was then exhibited in action, as was also a case of lupus erythematosus which was now undergoing the Finsen treatment.

Dr. W. S. Gottheil said that the criticism that he would make of this apparatus was that it was not sufficiently powerful, thus requiring unnecessarily prolonged exposures. His own apparatus, one made in this city, made use of sixty amperes of current. Out of the last four cases treated, three were entirely cured in sessions varying from six to fifteen in number. Lupus vulgaris and tuberculosis cutis were positively curable by this means. It had been proved that a sufficiently intense light of this kind would penetrate the entire body, for he had in his possession photographs taken by the light which had passed completely through the body of a stout man.

Dr. Milton Franklin of New York City declared that any light apparatus of this kind in which the light was permitted to pass through glass was inefficient, because at the present time there was not in the market any kind of glass which would permit the ultra-violet rays to pass through it. Experiments were in progress looking to the manufacture of a kind of glass that would allow of the passage of these rays, but, so far, the only crystalline substances tranparent to these rays is rock crystal.

Dr. L. Duncan Bulkley said that he had recently come from a visit to the Finsen Institute at Copenhagen. An enormous number of patients were being treated there, and certainly the results of treatment of lupus vulgaris were remarkable. However, the treatment was exceedingly slow, some of the patients having had between 300 and 500 sittings of one hour each. That the treatment was thoroughly efficacious was shown by the fact that some of these patients had been well for two or three years. It was rare for even the most favorable cases to be cured in twenty sittings. It was only fair to say that the treatment at the Finsen Institute embraced many other things besides the Finsen light. After each treatment with the light the patients receive applications of various ointments, and are sometimes even curetted; hence he did not believe the same results could be obtained from this light treatment alone Some burning resulted in almost every case, and when it occurred the affected part was not subjected to the light treatment for about one week. All cases were photographed at the commencement of the treatment, and from time to time afterward. Although at the beginning this treatment was employed in connection with sunlight, the electric light had been exclusively employed for the past two years.

The Rontgen Ray; Its Mechanics, Physics, Physiology, and Pathology.—Dr. Eden V. Delphey of New York City presented this paper. The different forms of the more important apparatus employed in connection with the use of the Röntgen ray were described, as well as some of the physical laws governing the action of this ray. Regarding *x*-ray burns it was stated that they do not occur except after an exposure equivalent to at least five minutes at a distance of ten inches. The bactericidal effect of the Röntgen ray, according to this author, was insignificant. The changes in blood vessels were very marked, and probably largely explained the therapeutic effects of these rays.

The Operative Treatment of Fractures as Indicated by the Röntgen Rays.—Dr. Carl Beck of New York City presented this paper. He said he had embraced every opportunity to emphasize the sense of security which the surgeon now enjoys in the treatment of fractures under the mentorship of the Röntgen ray. Radiographs were then presented to illustrate the forms of fracture, and brief remarks were made on the methods of treating them.

Results in Fifty Cases of Cancer Treated with the Aid of the Röntgen Rays.—Dr. Charles Warrenne Allen of New York City was the author of this paper. He said that laboratory experiment had shown that the Röntgen ray is a reducing agent. He thought that, aside from personal idiosyncrasy and the greater possibiliy of burning by the non-penetrating rays, there was a condition of tube and a degree of heat color in the anticathode which made a particular tube at a particular time likely to produce the so-called burn. Furthermore, the ray undoubtedly had a predilection for tissues of embryonic structure, or those not strongly differentiated or highly individualized, and, if the expression might be permitted, on "cells out of place." The fifty consecutive cases forming the basis of this paper ranged in age between fifteen and eighty years. Twenty-two of them were males. There were thirty-three cases of epithelioma of the rodent ulcer type, and ten cases were cancers of the breast, seven of them recurrent. Only 8 per cent. were unimproved; 20 per cent. were improved but were still under treatment; twenty-six cases, or 52 per cent., had been discharged as cured. His conclusions were: (1) The *x*-ray possesses decided therapeutic power; (2) it may produce decided injurious effects aside from the so-called burn; (3) symptoms referable to the systemic effects may arise from the direct action of the ray, or indirectly by absorption of products of disintegration, which seemed at times to be thrown into the circulation more rapidly than they can be eliminated from the system; (4) carcinoma may develop in scar tissues following an *x*-ray burn; (5) the method is not to be used in all forms of cancer, and the indiscriminate use of this potent remedy should be discouraged; (6) by the proper use of shields dermatitis may usually be entirely avoided, and (7) the improvement under this treatment is better than can be effected at the present day by any other known method.

The Röntgen Ray in Gynecology.—Dr. Eden V. Delphey presented this paper also. He said that the *x*-ray picture of the pelvis was often very indistinct and unsatisfactory, and would rarely afford much assistance to the gynecologist, who had already become expert in the palpation of this region. Somewhat better results were obtained above the pelvic bones, as, for example, in connection with the ureters and kidneys, but the Röntgen ray could render little assistance to the trained touch of the abdominal surgeon. The chief use of the Röntgen ray in gynecology was in connection with new growths in the pelvis. Good results had been reported from the *x*-ray treatment of carcinoma of the uterus. It should not be forgotten that even in some of the cases that had resulted favorably no improvement had been noted for a considerable time after beginning the treatment.

The Rontgen Ray in Obstetrics.—Dr. Joseph B. Cook of New York City read this paper. He said that it was true that the pelvis of the non-pregnant woman could be studied by one skilled in the use of the *x* ray, but many inaccuracies arose from the distortion of the shadow, and when to this difficulty were added the difficulties arising during pregnancy from the interposition of the fœtus and other factors, the results could not admit of comparison with those obtained by the usual pelvic examination made by a skilled obstetrician. The maternal pelvis could be clearly seen up to four and a half months in pregnancy, but after this the uterus and its contents formed a veil on the negative. It was claimed to be possible to determine by the Röntgen ray examination the position and presentation of the child, and the degree of flexion near the termination of pregnancy. The speaker thought the *x*-ray might prove of possible and distinctive value in cases of multiple pregnancy.

Dr. William James Morton presented the Kjaldsen lamp in order to show how the expensive and complicated apparatus of Finsen could be simplified. It had been found, he said, that simple iron electrodes, used as an arc instead of carbon, gave a light extremely rich in ultraviolet rays. The lamp was small, portable, and comparatively inexpensive. He could not agree with Dr. Allen that *x*-ray burns were dependent upon idiosyncrasy in the usual acceptation of that term. Dr. Allen's results were excellent, yet he thought there should be 100 per cent. of successes in the *x*-ray treatment of rodent ulcer. He had personally treated a large number of cases of primary carcinoma of the breast, and in this particular field he objected to the use of screens and specula, for he had no desire to screen off the action of the *x*-ray, but, on the contrary, endeavored to secure its wide application.

Dr. William B. Coley of New York City was of the opinion that the *x*-ray would prove of service as an adjuvant rather than as a substitute for operation in cases of cancer, though in this statement he did not refer to the superficial forms, such as rodent ulcer. Since February, sixty-eight cases of cancer had been treated at the General Memorial Hospital, twenty-five cases being sarcoma and seventeen recurrent carcinoma of the breast. They could not be reported as cured at this time simply because they had disappeared under the *x*-ray treatment. For example, one case that had been reported by another physician as a probable cure had recurred in the lung, and had caused death about three months later. His experience had been that many of these cases recur in a short time. The greatest future of this treatment seemed to be as a prophylactic agent used immediately after every operation for primary carcinoma.

Very Dangerous Symptoms Following a Tarantula Bite.—J. S. Boyers reports the case of a man who was bitten on the right index finger while pulling bananas from a banana stock. In about two minutes he was in a dazed condition. The author made a crucial incision to the bone, held the finger under the hydrant, rubbing it with running water for about a minute, and applied a saturated solution of potassium permanganate. The pulse could scarcely be felt at the wrist; there was a spasmodic difficulty of breathing, in which the muscles of respiration seemed almost completely paralyzed, lasting from one to two minutes and returning in ten minutes at first. Complexion was ashen, extremities cold and wet, pupils slightly dilated, hearing impaired. Treatment at first was $\frac{1}{30}$ gr. strychnine with $\frac{1}{100}$ gr. nitroglycerin, hypodermically, and during the first one and one-half hours after the bite he was given, in all, by mouth and hypodermically, in small doses frequently repeated, $\frac{1}{16}$ gr. strychnine, $\frac{1}{35}$ gr. nitroglycerin, $\frac{1}{35}$ gr. atropine, $\frac{1}{4}$ gr morphine, one ounce aromatic spirits ammonia, and six ounces of the best brandy, besides using artificial heat. Bowels, kidneys, and skin were kept active. In nine hours the pulse was nearly normal, and consciousness was restored. In four or five days he had completely recovered. The tarantula that bit him was five inches long and of a brown color.—*Fort Wayne Medical Journal-Magazine.*

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held October 13, 1902.

DR. ANDREW H. SMITH, PRESIDENT, IN THE CHAIR.

A Symptom Indicating the Probable Development of Mastoiditis, and the Necessity for Early Operation.—Dr. H. A. ALDERTON of Brooklyn read this paper. He reported case of Mrs.——, who was recovering from an attack of tonsilitis, and while blowing her nose, had felt something give away in her ear. She developed an earache, which persisted in spite of the administration of morphine. Examination showed some tenderness around the tragus and antitragus; both osseous canals congested; the dermal layer of the right membrane swollen, dull and light gray, with underlying congestion; the left membrane intensely congested and slightly bulged, with beginning bleb-formation on the surface. These symptoms becoming aggravated in the course of several hours, nitrous oxide gas was given, and both membranes were thoroughly incised in the posterior half. Immediately on incision of the left membrane, a quantity of sero-purulent secretion, possibly also sanguinolent, was forcibly propelled from within the tympanic cavity out through the perforation by gas under pressure, to the accompaniment of an explosive noise, distinctly heard at a distance of eight or ten feet. The fluid particles were driven out so as to spatter the speculum and the hand of the operator. Pain still continued, and the following day examination showed the left osseous canal intensely congested; membrane also intensely congested, and the bulging Schrapnell membrane. The mastoid was tender, especially over the antrum. The same condition existed on the right side. Under nitrous anæsthesia, an internal Wilde's incision was done on both sides. The following day operation was performed. The outer table of the mastoid process was normal. The cellular structure was greatly congested and friable. Granulation tissue under pressure filled the antrum and a large cell below, and to the outside of it. Four days later it became necessary to operate on the right mastoid, where the same foci of infection was found in the antrum and the large cell below and outside, but these cells, instead of being filled with granulation tissue, now bubbled over with pus.

The greatest interest in this case lies in the fact of the existence of gas under pressure within the tympanum and the bearing this has upon the development of mastoid inflammation. The gas was evidently the product of bacterial development, possibly from an otherwise inocuous bacteria, such, for instance, as the Aerogenes capsalutus; or it may have been produced by an extraordinarily virulent bacterium. If the gas is the product of an inoffensive bacteria, existing in a mixed infection, then we see how it acts mechanically to disseminate infection early and far. The Eustachian tube being closed, the only escape the gas has is in the mastoid antrum and cells carrying along with it the exudate thrown out within the tympanum; this gas and the exudate contain the more pathogenic bacteria. The presence of gas within the tympanum at the time of a primary incision of the tympanic membrane for an acute middle ear abscess seemed to him to be an indicating symptom of the probable development of mastoid empyema, and the necessity for early operation on the mastoid process.

Dr. GORHAM BACON said that the presence of gas as a symptom of mastoiditis was infrequent. He had occasionally seen it manifested after incising the drum membrane, but he had never had a case that was followed by mastoiditis. With regard to the time to operate in mastoiditis, it was a puzzling question to decide, and he relied more upon the bacteriological findings than anything else; when streptococci were present, operate.

Dr. EDWARD B. DENCH said that the presence of gas in the tympanic cavity was brought out first by Dr. Blake and himself years ago, and it was then stated that the development of gas was the result of acute inflammation of the middle-ear and was an indication of its virulence. When present, and he had seen the condition three or four times, he always suspected mastoid trouble. When the pain was severe enough to demand an opiate, he believed in incising. When a streptococcic infection was present, he advised operating early and thoroughly. If a streptococcic infection on one side and a staphylococcic infection on the other, he operated upon the streptococcic side. He thought the keynote to the paper was early operation in doubtful cases; in such cases the early operation will better the hearing.

Dr. FRED WHITING related four cases presenting somewhat the same features as the one reported by Dr. Alderton; in three, there was a pneumococcic infection; in the other, streptococcic. In the former one may escape operation, but in the latter, operation must be performed.

Infection with the Bacillus of Dysentery, with Special Reference to Its Rôle in the Summer Diarrhœas of Children.—DR. SIMON FLEXNER of Philadelphia considered the character of the diseases, which are now associated with the occurrence of the bacillus dysenteriæ, with the view to explaining the wide divergence in symptoms and lesions. He asked that the disease be characterized, not by its symptomatology, or pathological anatomy, but by its etiology, and in speaking of dysentery he wished to be understood as referring to that disease, or group of clinical manifestations, caused by the bacillus of dysentery, which was described in 1898 by a Japanese. The modern tendency is to utilize more and more the etiology in the differentiation of diseases. The study of the causation of dysentery has tended more and more to bring out, within the last three or four years, the fact of a specific organism occurring in this disease. Admitting such an organism as the cause of the severer forms of dysentery, if it is found associated with the lighter forms of the infection, it must equally be considered a cause of that class of cases. How can we prove that such an organism exists? It is not a habitat in the intestines and it is never found in a state of health in the intestines. They can be proven, not only to be pathogenic organisms, but also, when introduced into human beings in the state of pure cultures, they will give rise to symptoms of dysentery, and the blood changes have appeared identical with those that occur in accidental infection. He believed that within the next three or four years the proof of the existence of this organism will be more convincing than that of any other, such as that of typhoid fever. It is an organism that has not only found been in one or two localities, but, since 1898, wherever it has been looked for, when proper methods have been used, it has been found in cases of dysentery.

Dysentery is a disease that is endemic in Japan, and during the spring and summer there are thousands of cases; it disappears from that locality during the winter, although sporadic cases appear now and then. The mortality is about 40 or 50 per cent. The organism was isolated in a small number of cases by Shiga in Tokio, and since it has been found in the East, in the Philippine Islands—where acute dysentery is endemic—and sporadic cases have appeared in the United States. In 1899 it was found in Germany and, in other places, it has been found in the wake of troops which returned from China after the late disturbances.

What is the type of dysentery as determined by the lesions in the intestines with which the organism is associated? In this country we have a specific type, which is to be differentiated from the heterogeneous mass of things called dysentery, and called amœbic dysentery; therefore, it would be proper to speak of the form of disease in reference to our knowledge of the latter form. This form is characterized by amœba in the intestines, and is known as a chronic disease. There is little or no information as to the early onset of it: cases of amœbic dysentery are not examples of an acute dysentery. The lesions in the intestines in amœbic dysentery are quite definite, localized in the large intestines; and are destructive, as a rule, especially in the submucosa, and are unattended with any pseudo-membrane; there is also thickening of the gut. In these cases, the particular organism, bacillus dysenteriæ, has not been discovered. Within the last year or two two cases of amœbic dysentery of acute character have been reported from the Philippine Islands. The particular form of the disease that is associated with the bacillus dysenteriæ is the acute form.

What is the type of the lesion associated with the organism? It is that type which occurs in the lesion commonly thought of in pseudo-membranous dysentery, or colitis. Sometimes the membrane is extensive; sometimes it is absent The question of the membrane or ulceration has nothing to do with the stage of the disease; every case of dysentery goes on to the production of chronic lesions and symptoms. Without reference to their mode of occurrence, whether endemic or not, there can be recognized two types of the disease, viz., the acute dysentery, and the chronic form, the latter with symptoms extending over a long period of time with probable exacerbations due to fresh developments of the disease; in this latter class we should look for and find the organism.

If the disease is caused by a single organism, we can the better understand how it is possible for this microorganism to be associated with other diseases apparently so different in character as those which occur in some of the diarrhœas of infants. Last summer, in connection with the Rockefeller Institute for medical research, the speaker was given an opportunity of studying the causation of summer diarrhœas in infants. The work was carried out near Baltimore, in the Thomas Wilson Sanitarium, which is only open during the summer, and deals only with cases of acute illness in young children. The work was carried on by two medical students who were specially fitted for this work The technique, which took Dr. Flexner four years to perfect, has already been published. They worked upon fifty cases of the disease, which was characterized by an acute onset, elevation of temperature, disturbances of digestion, presence of mucus and blood at some stage of the disease in the fæces, etc. Among these fifty cases they never failed to find the organism.

What will be the value of the discovery of a specific organism in dysentery and in certain forms of intestinal infection in children? The greatest value, of course, comes to us in the assistance it gives in the prevention of these infections and in the cure of them. With regard to the prevention we should first try to discover where the organism is to be found in nature; about this nothing has been learned, although it has been looked for repeatedly. Although it may be assumed that it may be present under normal conditions in the intestines, yet it has never been found. Where they exist in external nature he did not know. Contaminated water as a carrier of disease is well known; under certain conditions, it is an organism that gains access to water, like the cholera bacillus, and, like the cholera bacillus, it is readily destroyed by hot water. Therefore, whenever water comes under suspicion it should be boiled and the organism destroyed.

It has been found possible to protect small animals from the infection by this organism, which is a pathogenic one. Following out the ideas of vaccination, he found that the guinea-pig could be successfully vaccinated by the attenuated virus against the living organism. He asked what could be the value of this vaccination procedure; would it be justifiable to vaccinate troops? If the American troops were to be sent into the interior in the Philippine Islands, where boiling water is out of the question, such vaccination might possibly be of service. Of how much benefit such a procedure will be can only be determined by time. What he now hoped for was the production of a serum which might be of value therapeutically. First, we must establish the fact that the organism is the cause of this class of affections occurring in children. In doubtful cases the blood may be tested for the agglutination reaction. From the evidence gathered last summer, it was found that more than 80 per cent. of the cases can be agglutinated when the organism was found in the dejecta. It was also determined that the reaction occurred earlier than in typhoid fever, in a fair per cent of the cases it occurred as early as the third day; in 50 per cent. of the cases it occurred after the sixth; it always appeared before the tenth day. Of course, it is far better to have access to a laboratory, and so not wait for such reaction. Within twenty-four or thirty-six hours its presence can be established with certainty. If a serum can be produced that is harmless, it might be justifiable to use it without waiting for the test. He believed that it was important now not to assume from the clinical symptoms alone that every case was an infectious case, and that we should examine the dejecta several times.

Regarding the success that has attended the use of the serum, he said that he had prepared a serum that would protect guinea-pigs, but the short time would not permit him to express himself with regard to its real value.

Dr. **Francis Delafield** said that it was a difficult matter to cover the subject of inflammations of the colon, and that different countries presented different characters of the inflammation, and that one experience in one country would be different from that in another. He believed that these gaps in our knowledge were likely to be filled by such work as that in which Dr. Flexner was engaged. With regard to the practical purposes of prognosis, he feared that we were not yet beyond the stage of local experiences. Local experiences count for a great deal. Here, in New York, whether one calls it dysentery or not, certain cases are seen of a certain type which are seen quite regularly. You see an acute inflammation of the colon, which is attended with congestion and increased production of mucus, and which attacks adults and children; the inflammation may be found in the rectum only, or it may affect the whole colon; if only the rectum is affected, whether adults or children, the inflammation regularly runs its course inside of a week, and the patients regularly get well; if, on the other hand, the whole length of the colon is affected, the adults get well, but the children die.

Again, as a matter of experience, especially in hot weather, the adults more than children are attacked with acute inflammation of the colon, which is attended with the transudation of serum; they do not pass fecal matter, but fluid which is serum that has been transuded into the intestine; this sometimes amounts to one quart at a dejecta. In adults this is not fatal; in children it may possibly be fatal. Again, one finds a form of inflammation of the colon which is not at all common, in which there is an infiltration of the connective-tissue coat of the colon with pus, similar to that which occurs in the stomach under the name of phlegmonous gastritis. This form occurs in both adults and children, and, so far as the speaker knew, was always fatal. It behaves in the same way as a streptococcic inflammation. Again, there may be met with inflammations of the colon with necrosis or death of the glandular structures, or of the connective-tissue coat, or both, or of the whole walls of the colon. In adults the iaflammation may involve the glandular coat, only forming small ulcerations, with a small amount of productive inflammation. Acute cases run about three weeks; chronic cases may last for months Regarding the bacteriology of these, he knew nothing There were two groups of cases of colitis which, he believed came under Dr. Flexner's category of dysentery which occurred in the tropics and temperate zones, and the variety seems to depend upon the extent of the colon inflammation and the intensity of the infection. He believed that these should be classed as dysentery. It seemed to him that amœbic dysentery was not so very rare and he was surprised at

Dr. Flexner's statement to the contrary. He had seen cases in New York, and enough of them to classify them into cases of severe, acute, amœbic dysentery, and mild, acute, amœbic dysentery, or colitis. The mild cases get well, but the severe cases usually die. In the severe cases the whole length of the intestine appears to be involved in the inflammatory process.

Dr. L. Emmett Holt said that the clinical picture was a typical one, and frequently seen about New York, and these cases he believed to be due to this organism. He thought we were on the eve of great progress in this direction.

Dr. Edward K. Dunham had seen four cases in Maine last summer, two occurring in adults and two in children, and in these cases the bacillus was found. In all of them the agglutination reaction was distinct.

Dr. Henry Dwight Chapin thought that the cause might exist in milk, and this might be a fruitful field for future study. He was impressed with what Dr. Delafield had stated with regard to locality; he had found the death rate from this disease in different localities to be quite inconsistent; for instance, in certain years the death rate in the country would be enormous, while in the city it would be low; in other years the reverse would hold. It did not appear to him that such could come from the milk, because children in the city drank of milk from the same source as those in the country. Some local condition must prevail to produce such differences.

Dr. James Ewing referred to certain cases that occurred among the troops at Montauk Point in 1898, in the general hospital. Some of these came to autopsy, and showed slight lesions but an abundance of amœbæ in the discharges.

Dr. Henry Koplik said that there were certain cases occurring in children and infants in which the Shiga bacillus was found, and which were cases of true dysentery. It was interesting that, a few years ago, the profession wished to exclude the term dysentery in children's disorders. The Shiga bacillus found in children corresponded exactly with the bacillus found in adults. The term "summer diarrhœa" was a collective one; certain cases were due to the streptococci. All cases of summer diarrhœa certainly were not due to the Shiga bacillus, although occasionally the Shiga bacillus was found in the diarrhœa of children and infants.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OTOLOGY.

Held on Thursday, October 9, 1902.

James F. McKernon, M.D., Chairman.

A Case of Delayed Healing of Extensive Mastoid Wound Treated by Means of Skin Graft.—Presented for Dr. Wendell C. Phillips by Dr. Thomas J. Harris. The patient was a young man who first came under Dr. Phillips' observation in February, 1901, complaining of mastoid symptoms which had set in on the previous day (Wednesday). A complete internal paracentesis was immediately done, but this failed to give relief. An ice-coil was applied until the following Monday, when a mastoid operation was performed. This revealed extensive disease of the bone. Since the primary operation in February, 1901, three additional operations had been performed upon this patient by Dr. Phillips, the last one in April of the present year. All of these were undertaken for the removal of small pieces of diseased bone. These repeated operations left such an extensive wound that it was determined to make an attempt to close it by means of skin grafts. Two such attempts had been made, the last one ten days before, and had proved very successful. This expedient of skin grafting, Dr. Phillips thought, might be utilized advantageously in the delayed healing of many cases of extensive mastoid wounds.

Dr. Edward B. Dench thought the method advocated by Dr. Phillips, and illustrated in this case, was a very valuable adjunct to our means of healing these old mastoid wounds. The speaker said that the same idea had occurred to him, although he had never practised it. Another method that had suggested itself to him was to fill the cavity of the wound with blood, and then, after the clot has begun to organize, to cover it with skin grafts.

Dr. William P. Brandegee said that in order to correct the pitting that often occurs in the mastoid wound, he irritates the tissue with a dull curette, sufficiently to produce free bleeding, and then pack the cavity lightly with gauze covered with balsam of Peru. This procedure can be repeated if necessary.

A Case of Malignant Growth of the Middle Ear Involving the Cranial Cavity.—Presented by Dr. Edward B. Dench. The patient was a child, eighteen months old, who was brought to the clinic three weeks ago. The only history obtainable was that there had been a slight watery discharge from the ear for about ten days; that during this time the child had been restless, and, coincident with the ear trouble, the mother noticed that the child had become cross-eyed. The latter condition was found to be due to paralysis of the right external rectus muscle.

Upon examining the ear, the canal was found to be occupied by a tumor which was apparently covered with a thin layer of epithelium. The forcible use of the probe caused this tumor to bleed. A small section of the growth was removed and sent to the pathologist, who reported that it was composed of granulomatous tissue, the surface being covered with epithelium.

The child was operated on by Dr. Dench two days after admission. The typical mastoid operation was done, revealing a cauliflower-like growth occupying the region of the cortex, lying over the antrum and tympanic bone, involving the cranial cavity and extending nearly to the apex of the petrous pyramid. The mass was removed as thoroughly as possible with the curette, together with the softened bone that surrounded it. The entire specimen was submitted to Dr. Dixon, and he reported that it was an endothelial sarcoma.

Since the operation the child has been doing fairly well, but there are evidences of are currence in the deeper portion of the wound. The question arises whether any further surgical interference is justifiable, in view of the probability that no matter what is done it can only bring a temporary improvement, as these growths are very malignant and tend to reproduce themselves with the greatest rapidity. Dr. Dench said that, in view of the child's good general condition, he felt inclined to make another attempt to thoroughly extirpate the growth and, at the same time, ligate the carotids in order to prevent, or at least, retard, recurrence by cutting off the blood supply of the parts.

A Case of Epithelioma of the Tragus—Presented by Dr. Horn. The patient was a married woman, forty-eight years old, whose previous history was apparently negative. About four years ago she first noticed a small ulcerated lesion on the auricle of the right ear. It disappeared for a time, but reappeared, and during the past four months it has developed into a typical epithelioma, with superficial, exuberant granulations. These are now beginning to disappear. There are no glandular enlargements. No microscopical examination has been made.

Dr. Dench thought the lesions looked very much like lupus. Some time ago, the speaker said, he reported three malignant growth, of the auricle. In one of them, all the glands on the corresponding side of the neck were involved and had to be extirpated. This patient was alive and well four years after the operation. In another case, one of melanosarcoma involving the auricle, the operation was followed by a slight recurrence; the patient was again operated on, with complete relief. The results in these cases are usually exceedingly good, if they are handled promptly.

A Case of Persistent Mastoid Pain After Operation.—Presented by Dr. THOMAS J. HARRIS. The patient was a woman, twenty-four years old, who came under the speaker's observation last April. She complained of pain over the region of the right mastoid, and there was some elevation of temperature. She gave a history of an old suppurative trouble of the ear, but there had been no purulent discharge for several years. Inspection of the ear showed that the drum membrane was entirely gone. After keeping the patient under observation for two weeks, a very complete mastoid operation was done. No pus was found, and there was very little diseased bone. The wound healed without any trouble, and the patient was discharged at the end of three weeks. Shortly after the operation she began to complain of pain at or near the site of the mastoid incision, and this has persisted, more or less continuously, ever since. At times, it is quite severe. Occasionally, she also suffers pain over the opposite mastoid, upon which no operation was done. The patient is well nourished, and holds a position as a clerk.

Dr. J. O. TANSLEY referred to a similar case which proved to be of hysterical origin.

Report of Cases and Technique of Procedure in Establishing Hearing for Deaf Mutes.—Dr. MAURY M. STAPLER of Macon, Ga., presented a report of eighteen cases of deaf-mutism, twelve congenital, and the rest of long standing, which had been treated by the author by means of an apparatus of his own invention to which he had given the name "Rarefier." It consisted, essentially, of an aspirating pump, to which a short piece of rubber tubing was attached; this tube divided into four branches, two of which were inserted into the patient's nostrils, and two into the ears; then, by means of the air-pump, the air in the middle ear could be rarefied to any desired degree and the drum membranes relaxed, or the middle ear could be inflated and the membranes rendered tense. In some of his cases, Dr. Stapler said, the result of this treatment was almost marvellous, even in cases of congenital deaf-mutism. In others the effect was less striking, but very satisfactory. Dr. Stapler was given an opportunity to try the apparatus upon a girl of twelve years who had been deaf since infancy, as the result of an attack of cerebrospinal meningitis. It produced absolutely no effect upon the hearing in this case.

Symptoms and Course of Acute Catarrhal Prostatitis.—The onset of this form of disease is always rapid, it often developing over night; the patient appearing one day with symptoms of bulbomembranous urethritis only, and the next morning giving all the evidence of prostatic involvement. The symptoms are almost entirely objective. The patient complains of frequent and painful urination, pain referred to the perineum. Examination of the prostate per rectum is negative; examination of the urine by the three-glass test shows the first portion very cloudy, the second somewhat clearer, and the third again cloudy, and containing gonococci, comma-shaped organisms from the prostate, prostatic fluid, and often a little blood. This terminal hæmaturia and the comma-shaped organisms, accompanied by prostatic tenesmus and frequency of urination, is almost pathognomonic of the disease. The inflammatory process is confined to the prostatic urethral membrane and the mouths of the follicles; there is congestion and reddening of the epithelium of the prostatic urethra and swelling of the mouths of the follicles. The discharge is found to contain desquamated epithelial cells, gonococci, pus-cells, and prostatic fluid. The process runs an acute course, and may end in resolution or in the follicular or parenchymatous forms.—Dr. JAMES W. WILTSE in *Albany Medical Annals*.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 25, 1902:

	Cases.	Deaths.
Measles	53	3
Diphtheria and croup	285	32
Scarlet fever	118	8
Smallpox	3	.
Varicella	21	..
Tuberculosis	212	143
Typhoid fever	154	24
Cerebrospinal meningitis	..	..

Malarial Fever in the Malay Peninsula.—In a recent medical report to the Prudential Insurance Company, Dr. E. O. A. Travers of the State of Selangor Federated Malay States, S. E. Asia, writes as follows: "In connection with the prevalence of malaria on the coast, and in other parts of the State of Selangor, it has been noticed that certain pools and stagnant drains, which are at one time swarming with the larvæ of the anopheles mosquito, are found at other times to be absolutely free from them. The appearance of large numbers of anopheles is almost invariably connected with a marked increase in the number of cases of malarial fever. It has been noted that the larvæ of the culex varieties do not appear and disappear in this way, but are always to be found in almost any pool of stagnant water. During the present year careful observations will be made with regard to the habits of the anopheles and their connection with the increase or decrease in malarial fever. Reference to the above figures will show that malarial fever has become a very serious cause of sickness and mortality in this State. During the past year 5,445 cases of severe illness causing admission to hospital and 322 deaths were due to this disease, as against 2,065 admissions on account of beri-beri with 311 deaths. The Klang district has suffered very heavily during the year, investigations made by District Surgeon Dr. Watson proved the presence of large numbers of anopheles mosquito in innumerable pools and drains in the town, which is low and flat and has a large swamp right in the middle of it. I am glad to say that provision has been made for extensive drainage works to be made during the present year, with a view to improving the health of the town. A severe outbreak of malaria, causing many deaths, occurred at Port Swettenham during the latter half of the year, energetic measures in the way of filling, draining, and felling jungle were carried out, and have been rewarded with, at any rate, considerable temporary success. Since July 1 all cases of malaria fever admitted to those hospitals in charge of district surgeons have been diagnosed by the microscope. The above figures, however, show clearly that all varieties of malarial fever are met with in Selangor, also that, as in other parts of the world, the malignant type is the more common and the most fatal, whereas the quartan type is the rarest and the least dangerous.

"In the treatment of malaria, fair trial was given to the various methods of administration of quinine. It was found, with very few exceptions, that a satisfactory cure could be effected by giving quinine by the mouth in solution, complete rest during dosage by quinine being essential. Subcutaneous injection was found to cause local inflammation, and often lead to the formation of a slough —this form of injection of quinine has therefore been entirely given up. Intramuscular injection has been largely carried out and has been found to be extremely useful in cases which resist the action of quinine by the mouth, or which are admitted to hospital with dangerous symptoms. Provided that ordinary care is taken to see that the syringe is clean no sloughing or abscess formation has been found to follow intramuscular injection. The only objection to this method of administration is the acute pain caused during the operation. Intravenous injection has not been very largely practised. In many cases it is not easy to introduce the needle into the vein, and keep it there, and often an injection has been partly intravenous and partly subcutaneous, with all the subsequent drawbacks to the latter method. All patients suffering from malarial fever are now carefully protected by mosquito curtains, a certain number of beds being set apart for malarial cases in each hospital. The free use of kerosine oil in anopheles infested pools has been largely carried out in infected districts, with apparently a good deal of success. Sanitary measures, among which may be included draining and filling in of pools, and felling of jungle in the neighborhood of houses, have been actively carried out during the year in many parts of the State."

Dearth of Surgeons in the United States Army.—The following article, which appeared in the *New York Tribune* on October 12, puts the situation, as regards the cause of the scarcity of candidates for the medical service of the United States Army, briefly and well: "When commissions in the United States Army go begging there must be causes worthy of investigation. That condition now exists in the medical department of the army, where there are forty vacancies in the grade of assistant surgeon. The board in session at Washington has examined a large number of applicants, out of which only a few have been selected. By some officers, who have discussed the matter, it has been said that the examinations are too severe, and that a young physician must rank far above the general average to be able to pass them successfully. The rank of the new assistant surgeon in the United States Army is first lieutenant, with about $1,600 a year pay, not enough to lure many men from the quiet path of general practice to the strenuous work of the army surgeon. After five years' service the assistant surgeon advances to the grade of captain, and there he remains, unless something extraordinary happens, for twelve or fifteen years, and if he is then still physically competent to perform the duties of the place, he may become a surgeon with the rank of major. The Army Register shows that a few surgeons gained the gold leaf in less than ten years, and that one lucky man reached the grade of major in about seven years after his captain's commission was issued. But the majority of the sixty majors in the department had to wait from twelve to sixteen years for the promotion. This condition is believed by many physicians to be one reason why the examining board has had mediocre material to deal with, and has been compelled to reject all but five of the candidates for the vacancies."

The Metric System in Great Britain.—The United States Consul-General at London forwards a letter from the Secretary of the Decimal Association of England on the subject of the agitation now going on for the adoption of the metric system in Great Britain, of which the substance is as follows: "There are 200 members of the House of Commons in favor of the adoption; sixty town councils have passed resolutions in favor of the movement; all the chambers of commerce, nearly all the school boards, the trade unions, and many scientific societies are likewise in favor: the Prime Minister of the colonies, lately in session in London, passed a resolution urging the adoption of the measure, and the Prime Minister of England is also very favorable. It is probable that at the next session of Parliament the necessary bill will be passed. If England enters the metric union the United States will probably follow. Then we may look out for expensive chaos in the machine shops, architectural offices, etc., throughout the country, and for a plentiful crop of law suits regarding titles to land that must arise when the dimensions of city lots are expressed in decimeters instead of in feet and inches. The metric system has been legal in the United States since 1866. Any one who wishes to use it can do so. All persons to whom it is an advantage already use the metric system. Why should it be forced down the throats of those to whom it is of no advantage?"—*New York Sun.*

Rome More Healthful.—The marked change of opinion as to the sanitary condition of Rome in summer is exemplified by statistics just issued, showing that in July, August, and September of the present year 9,734 foreigners visited Rome, Americans heading the list with 3,020, closely followed by Germans, who numbered 2,875. Formerly Rome was deserted during these months and the hotels were closed, because of the belief that the heat was unbearable and that malignant malaria was prevalent.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending October 25, 1902:

		CASES	DEATHS
SMALLPOX—UNITED STATES.			
California, Sacramento	Oct. 11-18	3	
San Francisco	Oct. 5-12	6	
Illinois, Chicago	Oct. 11-18	3	
Freeport	Oct. 11-18	12	
Indiana, South Bend	Oct. 11-18	2	
Kentucky, Covington	Oct. 4-18	21	
Massachusetts, Boston	Oct. 11-18	6	3
Cambridge	Sept. 13-Oct. 4	1	1
Everett	Oct. 11-18	1	
Malden	Oct. 11-18	2	
Michigan Detroit	Oct. 11-18	13	
Missouri, St. Louis	Oct. 12-19	5	
New Hampshire, Nashua	Oct. 11-18	25	
New Jersey, Newark	Oct. 4-18	3	
New York, New York	Oct 11-18	2	
Ohio, Cincinnati	Oct. 10-17	2	
Cleveland	Oct. 11-18	34	5
Dayton	Oct. 11-18	1	
Hamilton	Oct. 11-18	2	
Pennsylvania, Altoona	Oct. 11-18	1	
Erie	Oct. 11-18	2	
Johnstown	Oct. 11-18	13	1
McKeesport	Oct. 11-18	1	
Philadelphia	Oct. 11-18	2	
Pittsburg	Oct. 4-18	37	5
Reading	Oct. 6-13	2	
South Dakota, Sioux Falls	Oct. 11-18	1	
Utah, Salt Lake City	Sept. 27-Oct. 4	2	
Washington, Tacoma	Oct. 5-12	1	
Wisconsin, Milwaukee	Oct. 11-18	22	
SMALLPOX—FOREIGN.			
Brazil, Pernambuco	Aug. 15-31		9
Rio de Janeiro	Sept. 21-28		18
Canada, Amherstburg	Oct. 11-18	2	
China, Hongkong	Sept. 6-13		1
Ecuador, Guayaquil	Sept. 27-Oct. 4		2
France, Marseilles	Sept. 1-30		18
Great Britain, Leeds	Oct. 4-11	1	
London	Sept. 27-Oct. 4	4	
India, Bombay	Sept. 16-23		5
Calcutta	Sept. 13-20		2
Italy, Palermo	Sept. 20-27	8	1
Russia, Moscow	Sept. 20-27	2	1
Odessa	Sept. 27-Oct. 4	1	
YELLOW FEVER			
Brazil, Rio de Janeiro	Sept. 21-28		6
Colombia, Panama	Oct. 6-13	8	
Costa Rica, Port Limon	Oct. 2-9	3	
Ecuador, Guayaquil	Sept. 27-Oct. 4		2
Mexico, Coatzacoalcos	Oct. 4-11	3	1
Vera Cruz	Oct. 11-18	20	4
CHOLERA—INSULAR.			
Philippine Islands, Manila	To Sept. 13,	3,974	2,994
Provinces	To Sept. 13	54,173	37,713
CHOLERA—FOREIGN.			
Arabia, Hodeidah	Sept. 10-12		9
China, Hongkong	Sept. 6-13	1	1
Egypt,	Sept. 6-20	7,235	13,763
Alexandria	Sept. 13-20	82	208
Cairo	Sept. 13-20	28	102
Damietta	Sept. 13-20	52	182
Ismailia	Sept. 13-20	5	8
Port Said	Sept. 13-20	2	3
Suez	Sept. 13-20	31	41
India, Calcutta	Sept. 13-20		12
Madras	Aug. 23-Sept. 12		1
Japan, Fukuoka Ken	To Sept 22	1,042	646
Hiroshima Ken	To Sept. 22	706	
Kagawa Ken	To Sept. 22	2,344	
Nagasaki	Sept. 11-20	52	34
Okayama Ken	Sept. 11-20	2,140	1,455
Osaka	Sept. 20-27	45	28
PLAGUE—INSULAR.			
Hawaii, Honolulu	Oct. 14		1
PLAGUE—FOREIGN.			
Africa, Cape Peninsula	To. Aug. 9	745	362
Port Elizabeth	To Aug. 9	135	66
Mossel Bay	To Aug. 9	13	4
Other Places	To Aug. 9	14	6
Australia, New Castle	Aug. 1-31	1	1
Brazil, Rio de Janeiro	Sept. 21-28		11
China, Hongkong	Sept. 6-13	1	1
India Bombay	Sept. 16-23		55
Calcutta	Sept. 13-20		8
Karachi	Sept. 14-21	22	14
Madras	Aug. 23-Sept. 12		1
Russia, Odessa	From June to Oct 4.	43	14

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Original Articles.

THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEY ACCOMPANIED BY PYURIA.*

By RAMON GUITÉRAS, M.D.,
NEW YORK.

I AM aware that in presenting the subject in this form I am transgressing the traditional classifications, and yet I am satisfied, from my experience in consultation with practitioners, that I am presenting the theme from the viewpoint from which many of them regard it in actual practice.

When we look over the textbooks of renal surgery we are impressed with the fact that writers still classify, under "suppurative diseases of the kidney," a certain group of conditions, and completely ignore certain others that are attended by suppuration, and are, perhaps, primarily the most frequent causes of it. The reason of this is, probably, because until recent years our knowledge of kidney surgery has been limited, and the diseases of this organ were considered more from a causative than a pathological basis. At present the diseases of the kidney spoken of as "suppurative" are the so-called suppurative nephritis, which consists of a suppuration of the organ, due to an infection through the blood, or to complicating traumatism, or from extension from contiguous organs, etc.; and the so-called surgical kidney, an extension of the inflammation upward from the bladder.

The other conditions referred to, giving rise to suppurative disease of the kidney, and, consequently, to pyuria, are renal calculus, tuberculosis, and tumor. These are almost always accompanied by infection and by suppurative complications in their later stages, and are not usually considered real suppurative diseases of the kidney, because they are classified as independent troubles with secondary suppuration.

The practitioner of the present time, however, if he finds a patient with pain in the region of the kidney, or, perhaps, with a colic descending along the ureters or transmitted in various directions, associated with frequency of urination and a moderate amount of pus, and, perhaps, blood in the urine, immediately thinks of renal calculus or tuberculosis; or, perhaps, of tumor if the amount of blood in the urine has been sufficient to constitute a marked hæmaturia, especially if there has been no history of urethritis, cystitis, or prostatic hypertrophy. If, on the other hand, there has been a history of urethritis or vesical disease, he will think of an ascending pyelitis or pyelonephritis. In all such cases, therefore, it remains for the surgeon to determine definitely the variety of the disease and, then, the best method of treating it.

To study our subject more carefully, then, we must consider it from a pathological basis, and having concluded what, in our opinion, the surgical diseases of the kidney are that are accompanied by pyuria, we can show the methods of fitting certain clinical groups of symptoms to a certain set of renal lesions.

I. Classification and Definitions.—Probably the simplest pathological classification of the renal diseases accompanied by pyuria is: pyelitis, pyonephrosis, suppurative nephritis, and pyelonephritis.

1. *Pyelitis.*—An inflammation of the pelvis of the kidney, due, usually, to the extension of an infection from the lower parts of the urinary tract, generally from the bladder (cystitis), or to the presence of stone, followed by secondary infection, etc

2. *Pyonephrosis.*—A pyelitis, which is accompanied by obstruction in the pelvis or ureter, giving rise to a dilatation of the pelvis and calyces, which may be temporary or permanent, and which gradually dilates and destroys the kidney itself. The contents of the sac consists of urine and pus Such a condition may be due to infection in the pelvis of a movable kidney, obstructed by ureteral kinking, stricture, or by pressure upon the ureter by adhesions, or to tumors or stone in the ureter or renal pelvis.

3. *Suppurative Nephritis.*—A suppurative condition of the kidney proper, not associated with any involvement of the pelvis, as in cases of hæmatogenous infection of the kidney, traumatism with infection, a renal abscess due to pyæmia, or to stone or to tubercle in the renal tissue proper, complicated by pyogenic infection.

4. *Pyelonephritis.*—A condition which can best be described as a combination of suppurative pyelitis and nephritis. Here the suppurative process may be first found in the renal pelvis, and then involve the kidney substance; or it may be first in the kidney and affect the pelvis of the organ secondarily, the avenues of communication in either case being the straight collecting tubules and their mouths in the papillæ. In ascending pyelitis, when due to calculus or tuberculosis, a suppurative pyelonephritis is usually present at some time or another in the disease, if advanced far enough. Suppurative nephritis may, however, exist without involving the renal pelvis as seen under (3).

To summarize from an etiological standpoint, it may be said that the three varieties of kidney disease that most often are the causes of pyuria are, in the order of their frequency: (1) A suppurative pyelitis or pyelonephritis, due to an ascending infection; (2) A suppurative pyelitis, pyonephrosis, pyelonephritis, or renal abscess secondary to stone in the kidney; and (3) A suppurative nephritis, pyelitis, or pyelonephritis, secondary to tuberculosis of the kidney.

II. The Clinical Problems of Pyuric Cases.—Having thus defined briefly the varieties of suppurative inflammation met with in the kidneys, pathologically and etiologically, we may pass on immediately to the consideration of the problems which present themselves to us in this group of clinical conditions whenever a patient with pyuria is brought to us for consultation. These problems may be resumed in one sentence, namely: *Given certain local symptoms of renal disease, and the pres-*

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*Read before the annual meeting of the West Virginia Medical Society.

ence of pus in the urine, coming from the kidney, what is the condition of the patient?

(*a*) *The History of the Case.*—As in all clinical problems, the history of the case plays an important rôle in directing our investigations in a case of pyuria. The special points to be noted in the family history of such a case are the presence of cancer, tuberculosis, stone, gout, or rheumatism.

In the previous history the chief points to be considered are the occurrence of urethral infection, cystitis etc.; the presence of renal colics, lumbar pain, chills, fever, digestive disturbances, headaches, emaciation, frequency of or painful urination; and voiding thick, cloudy, or bloody urine, or of highly colored urine with a deposit of gravel.

The symptoms of suppurative conditions of the kidney, which are present when the practitioner first sees such a case, vary greatly in severity, and may be vague and faintly marked, even with an advanced lesion in the kidney. As a rule, however, although some of the same symptoms accompany all these varieties of disease enumerated, there are always one or more of them in the history of the case, that make it especially distinctive. The most important symptoms of suppuration are (1) The local effects of the process pain, tenderness, and, perhaps, lumbar tumor; (2) Pus in the urine, and (3) The general effects of the process (sepsis, uræmia).

In *pyelitis* there may be nothing but simply frequent urination, and a vague sense of discomfort, or a constant pain in the loin, in the way of symptoms complained of. At other times, especially if a pelvic stone be present, the pain in acute cases is severe and intermittent, showing itself in attacks of true renal colic. Fever, chills, and sweating are, at times, prominent features in such a case, but are often mistaken for other conditions. The urine may be diminished in quantity from the reflex affection of the opposite kidney, or may be increased and of lower specific gravity as a result of a mild irritation produced so near the parenchyma. The lumbar pain is reflected, as a rule, downward, in exceptional cases, backward and upward, and may be increased on motion of thigh; abdomen and diaphragm in exercise, coughing, etc. In chronic cases of pyelitis there is usually less pain, and all the symptoms of the acute form are simply milder. Fever, if present, may be intermittent, and may resemble malaria. Occasionally the case may exacerbate into the acute form, and then the pain becomes more intense, the urine diminished, or anuria supervenes if there is obstruction. Acute constitutional symptoms accompanying this trouble should always remind one of impending pyonephrosis, or pyelonephritis, and the more I see of cases of so-called pyelitis with these symptoms, the more am I becoming convinced that one of the former conditions is usually present.

Pyonephrosis is also characterized by all the symptoms mentioned above, but, in addition, there is intermittent and varying pyuria, and, at times, intermittent swelling in the loin, as determined by palpation or inspection, depending upon the fact that the obstruction becomes at times complete. I have, however, seen most typical cases of pyonephrosis in thick-walled subjects, where the loin elicited no pain on pressure, and showed no enlargement.

Pyelonephritis, if acute, begins with a sudden onset, with high fever, chills, and pain in the region of the kidney. The fever may be continuous and terminate in the typhoid state, coma, and death, or else it may gradually subside, and the condition merge into a chronic one. Vomiting and other symptoms of indigestion, including hiccough, due to the uræmic condition, often occur in these cases, and are apt to mislead the diagnostician. The acute cases are often fatal, but many become chronic, and a few are relieved spontaneously by free drainage through the ureter, after rupture of an abscess into the renal pelvis.

In chronic pyelonephritis the patient exhibits, in the first place, a series of intestinal and dyspeptic symptoms, such as vomiting, diarrhœa, constipation, etc. Gradually he loses flesh and strength, and has a mild febrile movement of the septic type. There is lumbar pain, fever, chills, uræmic symptoms, prostration, coma, and the typhoid state toward the end.

It may be said that in cases in which tumor, stone, or tuberculosis are present hæmaturia is a more marked symptom. Besides this, in stone, so-called gravel is usually found in the urine; in tuberculosis there may be the signs of tuberculosis elsewhere, as in the prostate, epididymis, glands, lungs, joints, etc., and tubercle bacilli may be found in the urine; in malignant tumors the cachexia and loss of flesh will be found pronounced and progressive in the advanced stages, and metastases may be found elsewhere in the body. In cases of movable kidney the patient will probably be a woman, the affection will be found most often on the right side, and the symptoms of pain, nervousness, and digestive disturbances will have preceded those of suppuration.

A patient suffering from these conditions is usually seen with his physician, but in case he is a walking patient and calls at the office alone, he generally brings a letter from him giving the past and present history with a report of the urinary analysis. This will, of course, tell if the patient has pyuria, and we will have this important point to start out with.

The information obtained in this way is very valuable, but it should not deter us from making our usual systematic examination, for it is impossible to know how much reliance we can place on the opinion and observation of others, as even a most experienced practitioner who has not made a special study of kidney diseases may have arrived at the most erroneous conclusions.

(*b*) *The Physical Examination.*—The outline of the examination of a walking patient coming to the office is as follows: Inspection, palpation, percussion, rectal, and urethral examinations. While this examination is being made, a sample of urine taken in the office should be examined by an assistant, to determine as well as possible, by a hasty analysis, the presence of blood, pus, epithelium, etc. The urinary report and the local examination, together with the past and present history, will give us a fair idea of what the patient is suffering from; after which it will only be necessary to take certain other steps to prove that we are right in our provisional diagnosis.

Before taking the patient into the examining room, his temperature and pulse should be taken. The temperature shows whether or not an acute process is going on in the organ. It is often remarkable to find a patient with a temperature of 102° to 103° F. with kidney involvement, who comes into the office simply complaining of an attack of indigestion. The pulse is also important, as it not only tells us whether a febrile process is going on, but also shows whether arterial changes are taking place—an important factor to note in cases of kidney disease. A rapid pulse and a very slight continuous febrile movement, with an occasional exacerbation, is always a bad symptom in this class of conditions.

General inspection shows the presence or absence of œdema of the feet, or puffiness under the eyes, indicating whether or not the circulation is being interfered with, and whether or not the parenchyma of the kidney is probably involved. A cachexic look points to the possibility of Bright's disease or, perhaps, to the presence of malignant tumor or tuberculosis. A septic look shows that the patient is absorbing pus, and that the febrile movement, the presence of which has been already ascertained, is not a temporary one, but one of some duration. *Local inspection* shows us occasionally a bulging of the loin in cases of renal tumor or pyonephrosis in thin subjects.

Palpation is the most valuable means that we have of directly examining the kidney, and gives the most information as to its size, shape, position, tenderness, adherence to surrounding organs, etc. It should be performed by the bimanual method: The patient lies on his back, the thighs slightly flexed, the surgeon standing upon the side to be examined. The patient is directed to take a deep inspiration, and during the moment of abdominal relaxation coincident with expiration, the upper hand pushes firmly toward the posterior abdominal wall, so as to meet the lower hand as closely as possible. The affected kidney will usually be tender on pressure, while if a tumor, abscess or renal retention (pyonephrosis) be present, the mass will be felt between the surgeon's hands. In cases of movable kidney it is necessary to palpate the organ both in the erect and reclining positions, in order to determine its size and mobility. It must be borne in mind that the normal kidney can not be outlined by palpation, even in thin subjects.

Percussion does not show the outlines of a normal kidney, but when the kidney is markedly enlarged by a new growth, or distended by an exudate, or pushed forward toward the anterior abdominal wall, percussion may give information of value. It is generally said that tympanitic resonance over an abdominal tumor shows it to be of renal origin, as the intestine is placed over the enlargement. Naunyn and Minkowsky suggested some time ago that the colon be distended by the injection of gas, in order to bring out the retroperitoneal relations of the tumor more clearly; but this is not a useful procedure.

Phonendoscopy was suggested by Bianchi, the originator of the phonendoscope, as a means of outlining the upper pole of the kidney by percussion, accompanied by auscultation, with this instrument. I have had no experience with this method of auscultatory percussion, as it rather belongs to the internal medicine men; but Albarran, after a series of experiments at the Necker Hospital in Paris, seems to think that it is by no means to be despised as an addition to our resources in renal diagnosis.

A *rectal examination* is then made in men; a *vaginal* in women. Rectal examination shows us, in men, whether the prostate or seminal vesicles are involved, and, if made bimanually, may also tell us often whether a stone or tumor is present in the bladder. A prostatic enlargement, due to senile hypertrophy, would indicate the probable presence of residual urine, pointing to an infected bladder with, perhaps, a pyelitis or a pyelonephritis of the ascending type.

An enlarged prostate, accompanied by a febrile movement, in a young man with a history of urethritis would point to a prostatitis, or a prostatic abscess with, perhaps, a cystitis; and if associated with reflex lumbar pains would resemble the symptoms of suppurative renal disease, and it would require additional methods of examination to determine whether the symptoms were due to prostatic or renal trouble. Seminal vesiculitis sometimes give rise to pain reflected upward toward the loin, and the sacroiliac region, which might be mistaken for renal pain.

A urethral examination will tell us whether strictures are present, or whether there is an impediment in the prostatic urethra, either of which conditions might give rise to cystitis and to an extension of the inflammation upward in the urinary tract. At the same time the patient may be catheterized to see whether residual urine is present.

Cystoscopy is not usually performed at the first visit, and the examination finished, the attention is turned to the *urine* to see what additional light can be thrown upon the case from the *rapid urinary analysis* that has been made in the meanwhile by the assistant.

(*c*) *The Urinary Analysis*.—(1) *Rough Clinical Tests*.—Most practitioners have no laboratory connected with their offices, and no assistant who can make an analysis while the patient is being examined, in which case it is necessary for them to analyze the urine themselves after or before the physical examination, or to be governed by certain rapid and less accurate observations made in the office at the time of examination.

It is evident that the pus in pyuria may come from any part of the urinary tract from the external urinary meatus to the cortical portion of the kidney. A few rough tests, however, will give us a fair idea of the source of the pus.

If we can express it from the meatus, the pus is evidently urethral, and probably comes from the anterior urethra. If, in the two-glass test, the first urine contains pus and shreds, and a second portion passed immediately afterward is clear, it is evident that there is a purulent discharge of urethral origin present, or a discharge from the genital tract. If the first and second urines are both cloudy it shows either that the posterior urethra is so acutely involved that some of the pus overflows into the bladder, or, what is more probable, that there is an involvement of the urinary tract above the vesical sphincter.

When the whole amount of urine passed is found to be cloudy immediately on passing, there is no doubt that some pathological condition exists, which affects the urinary tract at least as high up as the bladder, if not higher.

Mucus.—Normal urine is almost perfectly clear as it issues from the meatus, but even in normal urines a few minutes' standing will bring out a faint cloud, which very slowly settles to the bottom. This cloud, the so-called "nubecula" of the ancient uroscopists, consists of mucus perhaps mixed with a few epithelial cells from the bladder. It is much more pronounced in women, on account of the admixture of vaginal mucus, which becomes washed away from the genitals by the passage of the urine from the urethra. In catarrhal conditions of the genitourinary tract, especially in cystitis, prostatitis, and urethritis, the normal mucus cloud is markedly increased, so that the urine appears cloudy soon after being voided, and that the cloud sinks more rapidly to the bottom. A rough test for mucin, which is the proteid substance contained in the mucus cloud, consists in diluting the urine with equal parts of water and adding acetic acid, a few drops at a time, until a precipitate of mucin is formed, which is soluble in an excess of acetic acid. If the urine contains albumin, mucus may be detected by first precipitating the albumin by means of heat, and then testing with acetic acid for mucin. Other more delicate tests may be applied to detect the presence of mucin, but, as a rule, unless present in very large quantities, mucus may be distinguished from pus in the urine by naked eye inspection, the characteristics of the mucous cloud being that it floats longer and it is less opaque, less dense, and more evanescent than the pus cloud.

Phosphates may give rise to cloudiness in the urine when there is an excess of the earthy or triple salts, and when the acidity of the urine is lowered, thus lowering the solubility of the phosphatic elements. It is difficult to mistake a turbidity due to phosphates for anything else. This turbidity is generally not present in the form of a cloud, but pervades the urine uniformly, gradually settling on standing. A few drops of acetic acid added to such a urine will almost immediately clear up the urine by correcting the lowered acidity. If the turbidity were due to the presence of pus, mucus, blood, or cellular elements, it would be increased by the addition of the acid.

Bacteria, when growing in large numbers in the urine (bacteruria), give rise to a faint cloud which has a tendency to float in the middle part of the vessel, and does not settle even when the urine stands for a long time. This cloud remains practically unchanged by the addition of acetic acid.

Urates may be found precipitated in urine in which they are present in excess. Such urines are always found to be acid in reaction, and it is well to remember that a sediment occurring in acid urine can only be composed of urates, unless we have to deal with an organized sediment. Cold and certain intricate chemical conditions, which do not interest us here, increase the amount of this precipitate, while simply heating a test tube with such a urine gently over the flame will dispell the turbidity, thus showing that urates are responible for the cloudiness of the heavy dirty yellow, or brick red sediment. It is only when urates cause a general turbidity that they can be mistaken for pus. If pus were present heat would increase the turbidity instead of decreasing it.

The rare condition known as *chyluria* may be mistaken for pyuria. This condition depends upon the presence of Filaria sanguinis hominis, and is characterized by a urine which represents practically a fat emulsion in which the finely-divided oil-globules remain in suspension in the urine, producing a milky appearance. Such urine will stand for days without settling; is milky yellowish-white or pink in color, and shows a film of fat, or of cream-like flakes, upon the surface. On shaking with ether the fat is dissolved, and the urine becomes normal in appearance. Chylous urine also has the property of coagulating spontaneously on standing.

Pus in the urine shows its presence by cloudiness immediately after passing, and on standing a few minutes by a deposit of an opaque, amorphous, yellowish white sediment, which sinks to the bottom much more rapidly, than mucus. In the presence of an admixture of mucus and pus, the opacity of the sediment and the rapidity of its precipitation are lessened. In an alkaline or ammoniacal urine the pus deposit occurs as a tenacious gelatinous-looking mass which adheres to the bottom and to the sides of the vessel. On repeatedly shaking the urine it is impossible to disintegrate this mass completely, and, if it be allowed to settle and the urine decanted into another vessel, the gelatinous pus is often dislodged in a lump and precipitated in the second vessel.

The rough clinical test for pus, known as Donnes' reaction, is often of value to the practitioner, in distinguishing pus from mucus and other sources of cloudiness in the urine. This test consists in allowing the sediment to gravitate to the bottom of a conical glass; decanting (or pipetting or siphoning) the urine which floats over the sediment, and adding the ordinary solution of caustic potash, drop by drop until the gelatinous, glary, tenacious mass, which has been described above, is formed in the deposit, adhering to the bottom of the vessel and slipping out from it *en masse*. In fact, the occurrence of this gelatinous substance in alkaline urine results from the same chemical reaction that is produced in the test just mentioned. A good rule given by Tyson is that if such a gelatinous mass is found in an alkaline urine, and yet if we are, clinically, not sure that we are dealing with pus, and not merely with mucus, another specimen of urine, acid in reaction, should be obtained. If then the urine still shows a similar deposit, it may be safely assumed to be mucus. This same test may be performed also still more readily by adding equal parts of the caustic potash solution to the urine suspected, and observing the appearance of a gelatinous precipitate.

An interesting feature of some purulent urines is the occurrence of elongated plugs resembling, in general appearance, the gelatinous mass described, which sometimes are gathered in larger or smaller clumps appearing in the bottom of a tube of urine.* These plugs of gelatinized pus are the result of ammoniacal fermentation going on in the urinary passages themselves, especially in urethritis, prostatitis, and cystitis, and they are usually mixed with epithelial cells, derived from the particular portion of the tract affected.

In addition to the above rough clinical tests, which the practitioner himself can perform, *a hasty examination made by a laboratory assistant* gives us data much more complete, as it immediately tells us of the specific gravity, the presence of albumin, pus, epithelia, blood, casts, and crystals.

The specific gravity having been taken and the albumin and sugar tested for, the specimen can be centrifuged and put under the microscope, telling us almost immediately of the presence of pus. The same slide will also tell us something about the epithelia, blood, and casts that may be present. If not, there will be sufficient time for the examination of several other slides before our physical examination is over.

Pus having been noted, we know that we have to deal with *pyuria*.

Epithelia, if found in large numbers, tend to show whence the pus comes, as they are thrown off from an inflammatory area, and represent, like pus, an inflammatory product. Bladder epithelia being present in large numbers, we know that we have a cystitis. Pelvic epithelia show that a pyelitis is present, Renal epithelia indicate the presence of nephritis. Very often all these three varieties are present, showing an infection of the upper and middle urinary tract, bladder, and kidney.

Blood shows that the area is actively inflamed, that the blood vessels are enlarged by a great deal of congestion, or that erosions or ulcerations are present. It points to the possibility of tumor, stone, tuberculosis, traumatism, or inflammation due to infection. Its source, like that of pus, is indicated by the epithelia.

Casts can also be noted at a hasty examination, showing that the kidney proper is involved, and pus casts show that a suppurative process is going on. Connective tissue shreds point to a destruction of renal substance, and large numbers of crystals point to a calculus of the corresponding variety.

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*Large thin test tubes, holding about four to six ounces and provided with a foot, are very well suited for these rough clinical and naked-eye examinations

2. *Detailed Urinary Examinations.*—We now have gained considerable information regarding our case, and can make a probable diagnosis, but to confirm it we must go still further and make a detailed examination of a twenty-four-hours urine, submiting it, if necessary, to the freezing-point test (cryoscopy). Besides the detailed urinary examination, cystoscopy, ureteral catheterization, the phloridzin test, radiography, and, perhaps, an exploratory incision should be resorted to, before we know that our diagnosis is correct as regards the lesion present and the side affected.

The examination of the specimen of a twenty-four-hours' urine should be made with great care, and if the practitioner or the laboratory assistant is not an expert, it should be given to a competent pathologist or urinologist. I use the word "competent," because in these cases the urinary examination is of the utmost importance, from a diagnostic viewpoint, as well as a guide to the decision regarding treatment. The routine examinations, as usually performed by internes or physicians who are untrained in this line of work, are *worse than useless*, as they are only misleading to the surgeon. Recently, on a number of occasions in my hospital practice, I was led to think, from the clinical history and symptoms, that the patient's condition was far worse than the urinary examination showed. I have had the specimens sent to my private laboratory for examination, and have been surprised to see that the products of pathological changes had not been noticed by the internes, and, later on, the operation showed that my laboratory findings were corroborated. I must, however, say that I believe that in all these cases my house staff examined the urine in a conscientious way, but that they lacked the trained eye and the technique so important in this line of work.

Localizing the Process—Epithelia.—We have already said that there is no way of telling whence pus cells which we find in the urine come, from a mere study of these alone, and that the clue to the localization of a suppurative process occurring in the genitourinary tract is chiefly the study of the epithelial cells that accompany them in the urinary sediment, and, secondarily, the study of casts and blood-corpuscles.

It has been asserted by numerous and excellent authorities that it is impossible to distinguish epithelial cells derived from various parts of the genitourinary tract from one another. On the other hand, studies made within recent years by urinologists have shown that each portion of the tract is endowed with epithelium, which in the urine shows characteristics that are sufficiently well marked to enable one who is thoroughly trained in the microscopic examination to distinguish the part of the tract from which they are thrown off. It is true that, even under favorable circumstances, there will always be some cells whose exact origin is somewhat doubtful, but the majority of epithelia can be located with fair accuracy, and the epithelial cells from the convoluted tubules, from the straight collecting tubules, from the pelvis, the ureter, the bladder, and the urethra, if carefully studied, can be differentiated.

Small numbers of the squamous epithelia from the bladder and from the vagina in women are to be found in normal urines, so that no significance should be attached to them. On the other hand, the presence of epithelia from other parts of the tract is a sign of some pathologic process, and the source of the epithelium is an index to the location of the lesions.

When pus cells are present in considerable numbers, and when there is, at the same time, a considerable number of epithelia from the pelvis (which are quite characteristic), we have to deal, undoubtedly, with a suppurative pyelitis—whether simple or due to stone or tubercle or tumor, we do not as yet know. If there is coincidently a large number of cells from the bladder, we have to deal with a cystitis, which may have existed before the pyelitis, and if there are many cells from the deeper layer of the bladder, and many degenerated, fatty, or granular epithelia, the cystitis is probably a chronic one.

If we find, in addition to a large number of pus cells, a considerable number of epithelial cells from the renal convoluted tubules, or from the straight-collecting tubules, we have, in all probability, a suppurative nephritis, especially if there are, at the same time, granular, epithelial, pus, or blood casts. When, in addition to all these features, there are many cells from the renal pelvis, we have to deal with a pyelonephritis.

If there is an intermittence in the pyuria, and a diminution, at times, in the amount of urine passed, we may conclude that our case of pyuria is one of pyonephrosis with intermittent obstruction of the ureter by stones, clots, etc.

We have stated above that these diagnoses are based on the recognition of a *considerable number* of pus cells and a *large number* of epithelia from one or another region of the tract. When only a *few* pus cells and a *few* epithelia are present, together with a *few blood cells*, we have probably to deal with a non-suppurative acute or subacute nephritis or pyelonephritis, or merely with a congestion or irritation of the kidney or pelvis.

Casts: Their Significance.—In connection with epithelia, casts, when found, speak for an involvement of the kidney, either in the suppurative process itself or in a secondary acute, subacute, or chronic nephritis of the non-suppurative type. The casts indicating an acute process in the kidneys are the hyaline, epithelial, and blood casts, while the granular, both coarse and fine, the fatty and the waxy casts speak for a chronic nephritis. Whenever there are pus-casts, *i. e.* casts of any type which are studded with pus-cells, or cast-like masses of mucus, covered with pus cells, renal suppuration may be diagnosticated with a considerable degree of certainty. The presence of blood casts indicates the occurrence of hemorrhages into the renal canaliculi, and may indicate only the presence of acute or subacute nephritis, but especially in cases accompanied with profuse hæmaturias and pyuria, blood casts stand for the irritation of the renal parenchyma, due to a stone, tumor, or tuberculosis, or some inflammatory condition in the kidney.

It must be remembered, however, that casts are not always present in suppurative nephritis any more than they are in the non-suppurative types. Their absence, therefore, does not exclude the presence of suppurative nephritis, provided pus and renal epithelia are present in sufficient quantities.

The size of the casts varies as to the region of the kidney involved, and this feature has been utilized very ingeniously to tell the extension of the process. Thus casts from the narrow parts of the tubules are the smallest in diameter; next come the casts derived from the convoluted tubules, and, finally, the casts from the straight-collecting tubules. When the latter class of casts with large diameters is found alone, we have a nephritis in the medullary portion only; when the convoluted tubule casts are present the cortex has been reached by the affection. Conglomerates of casts or plugs of considerable size are sometimes found in pyelitis.

Blood-corpuscles.—Next to the presence of pus, epithelia, and casts, the presence of *blood* is of significance in the diagnosis of pyuric cases. In judging urinary reports, the first rule to remember is that the presence of many blood cells, even in the urine that appears fairly normal to the naked eye, indicates the presence of an acute process or an exacerbation of a chronic process somewhere in the tract. Here, again, we stumble upon the question as to the source of the blood. Something may be told of the source of the red cells by studying these cells themselves. According to v. Jacksch, when red-blood cells are intimately mixed with the urine, so that, though present in large amounts, and deeply coloring the urine, they do not form a sediment upon standing for several hours, the hemorrhage probably took place in the renal parenchyma or in the pelvis or ureters. Red cells from the kidney are seen under the microscope as profoundly changed, devoid of most of their coloring matter, as pale yellowish rings (phantom-corpuscles). On the other hand, in congestion or hemorrhage lower down in the tract, the red cell appears, as a rule, fresher and less altered. When the blood comes from the kidneys it is usually darker and thicker than when it flows from subrenal structures. Ureteral clots may be passed, and so give clue to the source of the hemorrhage. But the chief reliance in locating a hemorrhage, or a few red cells in the urine, is to be based upon the coexistence of characteristic epithelial cells in the sediment.

Connective Tissue Element.—Connective tissue shreds found in the urine show the presence of a destructive process in the kidney, if accompanied by the presence of epithelia, pus, and blood. The extent of the destruction may be judged, to a certain extent, from the size of these shreds.

Other Tests in the Urinary Examination.—The physical and chemical examination of the urine are of great importance in these cases, and they should never be omitted, as they throw light upon the coincident nephritis of a parenchymatous or interstitial type and upon the functional value of the kidneys. Such factors as the quantity passed in twenty-four hours, the specific gravity, the amount of urea, and the total solids are important points in this regard. The refinements of diagnosis for testing the functional value of the kidneys, such as the permeability test by means of phloridzin or methylene blue injections, by determining the freezing point (cryoscopy) the amount of chlorides, etc., will now come in, if thought necessary. Such tests are as yet in the experimental stage, and, in doubtful cases, in which alone they are justified, on account of the time and trouble which they take, they are as yet not, to be fully trusted.

Having thus satisfied ourselves by microscopical examination of a urinary sediment that there is a suppurative process in the kidneys, or in the pelvis, or both, we may proceed to find by such examination if possible, the cause of this suppuration. The pus should be examined for tubercle bacilli, and for other microorganisms by the ordinary bacteriological methods, so as to determine, if possible, whether tuberculosis is present. It must be remembered that tubercle bacilli may be absent in the urine while the kidney is the seat of tuberculosis, so that the absence of these germs from the urinary sediment by no means proves the absence of tuberculous lesions of the kidneys, but in most cases, when the pyuria is of renal origin, these bacilli are present when the stage of destruction has been reached. Numerous other germs are found in urines of tuberculous kidneys affected with suppurative complications.

If stone be the cause of the pyuria, we may get a crystalline clue to the nature of the malady by the unusual abundance of one or the other organized sediment, but usually this test is not trustworthy unless the crystals be very abundant, indeed.

Portions of tumors, sarcomas, or carcinomas have been found in the urine in cases of renal tumor, and have led to a correct diagnosis. Unfortunately, for obvious pathological reasons, such occurrences are rare, and the urine of tumor kidneys does not show, as a rule, any specially characteristic features.

Having obtained the *full urinary report*, and having considered it in detail, we have, aided by the findings of the physical examination and the history, by this time determined that a suppurative condition exists in the kidney, or pelvis, or both, and that it is probably due to a stone, tumor, tuberculosisis, or to infection without these factors. It now remains to determine which kidney is affected, if only one, and to find out what the condition of the opposite kidney is. The means available for this purpose are cystoscopy, ureteral catheterization, segregation, and exploratory incision.

Cystoscopic Examinaton.—Cystoscopy is certainly one of the most important diagnostic methods in the group of renal disease accompanied by pyuria, for it enables us to tell the state of the bladder, and to exclude positively the presence of vesical disease, such as stone, tumor, or tuberculosis accompanied by cystitis, or to see that they exist in addition to renal trouble. No thorough urological examination is complete nowadays, whether in men or women, without cystoscopy. An examination of the streams trickling from the ureters also tells us whether one or both kidneys are secreting urine, and whether there is any difference in the appearance of this stream, as regards cloudiness, viscosity, etc., or the manner of trickling on one side or the other. Blood, pus, small clots, pieces of mucus, etc., may be seen issuing on one side, the jet may be retarded, or there may be continuous oozing from the ureters instead of the normal interrupted jets. The orifice of the ureter may be dilated, contracted, œdematous, etc.; but, in order to make a thorough study of the working power of each kidney, ureteral catheterization must be resorted to.

Ureteral Catheterization.—Catheterization of the ureters by means of the catheterizing cystoscopes devised by Brenner, Nitze, or Albarran, has now become, probably, the most important means at our command in locating the side on which the renal disease suspected is situated, and in determining the presence of two kidneys and the relative health of each. Unfortunately, there are but very few men in this country, or in any other, who are able to catheterize ureters with success, as the application of the instruments so far devised is an exceedingly difficult one, and a vast amount of special training is required to overcome the inherent difficulties of this diagnostic method. Ureteral catheterization should be employed whenever one is in doubt as to the relative status of either kidney, and should be, by no means, regarded, as it is by some surgeons, as a last diagnostic resort. While in most cases the simpler means of diagnosis will suffice, it is often desirable, nay necessary, to catheterize the ureters in order to confirm the diagnosis. For, it must be remembered, that while we may feel clinically sure that one kidney is involved and the other is not, we never can feel certain of this until the ureters have been catheterized and the urine gathered from each organ has been examined by an expert urinary analyst, nor can we feel sure that a second kidney exists until such catheterization has been performed.

Segregation of the Urine from Each Kidney.—The segregation of the urines from each kidney is a procedure which is more easily applied than catheterization of the ureters, and is claimed by its originators to be as certain, so far as results are concerned, as the latter method. The writer has used the Harris instrument in a number of cases, and it has failed but once, yet it can not be expected to supplant ureteral catheterization, as it is not so exact a procedure in our kidney work, it can not be expected to give accurate results.

The *Röntgen rays* have now been extensively used in renal surgery as a diagnostic procedure, and, thanks to the excellent work of Leonard Johnson, Beck, and others in this country, a great deal has been done to perfect this method, and to make it available for the diagnosis of renal calculi; for very often we have to rely upon the *x*-rays to tell us whether a case of pyelonephritis, with all the signs of renal and pelvic suppuration in the urine, is due to the presence of a stone in the kidney, or whether we must look for other causes. It can only be considered, to my mind, as an aid in confirming a diagnosis, as in a number of cases I have failed to find stones where shadows were plainly seen, and in other cases I have found them when the radiograph showed nothing.

Exploratory Incision.—The exploratory incision is now rarely resorted to, and is never necessary if the ureters can be catheterized. It should, however, be performed whenever a nephrotomy is contemplated, if both kidneys can not be palpated, or both ureters can not be catheterized. Personally, I have resorted to it but once, and then through the median line in front, opening the peritoneal cavity, in a case in which the ureters could not be seen on account of the existence of a contracted bladder and a hemorrhagic cystitis, and I felt that I was not able to tell positively the condition of both kidneys.

In case I were to resort to an exploratory incision again, I think that I would perform it by the posterior route, as the dangers of peritonitis and hernia are less, and it can be performed without changing the position of the patient. In this case, however, the kidney on the supposed healthy side should be examined first, and not after the supposedly diseased kidney has been found to be diseased and removed.

The history, symptoms, and methods of diagnosis in vogue having been gone over, we will proceed to report a few illustrative cases without entering into the long argument of analyzing cases in general, which would be an endless task.

The cases here quoted were chosen from a number of cases operated on during the last few years as illustrative of conclusions arrived at by simple and by more detailed methods:

III. Reports of Cases. Case I.—*Pyelitis.*—Merchant, aged sixty years, had been a delicate child, and had never during his life at any time considered himself robust. He had always attended closely to his business, had raised a large family, and had led a most abstemious life. About six or seven years ago he had begun to notice a frequency of urination that gradually increased and of late grew especially marked at night. For the last few months he had suffered from frequent and painful micturition, which had so increased during the last few days that retention had set in. During these last few days he had also noticed marked swelling of the lower extremities, abdomen, and hands, and a physician who had been called in, had given it as his opinion that he would not live longer than a day or two, and that he was dying of nephritis.

Examination.—Œdema of the extremities, from the feet to the middle of the thighs. Abdomen distended, puffiness under the eyes. Palpation in lumbar region negative, in the suprapubic region the bladder tumor was outlined extending above the umbilicus. A rectal examination showed a prostate twice the normal size, and a large tumor in the pelvis (distended bladder). A catheter was inserted and 22 ounces of urine withdrawn. Five hours later sixteen ounces were withdrawn; then twelve ounces every three hours until his bladder was emptied. The urine examined was dark yellow, specific gravity 1018, no albumin; no casts; urea 1.4 per cent.; few epithelia from the bladder, ureter, and pelvis of the kidney; few pus cells and blood cells. The patient evidently had had a dilated bladder and ureters, and a temporary double hydronephrosis with but a slight degree of infection. He was catheterized every four hours, but the same symptoms continued, the patient evidently having a chronic cystitis and pyelitis. He was then broken into catheter life and enjoyed good health for six months in the country. Until then the case had been one of pyelitis without penal involvement.

On his return, when the cold weather started in, he began to develop pain in his back and tenderness on palpation over the kidneys. Hyaline and granular casts appeared in the urine, together with epithelia from the straight and convoluted tubules. The specific gravity diminished, the amount of pus increased and the amount of urea diminished. He began to develop uræmic symptoms, and finally died of pyelonephritis. The first part of his kidney trouble was a pyelitis. Patients, however, rarely die of pyelitis alone. They either recover, develop complications and die, or else the pyelitis remains chronic for some years.

Case II.—*Unilateral Ascending Pyelonephritis.*—Mrs. A., housewife, aged forty-five years, presented herself, complaining of pain in the right loin for a number of weeks, at times more severe than at others, always dull in character and occasionally lancinating. During this time she had had fever, chilly sensations and sweating. No appetite, indigestion, bowels irregular; loss of flesh.

Examination showed a kidney on the right side large enough to be outlined and tender to the touch. Her uterus and ovaries were found to be normal. The urine examination was as follows: Amount, thirty-nine ounces in twenty-four hours; acid; specific gravity 1026, slight amount of albumin, urea 1.6 per cent., considerable pus, blood, epithelia from the bladder, ureter, renal pelvis, and tubules of the kidney. Hyaline, granular, blood, pus and mixed casts and very few crystals. No tubercle bacilli found in the urine. Cystoscopic examination was unsatisfactory, showing hæmorrhagic cystitis, and catheterization of the ureters could not be performed, as the bladder was very much contracted, holding but two ounces, and bleeding profusely on manipulation. Patient was thin and emaciated. Temperature 101.2° F., pulse 96.

This history pointed to a suppurative process, and the urine showed pus and renal elements. This, together with the tenderness over the right kidney, pointed to disease in that organ. There was a possibility of a calculous nephritis, but it seemed more probably a pyelonephritis due to an ascending infection, especially as the bladder was so deeply involved and contracted. An operation was indicated, but not being able to catheterize the ureters, and, therefore, not knowing the condition of the other kidney, or even its existence, I made an abdominal incision and palpated both kidneys. The left seemed normal, the right enlarged and irregular and nodular. A lumbar incision on the right side showed a kidney with numerous small abscesses, which could be plainly seen in the cortex. The kidney was removed. The patient has made a good recovery, and has been doing well since. The kidney was shown at a society composed of prominent surgeons, and it was a disputed question whether the gross lesions were those of tuberculosis or of an ascending pyelonephritis, but the pathological examination, confirming the the urinary report, showed that the latter was the case. This was a plain case, in which the exact condition that was suspected was found. There were sufficient kidney elements to show the presence of kidney disease. Yet, on account of the cystitis, the ureters could not be catheterized, and the exploratory incision became necessary.

Case III.—*Tumor of the Kidney*.—H——d, traveling salesman, aged fifty years; traumatism of left testis eighteen years ago, causing acute inflammation. Occasionally has had gastric distress, nausea, and vomiting. One year ago had profuse hemorrhage from urethra accompanying urination, and continuing for two or three weeks. Sometimes will go for a month without hæmaturia, and then will notice it for a while every week. When quiet the hæmaturia occurs less frequently. Urinates five or six times a day, and once or twice at night. Pain on the left side of the abdomen. Urine seems light and clear. He complains principally of blood in the urine and pain in the left loin. He is a large, heavy-framed man, looking somewhat haggard, his clothes hanging loosely upon him. He has lost considerable weight.

Examination showed a tumor in the left loin, in the region of the kidney. Very large varicocele on the left side. Prostate slightly enlarged on the left side. Urethra normal. There was half an ounce of residual urine present.

My diagnosis at the time of the first visit, based upon this history, physical examination, and cachexia, was that of a malignant tumor of the left kidney, and it remained only to verify this.

The urinary report was as follows: Specific gravity 1025, acid, reddish-yellow, considerable albumin, urea 2.6 per cent., moderate number of small and large hyaline, fine and coarsely granular pus, blood, epithelial, and mixed casts, and calcium oxalate casts. Numerous blood-corpuscles, often in masses; numerous pus-corpuscles, chiefly isolated. Numerous disintegrated and granular renal epithelia and numerous calcium oxalate crystals, often on casts. Besides this, some peculiar cells were noted, which might be taken for tumor elements.

This showed that the blood came from the kidney, and that the patient had a suppurative pyelonephritis, which might be due to tumor or to stone. In other words, my diagnosis of tumor, which was quite positive on my first examination, was somewhat shaken by the appearance of so many calcium oxalate crystals, alone and on casts, coming from the kidney. There was no necessity in this case of catheterizing the ureters, as the tumor spoke for itself, and there was a large amount of urea in the urine, showing that the other kidney was probably functionating properly. A lumbar incision was made on the left side and a large adenocarcinoma found, and the left kidney removed. The patient made an uneventful recovery, regained his former weight and, most astonishing of all, his varicocele on that side entirely disappeared.

Case IV.—*Tuberculous Pyelonephritis*.—Mrs. F., aged twenty-five years, a hard-working, thin, and unhealthy-looking housewife, who, for nearly a year, had been complaining of frequency of, urination, and of pain in the right side. At first she passed frequently, night and day, large quantities of pale urine, of a low specific gravity. The color, however, gradually grew darker until lately her urine had been thick and quite highly colored, and the frequency of urination had increased. Occasionally she has great pains in her right side, followed by a discharge of viscid urine and a cessation of the pain. At times she has had fever and sweats, which she believed to be malaria, and she has lost weight. There was a family history of tuberculosis, and she had scars of tuberculous glands in the neck.

On examination patient looked cachectic; temperature, 99.8°; pulse, 96; heart and lungs normal. She showed an enlargement of the right kidney, and a tenderness of that organ to the touch. Vaginal examination showed the internal genitals to be normal. Cystoscopy showed a chronic cystitis and urine coming from both kidneys, but more from the left side. Urinary examination showed a specific gravity of 1022, urea 1.8 per cent., moderate amount of albumin, few blood cells, and a considerable amount of pus; hyaline, granular, and mixed casts; epithelia, both from the bladder and kidney, and a large amount of detritus. It was evidently a case of pyelonephritis, and as the urinary examination showed tubercle bacilli, no further examination was made.

The kidney was removed and was found to be greatly changed. It contained a number of so-called tuberculous cysts, filled with pus and detritus. At the time of operation, nephrectomy seemed to be a perfectly proper procedure At the present time, however, I would not remove a kidney diagnosticated as tuberculous unless the ureters had been previously catheterized to show the exact condition of the other kidney. During the last year I had a very similar case in a boy of sixteen who had been running a temperature since entering the hospital. The kidney was enlarged and tender; the urine showed tubercle bacilli and pyelonephritis, the lumbar incision showed a large kidney with numerous tuberculous areas. The kidney was removed. The patient died in eight days of anuria. Autopsy showed that his only kidney had been removed. The kidney was a typical tuberculous one, quite diffusely involved, and breaking down in many places.

Case V.—*Calculous Pyelonephritis*.—Mr. D., a merchant, forty-five years of age, had had several attacks of urethritis between the ages of fifteen and thirty. Twelve years ago he had an attack of renal colic on the right side, lasting for three days. For the past seven years he has had pain and repeated attacks of colic on the left side; occasionally he had fever for a few days at a time; he suffers from indigestion and constipation. Family history negative; has had gout and rheumatism. His principal symptoms were constant pain on the left side and renal colics. Urinates seven or eight times a day, and once at night.

Examination showed the patient to be thin and sallow. Temperature 99.4, pulse 84. His kidneys could not be outlined. There was slight tenderness over the area of the left kidney. The epididymes were indurated; the prostate was of normal size but hard; the urethra showed a stricture 21° F. at four inches.

His urine showed a specific gravity of 1017, strongly alkaline, ammoniacal, trace of albumin, urea 1.8 per cent., occasional blood cells, innumeralso pus cells, mixed with mucus, phosphates, and crystals of various kinds. Bladder and renal epithelia, and occasional granular and hyaline casts; many gonococci. (In ammoniacal urine, only urine freshly drawn shows casts, and if allowed to stand for awhile they were destroyed). This examination showed that the patient had a stricture, a cystitis, a pyelitis, and a nephritis, with the gonococci still present in the urine, having evidently existed there since his last attack of gonorrhœa, fourteen years ago.

It seemed as if his renal affection was an ascending pyelonephritis of the left kidney, following an obstructive cystitis from stricture. This was borne out by palpation of the organ on that side, as it was tender to the touch. The renal colics on the left side, and the amount of phosphatic crystals in the urine, together with the phosphatic cast of the calyces of the kidney, which he at one time passed, led me to think that there might be a stone in the left kidney as well (calculous pyelonephritis). The indurated epididymis and prostate pointed to tuberculosis, but there were no tubercle bacilli in the urine. I determined upon ureteral catheterization, to ascertain the condition of the right, or supposedly healthy, kidney. The urine from left kidney showed chiefly a large number of isolated red blood-corpuscles and numerous epithelia from the renal tubules—a mild pelvic irritation; no casts were found. The urine from the right side showed occasional granular, epithelial, and mixed casts (leucocytes, blood cells, and granular material), innumerable red blood-corpuscles, pus, occasionally in small masses, and granular renal epithelia. This kidney excreted only about one-sixth as much as the other in the same time, and the urine on this side was very much worse. These facts gave another aspect to the case, and it looked as if the right kidney were at fault, with a pyelitis due to calculus, to ascending infection or both, and that the left kidney showed simply the reno-renal reflex, with a slight interstitial nephritis, and, perhaps, a calculus in the pelvis. Many of the red blood-corpuscles present were due to the irritation of the catheter. I, accordingly, determined to have the patient *x*-rayed as the next step prior to operative treatment. The result of the examination was that a stone was found in the right kidney, and was delivered by nephrotomy. This illustrates the importance of the *x*-ray as a deciding factor in influencing operation in these cases, but it does not, by any means, follow from that that it is infallible. Only recently, in a case that showed, on radiography, a stone in the left ureter and another in the right kidney, confirmed by a second exposure, the operation showed that no stone was present in the ureter, and yet the left kidney, which I removed, was almost entirely destroyed by ascending infection from an old urethritis.

CASE VI.—*Calculous Pyonephrosis.*—Mrs. F., aged forty-five years, entered the hospital, saying that she had been suffering for years from malaria and indigestion. Her symptoms had been pain in her right side, usually dull, but sometimes acute and severe and attacks of chills, fever, and sweating, lasting for a day or more and then disappearing to return again after an indefinite period. This had caused her to lose considerable flesh and strength. Recently she had, at times, noticed a swelling on the right side, which was painful to the touch, but which would suddenly disappear, giving her considerable relief. She stated that her appetite was poor, digestion bad, bowels constipated, and that recently her urine, which had for a long time been thick at times, was now oftener of a [illegible] consistence.

The woman was very thin and cachectic. On entering her temperature was 101.4, pulse 96. There was a tumor on the right side, extending from below the ribs to the iliac crest and pelvis, occupying almost the entire right loin. The urine was thick, yellowish-white, neutral in reaction, specific gravity 1020, small amount of albumin; urea 200 grams in twenty-four hours; pus, hyaline, and granular casts, bladder and pelvic epithelia, a large quantity of pus, a few blood cells and some uric-acid crystals.

On the following day her temperature had fallen to 99° F, and the pulse to 82. The tumor was very much smaller, and the urine contained a comparatively small amount of pus. After watching the patient for a few days it was evident that she had pyonephrosis, probably due to calculus, as there was always some enlargement of the kidney, even when it was evidently emptied of pus, while when it was full of pus it was large enough to show that the parenchyma must have been very extensively destroyed. There were no facilities for ureteral catheterization or radiography.

An operation was performed through a curved incision in the loin, and a very large tumor was removed. This, when opened, was found to contain nearly a pint of pus and five large renal calculi. The kidney was merely a bag of pus. The patient died in four days, and the autopsy showed acute cloudy swelling in the other kidney.

CASE VII.—*Pyonephrosis; Renal Retention; Movable Kidney.*—Mrs. M., aged forty-four years. Mother and sisters died of Bright's disease, father of cholelithiasis; gout and rheumatism in members of the family. Well up to twenty years ago, when she complained of frequency of urination. The urine examined by the practitioners attending her at that time, contained pus, showing the presence of cystitis. Two years ago she had an Alexander operation performed for uterine displacement. Shortly afterward she had an attack of pain in the right side, then no attacks for a year, when she had an attack of pain lasting for four hours. Six months later another attack; one month later another. Then she had no other attacks until two weeks before, when she had a severe one, accompanied by hæmaturia. The principal symptom during these attacks was severe pain of a colicky character in the right side, running down to the thigh, besides which there was a continuous pain in the left side. At present, in addition to the above symptoms, she suffers from occasional headaches and indigestion. She urinates ten times a day, but none at night.

The doctor who referred her to me gave me this history, stated that her urine contained blood cells, bladder, and renal epithelia. He also said that her kidney could at times be outlined and at times not. Her condition had been diagnosticated as acute gastritis, gastralgia, cholecystitis, and stricture of the ureter.

Examination showed her right kidney to be movable behind a cushion of intestine. A thickening could be felt on either side of the uterus. The uterus itself had a rounded feel as if it contained a small fibroid, and the cervix had been amputated. It seemed at this examination as if she had pyonephrosis from renal retention, stone, or tuberculosis.

For some time after this the patient was below par, suffering from slight nausea, headache, and indefinite pain, showing symptoms of mild uræmic intoxication. She was passing but twenty-four ounces of urine in twenty-four hours. There was a large amount of pus in the urine. On the ninth day after she was first seen she had an attack of renal colic, the pain being so severe that she fainted twice.

Urinary examination showed the specific gravity to be 1012, the reaction to be acid; contained some albumin; the amount of urea was 150 grains in twenty-four hours; the amount of urine eliminated was thirty-two ounces. Uric-acid crystals, red-blood cells (moderate), pus-corpuscles, renal epithelia from the pelvis and tubules of the kidney and upper layer of the bladder.

After this urinary examination my diagnosis was pyonephrosis and nephritis, probably of the right kidney, due to renal retention and, perhaps, stone. The ureters were accordingly catheterized; one-twelfth as much urine came from the right kidney as from the left. The specimen from the left kidney showed specific gravity 1012, acid reaction, albumin, moderate amount; the amount of urea was 0.7 per cent. Moderate number of uric acid crystals, few pus-corpuscles, epithelia from the pelvis of the kidney, the ureter, and the tubules of the kidney, *i. e.* a mild pyelonephritis. The specimen from her right kidney showed epithelia from the ureter, pelvis, and tubules of the kidney, blood globules, few pus-corpuscles, uric-acid crystals, and connective tissue shreds. The small amount of urine coming from the right kidney showed that it was not doing its share of work, and I concluded that it must be very much impaired, through a chronic nephritis or a hydro- and pyonephrosis or a calculus. Interstitial nephritis evidently existed in both kidneys. No *x*-ray examination was made. The patient was operated upon by lumbar incision, the kidney was found to have a long pedicle, and to be exceedingly small in its lower pole, and very large in its upper pole. It was very adherent to a loop of intestine, the two evidently making excursions together in the abdomen. Palpation of the kidney revealed no stone, neither did it have the appearance of a calculous kidney. The fatty capsule was dissected away, over the convexity of the organ, the capsula propria stripped off over the posterior half of the kidney, and the organ anchored to the abdominal wall. The patient made an uneventful recovery. It remains to be seen what improvement will be derived from this operation, and how much the functional power of the kidneys will be increased.

This was, therefore, a case of movable kidney with transient hydro- and pyonephrosis and chronic nephritis. The right kidney had given rise to clinical symptoms on that side; the organ had been felt then at times, showing a difference in size. The presence of both kidneys had been established by ureteral catheterization, and the right had been shown to have about half the secreting power of the other. The operation showed our diagnosis to have been correct.

In these last cases of pyonephrosis, the kidney was enlarged at times, and the patients had considerable temperature and increased rate of pulse. Such a condition is not necessary, however, and in some cases of typical pyonephrosis, in which only small portions of the kidney tissue remained healthy, and the organ was full of pus, it was at no time possible to outline the kidney during months of observation, and the patient never had an elevation of temperature of more than one degree.

Summary.—I have endeavored to show in this article the train of thought followed by the surgeon in diagnosticating a case in which a renal lesion is manifested by pyuria. For this purpose I have outlined, step by step, the methods of examination employed in modern renal surgery, and have indicated the weight to be attached to each factor as it is brought to light in this examination in determining the seat and the nature of the lesion present. In order to illustrate the practical application of the methods of diagnosis thus outlined, I have added a number of case histories.

In conclusion, I may say, that my experience with clinical problems represented by cases of renal diseases accompanied by pyuria leads me to formulate the following principles as guides to the diagnosis in such cases:

1. Given a case of pyuria, the seat and the nature of the lesion should be determined by all the methods at our command before an exploratory incision or an operative procedure is attempted.

These methods include, in addition to the general and physical examination: (1) Examination of the urine, including cryoscopy and the phloridzin test; (2) Cystoscopy; (3) Ureteral catheterization; (4) Segregation of the urine from each kidney by appliances introduced into the bladder and not into the ureters; (5) Radioscopy.

2. The examination of the patient's urine in such cases should be considered as of the utmost importance and should be intrusted only to men thoroughly trained in this line of work, particularly in the microscopy of urinary sediments.

3. It is possible, by a careful study of the pus, blood, casts, and particularly by a study of the epithelial elements of the urinary sediment to determine the nature of the lesions and the seat thereof in the urinary tract.

4. A renal lesion of suppurative character being found, it becomes necessary to locate it in one or the other kidney, or to determine whether the opposite kidney is present and healthy. This may be done with the aid of cystoscopy, ureteral catheterization, combined with the phloridzin test, and followed by the examination of the urines from each kidney; with the aid of the Röntgen rays, and, if need be, in case of doubt, of exploratery incision.

5. An omission of one or more links in the chain of methods of examination here enumerated may give rise to grave errors in diagnosis, and nephrectomy is never justified when we are not in the position to say that the opposite kidney is present and in good condition on the basis of the tests herein mentioned.

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The Importance of the Early Treatment of Catarrhal Conditions of the Upper Air Tract in Children.—Carolus M. Cobb says that nasal obstruction, from whatever cause, leads to disturbances of sleep, to anæmia from lack of sufficient oxygenation of the blood, to malformation of the chest wall, and to various reflex nervous disorders. Mouth breathing, and often the extension of the inflammatory process, cause attacks of bronchitis. Disorders of digestion occur from the swallowing of secretions of mucopus. An inflammatory condition of the nose and throat is a fruitful source of infection of the cervical glands, and many cases of cervical adenitis, now classed as scrofula, are directly traceable to this inflammatory condition. Finally, many cases of general systemic infection are now known to have their origin in either acute or unrecognized septic conditions of the throat. As an illustration, it is only necessary to allude to the reported cases of endocarditis and acute articular rheumatism caused by the products of a tonsillar abscess gaining access to the general circulation.—*Annals of Gynecology and Pediatry.*

THE TREATMENT OF ACUTE DYSENTERY.

By J. DICKSON HUNTER, M.D., Edin.,
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In the Medical Record for May 3 and 10 the subject of dysentery is discussed editorially. With the editor's permission, I should like to make some observations upon the same subject, particularly as to treatment, which may interest some of the readers of the journal who are practising in localities where this disease prevails.

As giving some little weight to the following statements, I may mention that, excluding the time passed in visits to Europe and the United States, I have been a practitioner in Peru for nearly forty years, and that in Lima and Arequipa dysentery is endemic.

Mortality statistics in Peru are not very exact or reliable, but a rough estimate may be made from the following: In this town there is a small hospital, containing 250 beds. The average annual mortality in this hospital is 150. Many of these cases, without doubt, are taken to the hospital when it has become evident to the relatives that the patient is moribund, the reason for this being that, when the patient dies in the hospital, the burial expenses, which are heavy, are avoided. Moreover, many of these cases have been neglected at the beginning of the illness. This leads to my first recommendation; namely, never look upon a case presenting the slightest sign of dysentery as a trivial complaint. True, there are cases which, with a dose of castor oil, or sulphate of magnesium, or of sodium, an enema of linseed infusion with starch and tincture of opium, and being quiet in bed, will get well; but that cannot be counted on. Therefore, I think it more prudent to overtreat a case from the first, and so prevent the disease getting a hold which may be extremely difficult to shake off.

When called to a case I generally at once prescribe ipecacuanha. This drug has proved so curative in the majority of cases that one dislikes trying anything else until that has failed, or there is some decided contraindication. I prescribe 45 grs., preceded by 15 or 20 drops of tincture of opium half an hour before, and a sinapism to the pit of the stomach. This dose is administered preferably in the morning fasting. It is repeated the following morning, or in twenty-four hours. As a rule, in spite of the laudanum and sinapism and the abstention from food or liquid before and for three hours after, considerable vomiting and nausea are produced. There are some patients, however, on whom it does not produce these effects, and nevertheless they are cured. There are others, who are passing dark, very fetid stools, who take it as if it were so much water, no effect being produced. In these cases the prognosis is of the worst, the system seeming incapable of any response to medication.

Instead of giving opium before the ipecac, I have found that a hypodermic of morphine, gr. $\frac{1}{6}$, a quarter of an hour before, acts well in preventing the nausea and vomiting, though it seems as if it caused a contraction of the pylorus, for, even after three or four hours' abstention from food or drink, if the patient takes something, he is almost sure to vomit the ipecac.

The vomited matter is frequently very acid, and for that reason it is useful and agreeable to the patient to make him wash out the mouth with a solution of bicarbonate of sodium after each spell of vomiting. I have sometimes associated the ipecac with the soda, but it does not appear to make any difference in its nauseating or curative effects.

Peruvian practitioners generally prescribe infusion of the contused root of "raiz disenterica" (their name for ipecac), which is especially useful in prescribing, as then the patient does not know what he is going to take, which is often desirable. One of their plans of administering it is to put ʒ i of the contused root in 2 oz. of boiling water at night. In the morning the patient takes the clear, supernatant liquid. The sediment is again treated at night with 2 oz. of boiling water, and in the morning the patient again takes the clear part. This is repeated a third night and morning. Another plan is to put the drachm of contused root in three or four tablespoons of boiling water for fifteen to twenty minutes. Administer the clear fluid at, say, 6 or 7 A.M. At midday the same root is again put in infusion, but this time for an hour, and then the clear fluid is given. The same root is again immediately treated with boiling water, but this time the root is well pounded with a teaspoon and left to infuse for five or six hours, when the clear part is again administered. I have tried both plans and have been satisfied with the results. The clear, supernatant fluid is less provocative of disgust to eye and palate than the powder. Many years ago I tried emetine, and some years ago ipecac sina emetina, but neither of them gave encouragement to continue their use.

Peruvian practitioners give enemata of the strained infusion of 1 or 2 drachms of the contused root. This does not provoke nausea, but I cannot say that I have seen it alone cure a severe case. It may assist, just as copious injections of warm water, say with a little carbolic acid, or boric acid, or even pure warm milk, do good, especially if, immediately on their expulsion, they are followed by a 2 or 3 oz. injection of starch and tincture of opium. Five or 6 oz. of a 1:2,000 solution of permanganate of potassium, preceded by a sodii bicarbonate injection, or an injection of liquor hydrargyri perchlor. (P. B.) ♏xv to an ounce of water are also useful. The starch and opium often takes away, at least for a time, the disagreeable feeling about the rectum and anus. Other things which often soothe the patient are a hot sitz-bath, the water reaching to the lower ribs; bathing the anus with hot water or applying a flaxseed poultice after a stool; also covering the abdomen with hot toasted bran or salt in a flannel bag.

After the ipecac, what is to be done? As a rule, very little. Keep the patient at rest and warm in bed, and attend to his diet. Sometimes there is diarrhœa, which is not unfavorable; should it, however, appear to be more than is good for the patient give either nitrohydrochloric acid with tincture of nux vomica and infusion of calumba, or even chalk mixture, with bismuth, salol, and a little glycerin. In other cases the bowels remain confined, and require a copious enema of mallow, or other emollient, with olive oil.

But suppose the ipecac does not cure the patient, or even makes him worse, as happens in a few cases; or that he so immediately vomits it that little or no curative effect is produced; or that, having passed through other attacks of the disease—dysentery being one of those diseases in which one attack seems to predispose to future attacks—he refuses to take the ipecac, dreading the extreme nausea which it has caused him on previous occasions, what is to be done? In Peru many medical men give an emulsion of castor and almond oils (emulsion de Frank) in small, frequently-repeated doses. There is a remedy used by irregular practitioners which sometimes does good. The interior (omentum) of a fowl is warmed until all the fat is dissolved out; this fat is administered in doses of two to ten or more tablespoonfuls in mallow tisane, or even in chicken soup, and may be repeated in the day. In some of these cases I have tried the sublimed sulphur, grs. xx and dover's powder grs. v every four hours; also the sulphates of magnesium or sodium. The use of these sulphates is comparatively modern, but it is a curious fact that more than thirty-five years ago I knew an old Peruvian physician who had some reputation as a curer of dysentery, and his favorite remedy, especially in cases of chronic dysentery, was a mixture of sulphate of magnesium and manna.

In some of the cases latterly alluded to I have even used resin of podophyllum gr. $\frac{1}{8}$, powdered ipecac gr. $\frac{1}{4}$, repeated every hour or two until bilious stools were produced; these are always of favorable augury. This reminds me that in some cases where the ipecac has failed palliatives may be used for a few days, then a $\frac{5}{15}$ gr. dose of calomel is given at night, and the ipecac given next morning It may then produce its curative effect.

Many of the rebellious cases seem to be more of a colonitis (so-called colitis) than the more common inflammation of the lower part of the bowel. One deduces this from the absence, more or less complete, of the characteristic straining; moreover, on palpating the abdomen the chief pain may be found about the cæcum, or other part of the colon. In some of these I have repeated the ipecac even as many as eight times, and at last the patient may pass a piece or pieces of dirty, gray, very bad-smelling membrane. Immediately after that the stools have lost their dysenteric character, the patients, though extremely prostrated, entering on convalescence. Turpentine is recommended to be tried in chronic cases, but I have found it very useful—in fact, sometimes surprisingly so—in acute cases. In some chronic cases which have lasted months, and when one diagnoses ulceration, the effect of turpentine is so quickly beneficient that one revises the diagnosis. When other remedies fail in acute dysentery try: ℞. Ol. terebinth, ʒ ii; tr. opii., ʒ i; syr. gum acaciæ, ℥ jss; mucilaginous acaciæ, ℥ viiiss. Tablespoonful every two or three hours. After twenty-four or more hours, improvement being noted, reduce frequency. Many people when ill dislike sweets, in that case substitute for the syrup an equal quantity of mucilage. One of my colleagues has such faith in the turpentine that he begins the treatment of an acute case with it. I have found it especially useful in those cases which seem to be aggravated by ipecac.

There is another remedy which I have found useful in similar circumstances, especially when the movements continue greenish and slimy; it is lactic acid. It has been much used in the diarrhœa of children, but I have not seen it referred to as a cure for acute or subacute dysentery. In both of these conditions it may be found very serviceable in doses of 15 ♏., largely diluted, as it is very acid; a little syrup of gum improves it to most palates. At first it may be given every two hours, then gradually reduced to three times a day. Iodoform, in doses of one-third, one-half, or even one grain, with a sixth or more of opium, several times a day, I have seen act well in some cases with severe abdominal pain, other remedies having failed.

The above are the principal remedies I have found of use. Neither the disease dysentery nor the patients are all alike—far from it. For example, some patients present themselves at the practitioners' consulting room who are passing ten or more dysenteric stools a day; they may even be attending to business, and do not look seriously ill. Others, with half that number of stools, are prostrated in bed, and one sees they look bad. Some present always a clean tongue; others, in spite of emetics, purgatives, and strict diet, never have clean tongues. Some complain much of thirst, and beg for ice; others have no thirst. Pain, tenesmus, fever, all may be absent or severe. I have seen a few patients who not only had difficulty in making water, but who passed twenty-four hours without doing so. In these cases I have introduced a catheter, drawing off a small quantity of highly colored urine. Though using a soft-rubber catheter, it has always caused severe, burning pain. In one case the catheter had to be used for ten days, morning and night. The case recovered without any resulting vesical or urethral complication.

What should dysenteric patients eat and drink? For drink, at first boiled water, adding gum when cold, toast and water, water boiled with a roasted apple or quince; ice also may be given if there is much nausea, swallowing small pieces. As to food, during the first two or three days there will probably be very little appetite, but chicken soup, or weak tea with very little or no sugar or milk; arrowroot, if made with guava; that is, guava boiled in water with a little sugar, and then passed through a grater or wire sieve; the arrowroot is then boiled in this water. Afterward stronger soup, even with rice, being, if thought necessary, strained, and a raw egg, beaten up a little, added to the soup when not very hot. Toasted bread, boiled fish, broiled meat, and so on. I may mention that guava, eaten uncooked, is a popular remedy for dysentery, especially chronic cases, in this country, sometimes doing good, but with other patients doing harm. A pamphlet entitled "Contribution à l'étude du Psidium Pomiferum L. par Joseph Khouri Lille," appeared in 1895, eulogizing the fruit, leaves, bark, and roots in the treatment of dysentery.

Once the patient is better he may be allowed very quickly to return to ordinary diet, as the stomach and small intestine are little affected in most cases. In spite of the fact of a microbic cause, one is inclined to believe that cold often prepares the ground for the attack; so those who have suffered and so are predisposed to suffer, should use warm footgear and a wide abdominal belt of flannel or knitted worsted; besides, they ought to avoid the comparatively cold mornings and evenings, which are common in many, especially high altitude, tropical and subtropical regions.

A TABLE OF THE DIFFERENTIAL DIAGNOSIS OF COMA: WITH REPORT OF A CASE OF FRACTURE OF THE BASE OF THE SKULL, INTRACRANIAL HEMORRHAGE, AND COMPRESSION OF THE BRAIN, DIAGNOSED BY SYMPTOMS ALONE; TREPHINING; RECOVERY.

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T. C., a boy nine years old, was admitted to St. Bartholomew's clinic on August 27, 1902, about 3.40 P.M., suffering with a contusion of the right cheek and a hæmatoma of the forehead. There was no wound anywhere. He had fallen from a back-yard fence and was brought directly to the clinic. At that time there was epistaxis and vomiting of about a pint of blood. He was somewhat stupid, and his condition suggested the necessity for a most careful examination of the supraorbital and frontal regions; but this revealed no signs of fracture.

During the next hour he became more and more

A TABLE OF THE DIFFERENTIAL DIAGNOSIS OF COMA.

	URÆMIA.	APOPLEXY.	OPIUM.	ALCOHOL.	DIABETES.	EPILEPSY.	HYSTERIA.	SUN-STROKE.	ASPHYXIA	SYNCOPE	COMPRESSION OF THE BRAIN	CONCUSSION OF THE BRAIN
Previous history....	Bright's disease.	Of cardiac or arterial disease, or of injury.	Usually wanting.	Of alcoholism.	Of diabetes.	Of epilepsy.	Female, with menstrual disorders.	Exposure to heat.	Exposure to foul air.	Shock or fatigue.	Of injury. Blood or serum from ears or nose. Subconjunctival ecchymosis.	Of injury
Onset	Sudden. Delirium or convulsions.	Sudden. Coma, then convulsions.	Gradual. Coma without convulsions.	Gradual. Coma preceded by excitement.	Slow. Drowsiness and oppression.	Aura. Sudden convulsions. Cry. Coma.	Sudden. Preceded by Globus Hystericus.	Gradual. Coma with hardly any convulsions.	Slow. Coma with hardly any convulsions	Onset and recovery slow as compared with epilepsy; rapid as compared with the others	Gradually increasing stupor, with remissions. Headache	Sudden. Possibly convulsions.
Urine	Scanty. Albumin and casts.		Reaction of opium (blue with sesquichloride of iron).	High color. Odor and reaction of alcohol (Anstie's test).	Large amount, sweet odor, reaction of sugar.	High color.	Large amount. Pale color.		Normal or suppressed			
Seminal emissions ...						Yes.						
Odor of breath	Uriniferous		That of opium.	That of alcohol.	Sweetish				That of gas and excess of CO_2.			
Œdema .	General. Face waxy.								Of lungs			
Surface .. .	Dry and cold.	Hot on paralyzed side. Face flushed.	Cool and moist. Face pale and cyanotic	Hot and congested on both sides. Face flushed.	Dry and hot. Face, pale. Emaciation.	Dry and hot. Face pale and cyanotic.	Dry and hot. Face flushed	Hot.	Dry and hot. Face blue	Cold, pale and moist. Face pale	Hot and flushed	Pale and cold
Internal temp.	Low.	Low, then high	Normal or low			High.	High or normal	Very high. 110°	Low	Normal or low	Low, then high	Low, then high
Pulse	Strong and full	Slow and full	Normal or slow.	Rapid, full, and strong.	Rapid, weak and small.	Rapid, irregular and feeble.	Rapid.	Rapid and often feeble.	Rapid, weak and small	Rapid and weak. Hardly felt at wrist	Slow and full	Rapid, irregular, and feeble
Respiration....	Rapid, stertorous, and hissing	Rapid, stertorous, labored, and snoring.	Very slow, irregular, and shallow	Rapid, regular, deep, puffing, stertorous.	Rapid and shallow.	Normal or rapid	Rapid and sobbing.	Quiet.	Rapid, embarrassed and shallow.	Weak, but not embarrassed	Stertorous	Quiet and shallow.
Pupils . ..		Unequal and do not react	Pin-head. Do not react.	Normal. Are equally dilated when face is slapped.		Do not react. Dilate after spasm. Lid half open	React. Lid closed.	Contracted.			Dilated and unequal. Lid closed	React. May be large, small, or of normal size
Strabismus		Yes. (See other points).									Sometimes	
Reflexes . ..	Abolished.	Exaggerated on paralyzed side	Diminished				Normal or exaggerated.	Normal or diminished.			Irregular	
Can be aroused.	No. Deep coma	No. Deep coma	Yes, at first. Coma gradually deepens.	Yes. Momentarily by pain.	No. Deep coma	No, but coma is of brief duration.	Yes. Moral treatment cures	No, but coma may yield to treatment	No, but coma may yield to treatment after hours.	Yes, by slapping face or cold effusions	Frequent remissions in early stage. Later cannot be aroused.	Yes. Momentarily by pain
Convulsions.	At onset. Clonic.	After onset of coma. Unilateral, clonic.				Tonic. Then clonic in repeated spasms	Clonic, long spasms alternate with repose.	Hardly any.	Hardly any.		Clonic, in early stages	Yes, in severe cortical laceration.
Rigidity..		(Post-hemiplegic some weeks later.)				Yes. General.	Yes. Opisthotonos.					Limbs flexed. Lids tightly closed. "Cerebral irritability."
True paralysis .		Same side as convulsions, but later.					No. "Paralyzed limbs" move under ether.				Paralysis of [illegible] special senses or hemiplegia	
Bladder	Retention.	Retention	Retention.	Retention.	Involuntary passage of large amount of urine.	Retention.	Involuntary passage of large amount of pale urine	Involuntary micturition.	Retention.		Retention	Involuntary micturition
Involuntary defecation ..								Yes.				Yes
Other points ..		Conjugate strabismus toward side of lesion if above pons. Head also turned to same side. These may be reversed during stage of convulsions		Vomits.		Bites tongue. No recollection of attack.	Hyperesthesia, especially ovarian.		Blood blue	Recalls circumstances of attack.	Strabismus, convulsions and paralysis in some cases, [illegible] lesion.	

stupid, the pupils became widely dilated; there were clonic convulsions of the left arm and leg, both eyes were turned very far to the left, and the head was also turned to the left. At this stage he could not be gotten to answer questions, but he was still able to stand if some one steadied him. Shortly afterward he became entirely comatose and developed complete paralysis of the left arm and leg. Pricking with a needle produced no effect on the left limbs; but he still made defensive movements with the right arm, when the head was again examined for evidence of fracture. Some ecchymosis of the right upper eye-lid appeared, but there was no subconjunctival ecchymosis. After this his condition changed rather rapidly; his pulse became very slow, and every fifth beat was lost altogether; respiration became somewhat stertorous, and he presented the appearance of one about to die.

Based upon these symptoms alone, a diagnosis was made of compression of the brain from intracranial hemorrhage caused by a fracture of the base of the skull. At about half-past five o'clock that afternoon a few breaths of chloroform were given, as there were still defensive movements of the right arm, and an incision was made directly through the hæmatoma of the forehead. There was no fracture there, but on carrying the incision down toward the orbit a triangular piece of bone, about an inch and a half on each side, was found cleanly broken out. Trephining at its apex, this triangle of bone was removed, and there was a free flow of bright red blood from between the dura and the skull; and some few clots were swabbed out from under the margin of the opening in the skull. There was no comminution or unevenness about the fragment; its edges were vertical, and both the inner and the outer table were as cleanly divided as if by a saw. The fragment included the supraorbital margin and part of the orbital plate and part of the vertical plate of the frontal bone. It had not been at all depressed, and the fracture gave the impression of having been produced by quite a diffused force. No sooner had the blood and clots escaped from inside the skull than the boy began to move his left arm and leg, right on the operating table; and half an hour later he was conscious and asked to have the rag taken off. The periosteum was sewed over the bony gap, and the wound was closed without drainage, but as there was still a little intracranial oozing the sutures were adjusted so as to allow the blood to escape into the dressings.

The subsequent course of the case was comparatively uneventful. There were no cerebral symptoms, and no special rise of temperature. There was primary union throughout; and the only bad effects were diplopia, lasting for about a day, and marked œdema of both orbits, lasting for two days. The double vision was to be accounted for by unequal pressure in the right orbit immediately following the removal of its upper margin and part of its roof. Six days after the injury the boy went home, and twelve days after the injury he went to the public school; we put a stop to that, however.

This history may prove interesting as that of the first ward patient at St. Bartholomew's clinic.

The case was one illustrating the differential diagnosis of coma, and furnishes a reason for publishing, for the first time, the author's diagnostic chart of the causes of coma.

103 West Seventy-sixth Street

Hæmaturia.—Tincture of guaiacum, in doses of half a drachm to a drachm, in milk, every four hours, is considered, by Levy, a very valuable remedy in hæmaturia.

EDUCATIONAL LIMITATION OF VENEREAL DISEASES.*

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The staunchest advocates of the registration and periodical examination of prostitutes must concede that the dissemination of venereal diseases is thereby but feebly combated. The very exceedingly small effect is evident in many ways, notably in the overcrowding of the offices and public clinics of genitourinary specialists.

The inefficacy of registration and periodical examination is due principally to two facts, namely:

1. A prostitute can become infected and transmit the infection to many men during the intervals between examinations.

2. The clandestine prostitute, the most dangerous and most numerous of bawds, can disseminate venereal disease wholly without restraint under the best system of registration and examination, which she escapes.

These facts alone show official registration and examination entirely inadequate for the accomplishment of the ends for which they were devised. Moreover, as this system of dealing with prostitution gives a false sense of security, it really panders to vice. And, furthermore, its inefficacy prejudices some well-meaning, but partly informed people against anything and everything done to limit the ravages of venereal diseases. The influence of these people is not small, as the history of this matter, especially in Great Britain and the United States, has shown.

Granting, as calm consideration must, the insufficiency of the methods employed, are we right to entirely condemn those that prevail in many European countries? It seems rather that until a better, more effective system is evolved, it were wiser to endeavor to improve upon the one that exists.

It is not intended to even refer to the vast literature that bears upon the subject, nor to submit theoretical or polemical considerations. No other purpose actuates its presentation than to briefly, but crudely, offer a plan which, in our present state of knowledge, may tend toward the desired end.

Before submitting the project even in its crudity, it is necessary to offer some facts regarding the prostitute:

1. Females given to a lewd life, *i. e.* to promiscuous sexual intercourse, are not made prostitutes by anything except the innate tendency thereto. This is denied by many excellent writers, notably Minod, in a brilliant paper published in the transactions of the first congress. He, like others of similar opinion, attributes the existence of prostitutes to man's lust, to social and economic conditions, to lack of proper moral training, and to the law of trade which creates a supply where there is a demand. Careful study of the question, however, shows that man's lust cannot create a prostitute; in fact, no man can make a girl a public or clandestine bawd; social and economic conditions, lack of proper moral training have no important bearing on the matter, for the lowest, vilest slums contain many starving, but rigidly virtuous women, while all ranks of

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*Read before la deuxième Conférence Internationale pour la Prophylaxie de la Syphilis et des Maladies Vénériennes, Bruxelles, September 1-6, 1902.

society contribute their quota of prostitutes. The allegation of a balance of demand and supply becomes absurd when one observes everywhere that the supply of prostitutes vastly exceeds the demand. The fact seems to be that degeneration is the cause of prostitution.

2. History published and otherwise transmitted, contains not a single instance of a prostitute reformed, or who after the alleged reformation, adhered to a virtuous course.

3. All prostitutes, public and clandestine, are menaces to the health and morality of the community.

4. As in diseases of the individual or of the community, the remedy therefor is revealed, partially at least, by the tendencies of the disease. The tendency of prostitutes to congregate in certain districts is an aid to the plan about to be offered. The ill-directed efforts of some misguided persons to disperse prostitutes from their usual haunts has but one result, viz., to infect erstwhile respectable parts of the community with all the corruption, vice, and disease, from which they were free.

5. The prostitute, public or clandestine, is a worse menace to the weal of the community than is a person affected with tuberculosis, smallpox, yellow fever, the bubonic plague, homicidal mania, or a cur suffering from hydrophobia. Provisions are continually made to protect the people from the diseases mentioned, but public sentiment as yet frowns upon radical measures to limit, while it never can abolish, the worst of all economic and pathological conditions—prostitution. Every moment of the prostitutes' life is devoted to the demoralization of individuals and the dissemination of disease.

6. It is the experience of every specialist in genitourinary diseases that the majority of patients were infected because of ignorance of venereal diseases and their possible consequences; or when under the influence of alcoholic intoxication, or in the imaginary safety (but really greater danger) of relations with a clandestine bawd. That ignorance of the character and consequences of venereal diseases is not always the most frequent cause of their acquisition, is proven by the large number of well-educated physicians who are obliged, by their own venereal ailments, to consult genitourinary specialists.

The preceding postulates suffice to indicate the proposition I beg to submit:

1. That a certain district or districts be set apart for prostitutes, into which district or districts no person under twenty-one years of age shall be allowed to enter; and that any person of either sex violating this prohibition be arrested and imprisoned until the age of twenty-one years is attained.

2. That no carriages of any kind be permitted to enter the prostitutes' districts.

3. That no intoxicating liquor of any kind be given away or sold within the limits of these districts or within ten streets in every direction leading thereto.

4. That no person under the influence of liquor be permitted entrance.

5. That no person living in one of these districts have coitus anywhere else than within her district, under pain of protracted (say, five years') imprisonment; which punishment shall be the same for the person with whom such coitus is had.

6. That all approaches to the prostitutes' districts be guarded by officers especially trained for the purpose.

7. That any offense punishable criminally, shall, when committed within these districts, be visited with double the penalty provided therefor by existing laws.

8. That no person be allowed to enter the prostitutes' districts without having received the following or similar circular from the guards in attendance at the approaches:

WARNINGS TO THOSE ENTERING THIS DISTRICT.

The women living in this district lead immoral lives; to come near them will corrupt your morals and destroy your self-respect.

To have sexual relations with any of these women, exposes you to very painful and life-endangering diseases, which may be transmitted to your future wife and children, rendering them mentally and physically defective.

A prostitute presenting a physician's certificate of health, proves thereby only that she *was* in health when examined. She may have contracted a dangerous disease within a few minutes after the examination.

To allow yourself to be kissed by a woman in this district, is just as dangerous as to have sexual intercourse with her.

The fact that a prostitutes' genitals appear clean and present no discharge, does not prove her to be free from gonorrhœa. The absence of this disease can be established only by a very complex, scientific examination.

To eat with a fork or spoon, or to drink from a cup or glass, which may not have been thoroughly cleansed after a prostitute has used it, may transmit syphilis, with its most horrible consequences, to you, your future wife and children.

If, with the knowledge of what little has been told you herein, you will risk your health and life, you must endeavor to protect those near and dear to you, by the following precautions:

Remember that the use of a cundom is no reliable protection against venereal infection.

Before sexual intercourse, drop a tablet of mercuric bichloride 0.5 into a basin of clean water.

Put, at a convenient place, a 30-gram bottle containing a fresh solution of protargol 4 per cent. in glycerin (Frank). Instead of a cork, have the bottle stoppered with a well-fitting pipette and well-working soft-rubber top.

Immediately after sexual intercourse, and before the erection has entirely subsided, urinate, and then rest the penis in the left fingers, the thumb on top of the head of the organ. Press the thumb downward upon the meatus (mouth of penis). Remove the pipette from the bottle of protargol solution and let two or three drops thereof fall within the meatus.

Thereupon thoroughly wash the entire genital organs with soap and water in which you have dissolved the mercuric bichloride tablet.

In fresh, preferably hot water, thoroughly wash your hands with soap, so as to reduce subsequent danger of infection to your eyes. If they become infected, you may become hopelessly blind within forty-eight hours.

The protargol solution and mercuric bichloride tablets can be bought very cheaply at any pharmacy.

The methods advocated are not guaranteed to protect you absolutely from venereal diseases; they can do no more than reduce your chances of infection.

Patented, advertised, or secret preparations offered for the prevention of venereal diseases must not be employed. Their sole purpose is to make you pay high prices for unreliable preparations.

A circular, embracing these ideas, but better worded to meet all grades of intelligence and education, would serve for the post-graduate instruction of the public—the only available means of combating that ignorance which prevails everywhere concerning venereal diseases.

Naturally, the plan submitted can do no more than contribute to limiting the spread of venereal diseases. No matter what is done toward this desirable end, legislation, preventive and punitive measures must fail to reach clandestine prostitutes. They are and always will remain the most active disseminators of infection. Although conceding the fact, it is not accepted as having any force as an argument against the adoption of a system that will control, at least in a measure, the one manageable source of the propagation of venereal diseases.

For the sake of emphasis it may be permissible to recapitulate, synoptically, the ideas submitted:

A. *Preliminary Education.*—The author's views on this subject have been detailed in another effort.*

1. Sufficient of the physiology and pathology of the genitourinary apparatus should be taught, in institutions for higher education, to convey to students the dangers of genitourinary diseases to themselves and to others.

2. Similar instruction should be given in schools attended by boys at the age of puberty.

3. No man who has ever had gonorrhœa should be allowed to marry until it is proved by a physician that he can not infect his wife.

4. Regular physicians should be elected, by their societies, to deliver evening lectures to the public on genitourinary diseases.

5. Every father should be taught to warn his sons of the dangers of genitourinary diseases. When from incompetence or delicacy the father can not or does not wish to do this, the family physician should discharge that duty.

6. Every medical society should elect its most competent member to write at least one article on the subject, worded for laymen's comprehension, and to be published under the auspices of the society.

That the essential parts of these suggestions are feasible, is proven by the public teachings established in several institutions, notably, among them, at Professor Lassar's Clinic in Berlin.

B. *The Segregation of Prostitutes* would free reputable neighborhoods from the evil influences, bad example, demoralization, and infection of this social disease. It would also be of assistance in the enforcement of the proposed laws, and likewise it would tend to suppress assignation houses, which are nothing but conveniences for clandestine prostitutes, the worst disseminators of venereal diseases.

C. *Periodical Examination.*—The concentration of prostitutes in districts set aside for them would facilitate examination as to their ability to infect others. Such examinations should be made every day, as an approach to effective work. That it cannot be more than an approach has been elsewhere discussed.†

D. *Circularization* would serve as a species of postgraduate education, which would warn men against the dangers they incur.

This outline of a project is offered in all its crudity, under the conviction that the wise and learned men who constitute this Congress will find in it an honest desire to at least humbly contribute to their labors.

31 West Sixty-first Street.

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* "Can the State Suppress Venereal Diseases?" Presented to the Section on State Medicine of the American Medical Association, June 8, 1899, published in *The Journal of the American Medical Association*, March 3, 1900.

† "Residual Gonorrhœa in Women," Chapter XII, of the Irrigation Treatment of Gonorrhœa: Its Local Complications and Sequelæ. Wm. Wood & Co., New York.

Non-Microbian Germ Diseases.—Views as to infectious diseases have undergone a considerable change since the germ theory of disease was first propounded. A writer in the *Revue Scientifique* of August 2, quoted in the *Literary Digest*, calls attention to this fact, and says "Only a few years ago the notion of infection was strictly limited to the idea of microbes, and all infectious diseases were attributed to the action of microbian germs. Infections provoked by organisms having no relationship with the microbes, had, it is true, been observed, but these organisms were classified in the same group with the microbes, and were described under names implying connection with these latter organisms. Thus the history of the parasites of actinomycosis, of madura foot, of the farcy of cattle, etc., occurs in most treatises on bacteriology, and even the parasite of malaria is sometimes to be found there under the name of bacillus malariæ. Of late, however, observations have been multiplied of true infection produced by divers definite organisms that have no possible relationship with microbes. To mention only vegetable organisms, it will be sufficient to note certain mucorini, most of the blastomycetes, various species of plectascinea, etc. As we know, the seat of these parasites is very variable. A certain number are localized in the integuments, developing on the surface of the skin, penetrating into it more or less deeply, and even invading the hair, nails, etc. But others penetrate into the interior of the organism, taking up their abode either in the mucous surfaces of the digestive apparatus or in the respiratory organs, or they may enter other systems through the blood, and then may give rise to real generalized infection. The various diseases due to these fungi have a very complicated pathology, of which, we understand the causes better than the symptoms, and whose means of cure are yet very insufficiently developed."

Smallpox and the Weather.—In a report on the outbreak of smallpox in the borough of Poplar during 1901 and 1902, Mr. F. W. Alexander, the medical officer of health, argues that there is a connection between the incidence of the disease and certain meteorological conditions. With this object in view, he has prepared a chart containing five curves showing simultaneously (1) the weekly sum of hours during which the sun is above the horizon; (2) the weekly sum of hours of registered sunshine; (3) the mean weekly temperature of the air; (4) the mean weekly degree of humidity, and (5) the number of cases of smallpox notified week by week in the administrative county of London from July 14, 1901, to August 30, 1902. According to this chart the climatic conditions under which smallpox was most prevalent appear to be (1) absence of sunshine; (2) presence of the sun above the horizon for less than eighty hours per week, *i. e.* less than eleven hours per day; (3) temperature of the air below 50° F., and (4) humidity above 75°—the saturation point being taken as 100.—*Lancet.*

Principles of Sanatorium Treatment.—In selecting a suitable case for sanatorium treatment, it is well to remember what hygienic management seeks to secure: (1) The removal of the patient from fresh invasian by the tubercle-bacillus, and separation, as far as possible, from all influences aiding in its introduction; (2) The establishment in the patient of processes of repair and the development of the highest powers of resistance. To this end the instruments employed are: (1) Continuous exposure to fresh air; (2) Free access to sunlight; (3) Regulated rest, (4) Controlled exercise; (5) Abundant feeding; (6) Obedience to hygienic requirements; (7) Strict medical supervision.—Dr. T. N Kelynack.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery

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THE SERUM TREATMENT OF ACUTE AND CHRONIC RHEUMATISM.

It is natural that with the discovery of a microorganism probably pathogenic for rheumatism an attempt should speedily be made to produce a specific serum for the treatment of the disease. Such an attempt has been made by Menzer, who gives an account in the *Zeitschrift fur klinische Medicin*, Nos. 1 and 2, vol. 47, 1902, of his progress in the development of a system of serum therapy for acute and chronic articular rheumatism. In spite of the advances he has made, the author emphasizes the fact that the method is not yet perfect, and has limitations, but he claims that its advantages are no less distinct and certain. It is particularly to be understood that the aim of the treatment is not to abort or cut short acute articular rheumatism, but to afford such potent aid to the organism as to render it able to cope with the disease and to throw it off more readily. The frequent relapses observed in the course of treatment with the salicylates appear to be obviated, or at least made the exception, while recovery from the endocarditis is also greatly facilitated.

To understand the author's theory of treatment, it is necessary to consider his view of the etiology and course of the disease. He bases his theory upon the assumption that, under certain conditions of constitution, weather, etc., the circle of lymphatic tissue which guards the pharyngeal region becomes permeable to the microorganisms habitually present. These overcome the protective agencies opposed to them, and, reaching the circulation, cause metastatic lesions in susceptible organs. In this case, as in many other generalized bacterial invasions, the *loci minoris resistentiæ* are the synovial membranes of the joints, the serous membranes, and the endocardium. The organism, at first prostrated, speedily overcomes the invaders free in the blood current, and then seeks out their separate *dépôts*, in order to render these harmless as well. The reaction of the organism to this process is evidenced by the typical symptoms of local congestion, swelling, and pain, *i. e.* the joint symptoms and endocarditis represent, not the infection, but the effort of the body to overcome it.

The underlying principle of Menzer's method now becomes apparent. Streptococci obtained from the tonsils of patients having acute rheumatism were isolated and used for the preparation of pure cultures. These were injected into animals, and the antistreptococcic serum resulting from this method of immunization was used in the treatment. On injecting it into patients having chronic rheumatism, a local reaction, consisting of swelling, redness, and heat, was caused in the diseased, but not in the healthy joints. The author interprets this as evidence of the assistance to the body's dormant powers of resistance furnished by the serum. In acute cases a similar series of events is observed. The local symptoms are at first aggravated, but subside rather more speedily than is usually the case, and the defervescence, once occurring, is permanent. The action of the serum differs from that of diphtheria or tetanus antitoxin in being primarily bacteriolytic, though it probably has some antitoxic properties as well.

As regards practical results, it seems a little early for predictions. The author's published cases fully justify his not exorbitant claims, but their number is still small, and sufficient time has not elapsed to permit definite statements as to the liklihood of relapses. The method appears to be directly contraindicated in cases of hyperpyrexia and extensive pleural or pericardial exudate. The chief desideratum is the development of some standard by which the strength of the serum can be measured, and this the author hopes to accomplish by a comparison of the hæmolytic strength of blood and of blood plus serum.

LEGISLATION WITH REFERENCE TO SMALLPOX AND VACCINATION.

Dr. Samuel W. Abbott of Newton Centre, Mass., read at the annual meeting of the Massachusetts Medical Society, June 10, 1902, a paper on this subject. In this paper he gives an epitome of the legislation with regard to smallpox and vaccination which has been enacted in Massachusetts. Many of the statutes of this State, now in existence, bearing upon the subject, date from 1701, 1776, 1792, and 1797, and were the outcome of serious epidemics. Then came the discovery of vaccination, with further legislation in 1809, and later enactments upon this same subject.

The existing laws relating to smallpox and vaccination in Massachusetts seem to be fairly comprehensive and sufficiently stringent. With regard to notification, the following five kinds of notice are required by law in each case of smallpox: (1) By the physician to the local Board of Health; (2) By the householder to the Local Board of Health; (3) By the local Board of Health to the local School Committee; (4) By the local Board of Health to the State Board of Health; (5) By the State Board of Health to the State Board of Charity.

With regard to hospitals, the writer says: "Several provisions now exist in the statutes of Massachusetts for the establishment of hospitals, either temporary or permanent, for the reception of persons ill with smallpox. The emergency has arisen more urgently in the present epidemic than ever before, in consequence of the increasing density of the population." There are in Massachusetts at the present time about fifty cities and towns, each having over 10,000 inhabitants. By a report of the State Board of Health of 1890, it appears that about half of these places only had any provision whatever for the reception of persons ill with smallpox, and of these several were merely old-time "pest-houses" so-called, which were inadequate to fulfill the demands of an epidemic of such proportions as the past season has witnessed. This epidemic has stimulated a few more cities to make provisions of this character, but there are still several large towns and cities which are entirely unprovided for such an emergency.

The Massachusetts laws relating to vaccination require: (1) A parent or guardian who neglects to cause his child or ward to be vaccinated before child or ward attains the age of two is subject to a penalty of $5 for every year during which such neglect continues. (2) By an act of 1855, the local Board of Health must "require and enforce the vaccination and revaccination of all the inhabitants," if, in the opinion of the board, it is necessary for the public health and safety. Every person over twenty-one years of age, not under guardianship, who refuses or neglects to comply with this requirement is liable to a penalty.

Dr. Abbott points out that the chief defect in this law is that it recognizes a false principle in sanitation. The ideal community, so far as vaccination is concerned is not that population in which "the public health and safety" requires vaccination at irregular times and seasons, on the eve or in the midst of great epidemics, but a community in which vaccination and revaccination are constantly and uniformly practised, year by year, upon all young children and upon older children at the end of a definite period—say, of ten or twelve years.

The law relating to vaccination of school children in Massachusetts has recently been amended, so that, although still somewhat defective, it answers its purpose fairly well.

Dr. Abbott thinks two points are very clear with regard to infectious diseases and smallpox and vaccination; (1) The necessity of sufficient laws in all countries relative to infectious disease prevention; (2) The necessity of careful enforcement of such laws.

In those countries in which strict regulations regarding vaccination and revaccination have been rigidly enforced—witness Germany—smallpox has become almost unknown. On the other hand, in these countries in which the laws on the matter are lax or inefficiently carried out—witness Great Britain, and though perhaps to a lesser extent, the United States smallpox is more or less rife. Regardless of the captions of the antivaccinationists, the community at large must be protected against smallpox. It has been conclusively proved that vaccination affords such protection, therefore the method should be made universal and compulsory.

CHRONIC SUPPURATION IN THE FRONTAL SINUSES.

The always unpleasant, and sometimes dangerous, disease, chronic suppurative inflammation of the frontal sinuses, is the subject of an interesting paper by Lack in the *Edinburgh Medical Journal* for June, 1902. Most of the article is devoted to the subject of treatment, which is really the most important consideration. Surgeons are not agreed as to whether suppurative processes in these cavities can and should be treated only by intranasal methods, or whether it is necessary to have an external opening in order to maintain efficient drainage, without which nothing good can be accomplished. It is generally admitted that a certain amount of relief can always be obtained by some intranasal method of drainage, but many deny that a real cure can be thus effected. Lack believes that it is a proper general rule to try intranasal drainage in all cases first, and he points out that this must be very efficient in order to offer any prospect of success. To insure efficient drainage it is, as a rule, necessary to do some sort of an intranasal operation, such as removing a portion of the middle turbinate bone and opening the ethmoidal cells. At the same time all sources of obstruction originating in the mucous membrane, such as polypi and hypertrophic masses, should be removed. When it seems desirable, careful attempts may be made to wash out the suppurating sinus from the nose, but no force should be used, and the fluid employed should be salt-solution, or the mildest kind of antiseptic used warm. Strong antiseptics, or fluids forced in and prevented from escaping, may cause serious trouble.

When the methods thus described prove inefficient and important symptoms persist, we shall be compelled to adopt more radical measures, depending on the pathological conditions and the anatomical conformation in each case. These radical operations involve opening the sinuses from the outside and attempting to get obliteration in some way. When the sinuses are not very large, and the bone is free from disease, success is often prompt and deformity slight, but when the bone is already carious or perforated, or when the sinuses are unusually large, the operation must be much more extensive, and the deformity often very marked. The latter is not such an important consideration as is the removal of all infectious material and the establishment of aseptic conditions, since, if necessary, it can be removed by a subsequent plastic operation. After the suppurative process has entirely ceased, and the wound is healed, there is, unfortunately, usually an ugly, depressed, and contracted cicatrix, and the surgeon is often called upon to make an effort to restore the patient's appearance to a semblance of the normal. Under such circumstances some kind of a plastic operation must be attempted, the method depending largely upon the character of the deformity. It is usually necessary to excise the cicatrix and to get a flap from the forehead to cover the area thus produced, but to obtain success in this way provision must be made for filling the cavity left by the obliteration of the sinuses in such a way that the depression will not recur in a short time. To attain this end, use has been made of periosteum, and even of a thin shaving of bone, with moderate success, and the employment of various foreign substances, such as silver or hard rubber, has been suggested. All these methods have given a fair proportion of success in handling a surgical condition at best refractory. Recently, a method of injecting sterile melted paraffin under the skin, to fill out and obliterate certain facial deformities, has been introduced with considerable success, and it is probable that the method would prove very useful in the cases we are describing, after the cicatrix from the suppurative process has been excised. Experiences so far have shown that the paraffin is entirely nonirritating, and may be used with safety in considerable quantity. It might also be possible to use one of the plastic substances employed by dentists. A number of cases have been reported of such successful use under the skin.

THE BANE OF POLITICS IN HOSPITAL MANAGEMENT.

At the fourth annual conference of the Association of Hospital Superintendents of the United States and Canada, held recently at Philadelphia, a discussion took place on "The Relation of the Hospital to the Body Politic." The subject had been referred to a committee of which the Honorable John Fehrenbach of the Cincinnati Hospital was chairman, and who pointed out the frequency with which the privilege accorded the State of sending a limited number of patients to be treated free of charge, in consideration of partial support from the State Treasury in the form of appropriations, is abused by members of the Legislature making the appropriation. Such a state of affairs not only operates unfairly upon the taxpayer of the State and works injury to the medical profession and injustice to the hospital, but it also tends to demoralize those selected to receive the State's bounty. Mr. Fehrenbach states correctly that "Experience has demonstrated that wherever politics has entered the portals of a hospital it has not been for the benefit or welfare of that institution, nor for the benefit of the political party that attempted to exercise control. On the other hand, where politics does not attempt, or is not permitted, to exercise control of institutions organized for the sole purpose of succoring the sick and the hurt, and where honesty, efficiency, and merit alone make the tenure of those employed secure, such institutions are assured of the very best service and the patients of the best care."

Dr. Walter Lathrop of the State Hospital for Injured Persons at Hazleton, Pa., dwelt upon the evil resulting from changes in boards of managers or trustees in State hospitals due to political influences and without due regard to the competency or ability. Although in the State of Pennsylvania appropriations for hospitals must receive the recommendation and approval of the Board of Public Charities, politics and political methods, nevertheless, play a not unimportant part in securing State funds in this way. While the board strives to deal justly in every instance, it is known that the less scrupulous hospital makes application for an excessive appropriation, knowing that it will be awarded less. On the other hand, the institution conducted on a higher ethical plane asks only for a modest appropriation, and in many instances fails to get even that.

TRACHOMA IN NEW YORK.

The importation of diseases peculiar to the class of immigrants which, at the present time, are coming into this country, constitutes a serious menace to the health of the community at large. Of course, any case of grave infectious disease is strictly denied ingress, but there are certain complaints of an infectious nature which, while not in themselves dangerous to life, are, nevertheless, so troublesome and obstinate that those suffering from them are decidedly not desirable immigrants. The most infectious of such affections is trachoma.

On Friday, October 31, a conference was held between eye specialists of New York City and Commissioner Lederle of the Department of Health, when the subject of the increasing prevalence of trachoma among school children was exhaustively discussed. It was pointed out at this conference that the ends of lead pencils, when rubber tipped, are especially liable to communicate the disease when used by pupils who sit at desks side by side, or in the old type of benches made for two or three. Trachoma is common in Egypt, Russia, and in certain parts of Eastern Europe, and flourishes and luxuriates among filthy surroundings. According to the New York *Herald*, November 1, its prevalence in the public schools is so great that about twenty experts were called before Commissioner Lederle at the aforesaid conference, on the grounds of their civic and humanitarian duties as such, to consider the situation. President Burlingham of the Board of Education demanded the speediest and most thorough means of treatment known to medical science, which, while relieving the distress of one, should not endanger the health of another, and, while conserving the health of all, should not interfere with the education of the original sufferer. To this problem, says the *Herald* correspondent neither he nor Commissioner Lederle obtained any satisfactory answer from the experts assembled, and it was intimated by Commissioner Lederle that further conferences might be called to consider details of this danger.

Since the beginning of the school year about fourteen thousand pupils have been excluded from school; of these, 6,667 were suffering from eye trouble.

In the first place, it would appear as if the situation were sufficiently grave to strictly prevent all immigrants suffering from trachoma from landing in this country. Next, if children afflicted with the complaint are to continue their education, they must be isolated, and third, they must be effectively treated and cured before being allowed to attend school in company with other children. Indeed, in order to completely stamp out the disease, its victims should be entirely kept apart from healthy persons.

THE CITY OF THE FUTURE.

There are a few enthusiastic philanthropists who hope to see the day when towns will be constructed and reconstructed, so that the inhabitants may live under the most favorable conditions of health, and who are even now working with this object in view. When that time comes rookeries and narrow streets will be known no more. Sanitation will be as perfect as human ingenuity can make it; water will be pure and plentiful, and there will be numerous parks and open spaces.

In the *Independent*, October 16, Poultney Bigelow has an article entitled "The Worship of Hygeia," in which he describes a congress of mayors and medical authorities who met in Munich for the purpose of comparing notes on the best means of making cities pleasant and wholesome to live in. "This society," he says, "is the Deutsche Verein für Oeffentliche Gesundheitspflege, which was organized shortly after the founding of the Empire, holds its sessions annually in different parts of the country, and counts within its ranks the ablest Germans interested in the many questions which modern citizens are called upon to solve. The supply of pure water, the disposal of sewage, the erection of public markets, control of parks, watering streets, management of train lines—every subject from the microbe to a tall chimney, from public baths to automobiles, is discussed. The great value of this congress lies in the fact that the people who did the discussing were not merely men of the library and the microscope, but were, to a large extent, men of practical experience and clothed with responsibility. They were either chief magistrates of cities or hydraulic engineers, architects, chemists—in short, men familiar with certain phases of modern municipal requirements."

The most effective way to kill or to scotch tuberculosis, and to prevent the spread of infectious diseases, is to enable the dwellers in a city to live in a healthy environment. So long as there are overcrowded, dirty, and insanitary houses, so long will disease originate and spread. Measures to promote the physical well-being of the inhabitants are far more needed in the large, industrial cities of Great Britain and of this country than in a city like Munich, which is excellently situated, and comparatively free from the unhealthy surroundings which manufacturing brings. If a crusade were inaugurated against the conditions which prevail in the lower sections of New York and London, for instance, an incalculable amount of good would be done for the community at large. Munich will serve as an object lesson of what can be brought about by intelligent sanitary reforms effectively carried out.

The Negro as an Industrial Insurance Risk.

The Spectator for September 11 and 18, 1902, contains an article by Frederick L. Hoffman, statistician of the Prudential Insurance Company of America, with the above title. The article renders it evident that legislation requiring equal premium rates for whites and blacks is unjust; only less unjust than would be a law requiring no discrimination in rates on account of difference in age. Massachusetts, Connecticut, Ohio, New York, Michigan, New Jersey, and Minnesota now have such laws. Sentiment and political exigencies apart, the whole question evidently comes down to this: Do whites and blacks, as a matter of fact, exhibit, at equal ages, a difference in longevity? The author shows from the figures of the Census of 1900 that in the "registration area" (States and cities which register accurate statistics) the difference in mortality is marked. Thus, assuming the mortality for the whites as unity, and combining his first two tables, we get the following ratios for the mortality of the negro:

AGES	MALES	FEMALES
0–4	2.35	2.44
5–14	2.19	2.55
15–24	2.77	2.57
25–34	2.02	1.93
35–44	1.79	2.02
45–64	1.64	1.77
65	1.32	1.22

A second interesting comparison is that by diseases, which, the same plan being used, yields the following ratios:

Malarial fevers	0.72
Typhoid	2.08
Influenza	1.36
Diarrheal disease	1.65
Consumption	2.80
Pneumonia	1.92
Nervous diseases	1.44
Heart disease and dropsy	1.61
Urinary disease	1.58
Cancer, tumor	0.72
Liver disease	0.92

If these were not the Census figures over a wide area, one might wonder at the first item. Certainly it reverses former ideas, that the negro was less susceptible to malarial disease. All this shows the inutility of such legislation as that of which Mr. Hoffman complains. It does more—it shows its futility, for naturally the life insurance companies simply cease to bid for such risks. This settles the evil partially, at any rate, as far as the companies are concerned, but it practically leaves the negro out of the manifold benefits offered to-day by life insurance. But then, this is the age of sentimental legislation.

The Immigration Menace.

The annual report of the Commissioner-General of Immigration has recently been published. Of the 648,743 immigrants who landed in the United States during the past year 466,369 were males and 182,374 females. Italy furnished 178,375, an increase of 42,379 over the number for the preceding year; Austria-Hungary, 171,989, an increase of 58,599, and Russia, 107,347, an increase of 22,090. Ireland showed a decrease.

The portion of the report, however, which will particularly interest medical men is that which refers to the importation of disease by means of alien immigration. Many of the Russian and Austrian poor who are flocking to this country are afflicted with extremely infectious, though not especially dangerous, diseases. Mr. Powderley, a short time ago, drew attention to the introduction and spread of trachoma on a wide scale by this class of immigrants, and the matter was treated editorially in the Medical Record. The New York Health Board has since been concerning itself with the subject, and is at the present time taking steps to prevent the dissemination of trachoma among school children.

The Bureau of Immigration, in its report of last year, expressed its confidence in the careful examination by the United States Marine Hospital surgeons as a means of checking the inflow of diseased aliens to American soil. Unfortunately, such does not appear to have been the case, for the report in this connection reads as follows:

"The increase of immigration has been not quite one-third over that of 1901, but the comparative increase of diseased aliens for the same period has been more than two to one. The same races which exhibited the largest number of diseased persons last year maintain their preeminence in this respect for the year under consideration. These figures show conclusively the necessity for legislation which shall inflict upon transportation lines, which have the means of protecting themselves from the effect of a violation of the law by competent medical inspection at the port of foreign embarkation, a penalty proportioned to the gravity of the risk to the health of the American people for bringing diseased aliens to ports of this country."

The time is ripe for legislation to mulct the steamship companies in substantial sums for neglecting to insist upon thorough medical examination on the other side of all would-be emigrants to this country. Such a measure would have the effect of quickly decreasing the number of disease-stricken persons, who now appear to land on these shores without let or hindrance.

Diseases Allied to Yellow Fever.

The researches undertaken by the United States Army medical officers into the causation of yellow fever in Havana and neighborhood, have resulted in a flood of fresh light being thrown upon that disease. No one disputes now that the mosquito is a prominent factor in the spread of yellow fever, although there is not universal agreement as to it being the sole means of disseminating the malady.

Mr. James Cantlie, at the meeting of the British Medical Association held this year at Manchester, discussed the matter at some length. He reviewed thoroughly and highly praised the work done by the United States' Commission with regard to the etiology of the disease, and considered that the conclusions respecting its pathogeny were the most startling of those come to by the Commission. These were (1) That the virus of yellow fever is contained in the blood; (2) That the specific agent in producing the disease is destroyed or attenuated by exposure to a temperature of 55° for ten minutes; (3) That, so far as laboratory technique known to us at present can prove yellow fever is not produced by a bacterium.

Perhaps, the most interesting part of Mr. Cantlie's paper is that in which he puts the query "Is yellow fever, as known in the West Indies, the local disease it is at present considered to be." There are—he goes on to say—several ailments affiliated in symptoms, and even in signs, with yellow fever. The most notable of these are Weil's disease; (2) Acute yellow atrophy of the liver; (3) Bilious remittent fever; (4) Bilious typhoid; (5) Hæmoglobinuric fever.

Mr. Cantlie does not claim that any or all of these ailments are yellow fever under different conditions of climate and surroundings, but says that he has long felt that we have, perhaps, looked upon yellow fever too much as a disease totally unaffiliated with diseases which present many clinical symptoms in common, and which, under the titles of bilious remittent, bilious typhus, bilious typhoid, epidemic jaundice, and even blackwater fever, are attended by a yellowness which is frequently as marked as any that occurs in yellow fever, and yet are not named after that symptom. All diseases of an icterohæmatogenous type, attended by fever, black vomit, etc., Mr. Cantlie and others think may belong to a group of fevers designated yellow, of which, up to now, yellow fever alone has borne the family name.

The Danger of Ill-Ventilated Rooms.

The circumstances attending the death of Zola, pointed a moral which most of the medical journals have been quick to draw attention to. Many excellent and apposite articles have been written inveighing against the habit of the majority of civilized people, of excluding fresh air from their rooms, and especially from their sleeping apartments. If the outside air be in the least cold or damp, windows are kept tightly closed, for fear that colds may be contracted, while the greater danger of breathing a vitiated atmosphere is entirely overlooked.

The London Hospital seized the occasion of Zola's sad end to deliver a much-needed lecture to the British people on the evil effects of unventilated houses. After referring to Zola's death by asphyxiation, and stating the fact that consumption is frequently spread by means of contaminated air in living and sleeping apartments, the article goes on to say: "The English are always boasting that they are a cleanly people, and undoubtedly an upper-class Englishman does spend an inordinate amount of time in cleansing himself. As *Punch* has it, 'e's orful proud of 'is flesh, 'e is.' But the average Englishman with his woolen shirts, which are only washed in tepid water, his cloth clothes which are never washed at all, his carpets which retain the dust of years, his stuffy woolen colored furniture which lasts for generations, and his beds which are hardly ever unpicked or stoved, is by no means the cleanly animal he thinks himself. Still, even these things would not be so bad if John Bull would but ensure a free current of air all through his living rooms. But that is just what Mrs. John Bull will by no means allow. Fresh air is 'smutty' and night air is 'unhealthy.' So the windows must be shut. What sort of night air could be more 'unhealthy' than the fogs which cover the river Thames, and what air could be harsher than that of Hampstead in mid-winter? Yet all winter through there are sick people lying out on the verandas at St. Thomas' Hospital and at the Mount Vernon Consumption Hospital, being brought round again to life by this 'unhealthy' air after being nearly killed—by inches, it is true—by the very thing that killed M. Zola at once, namely, the lack of open windows."

In many ways the inhabitants of the cities of the United States are greater sinners in their disregard for the health-giving properties of fresh air than their British cousins. Office buildings, public buildings, and frequently private houses, are heated to an absurdly high degree. In the winter time, too, windows are kept religiously shut, and ventilation is generally ineffective. The consequence is that an individual who has been breathing this hot, dry air for several hours, is extremely susceptible to cold, and when he goes out into the fresh, brisk air of a winter's day, he promptly contracts a cold. This fact accounts for the great prevalence of catarrh in this country, as well as for the mortality from pneumonia and other complaints of the respiratory organs. Many diseases may be avoided by living in well-ventilated rooms, and breathing all the fresh air possible.

Should Fever Be Treated?

Merck's Archives for October has an editorial with the above title. After stating the well-known fact that physicians practising among the poor and ignorant are compelled to give drugs in fever cases whether they deem it the most advisable course or not, the writer proceeds to discuss the question as to whether fever should ever be treated, seeing that it is a symptom and not a disease *per se*. The old medical aphorism reads "Treat the cause and not the symptom." This, although it sounds plausible and well, is frequently utterly worthless in practice. It is valueless in practical application for two reasons: (1) because we cannot always reach the original cause of the disease, or, if we can, it is beyond our control; and (2)—and this is an important point—a symptom of disease may in itself, unless relieved, prove dangerous to life, or, if not directly dangerous, it may cause other symptoms which may themselves prove highly detrimental or even fatal.

The foregoing view of the matter is an obviously reasonable one. Fever in itself, if not checked, will produce dangerous, even fatal changes. Authorities—among them Liebermeister—claim that it produces not only muscular mischief, but also degeneration of brain and nerve tissue, and this degeneration is, in its turn, the cause of the delirium and other disturbances of the central nervous system.

The article in *Merck's Archives* concludes with the following statements: (1) Fever, of elevation of temperature, is a symptom of disease, and not a disease *per se;* (2) Though but a symptom, it may, after reaching a certain degree, produce, in its turn, great functional disturbances, or even organic changes, and thus prove directly or indirectly the cause of death or of great permanent physical or mental injury; (3) When the pyrexia is of a mild character—say between 100° and 102° F.—it should generally be let alone; (4) A temperature between 103° and 105° F. should generally, and a temperature above 105° F. should always, be treated—treated watchfully, carefully, but energetically; (5) Antipyresis may not only obviate the bad results due directly to the fever, but it may have a good effect on the course of the original disease. As to how fever should be treated—whether by hydrotherapy, coal-tar antipyretics, refrigerants, or cardiac depressants—that, as Rudyard Kipling says, is another story.

News of the Week

Scarlet Fever Serum.—In the bulletin of the Health Department of Chicago for the week ending October 25, Commissioner Reynolds says, regarding Class's scarlatina germ, described in the MEDICAL RECORD of September 2 and October 7, 1899: "The organism of this disease is now identified by the laboratory experts as readily and as certainly as is the diphtheria organism, and it is a cause of chagrin to the department that its limited resources prevented the discoverer of the germ from following up his efforts to prepare a curative serum for the disease similar to that of antitoxin for diphtheria. A photograph in the Commissioners' office shows the discoverer, Dr. W. J. Class, one of the department medical inspectors, demonstrating the scarlet-fever organism before a group of bacteriologists and physicians in the laboratory department, April 10, 1899. Cultures of the organism were subsequently taken abroad by Dr. Gradwold of St. Louis, and there can be no doubt that the scarlet-fever serum prepared by Professor Moser of the St. Ann's Hospital for Children in Vienna, and exhibited last month at the Congress of German Physicians and Naturalists at Carlsbad, is the product of these cultures. Professor Moser reported that he had used the serum on 400 scarlet-fever patients in his hospital with a mortality of between 8 and 9 per cent., while the mortality in the other hospitals where the serum was not used was double that percentage. The Austrian Government promises to vote a sum of money sufficient for the perfection of the serum and its production in large enough quantity to furnish all the children's hospitals in Vienna." When the Chicago Memorial Institute for Infectious Diseases is established some practical results are looked for, for the chief object of the foundation of this institution was the study of scarlet fever and the production of a serum for its cure.

A Disclaimer by Dr. Wyeth.—Dr. John A. Wyeth of this city writes: "A report has been widely disseminated through the secular press that I made a statement to some newspaper reporters that Professor William H. Welch had claimed the discovery of a universal virus or remedy which would immunize the human race from all forms of infection. No such claim was made by Professor Welch, nor has such statement been authorized by me."

Wholesale Inoculation against the Plague in India. A despatch to *The Sun* from Calcutta says that the Government of the Punjab recently took what it considered was an extreme step to prevent the spread of bubonic plague in that province. It issued an order directing that the entire population should submit to inoculation against the disease at the hands of the sanitary officers, but at the same time it was feared that the natives, with their usual antipathy to sanitary precautions, would bitterly oppose compliance with the order. Much to the surprise of the authorities, however, no opposition is being offered, and the work of inoculation, which is a tremendous task, is progressing satisfactorily. As instancing the willingness of the inhabitants to undergo the operation, several native regiments have presented themselves in bodies for the treatment.

Cholera in the East.—Reports recently received by the Public Health and Marine-Hospital Service show that cholera has been making fearful ravages in the Philippines and the adjacent coast of Asia. It is estimated that 75,000 cases with nearly 60,000 deaths have occurred in the Philippines since the beginning of the epidemic at the end of March. In some of the towns 10 per cent. of the native population have died. Although some of the provinces are still suffering severely, the epidemic is gradually subsiding. A cable report from Gov. Taft, received October 30, says that the cholera has practically disappeared from the Island of Luzon, and that in Manila there have been an average of only two cases a day during the last ten days. In all, twenty provinces are now practically free from the cholera. Only five provinces are now seriously affected the provinces of Iloilo, Occidental Negros, Capiz, Samar, and Misamis. The mortality, which in the beginning reached 90 per cent., has been greatly reduced, and is now generally below 50 per cent. Cebu has already been declared a clean port, and Manila will be so declared on November 1.

In Japan the latest advices show that there have been 4,329 cases and 1,650 deaths from cholera.

In China the Provinces of Hunan and Shansi are most affected. The disease is epidemic at Nanking, which reports 40,000 deaths, at Shoo-Yanghsien, with 3,000 cases a day, and a number of other cities. In Hongkong, since the beginning of the outbreak, there have been 459 cases and 396 deaths, but the local authorities declare the colony free from plague infection. Surgeon-General O'Reilly has received a report from Lieut. W. J. L. Lyster of the medical department, who is attached to the United States Legation Guard at Peking, from which it appears that the American soldiers are the only foreigners who have escaped the epidemic of cholera up to date.

Gift of a New Lectureship to the Johns Hopkins.—Dr. and Mrs. Christian A. Herter of this city have presented to the Johns Hopkins University the sum of $25,000 for the foundation of a memorial lectureship in the medical department "designed to promote a more intimate knowledge of the researches of foreign investigators in the realm of medical science." The end is to be secured by inviting each year some European physiologist or pathologist to deliver one or more lectures at the Johns Hopkins University upon a subject with which he has been identified. The lecturer will receive as an honorarium the annual income of the endowment.

The Chicago Pasteur Institute.—In the two years and a quarter since the opening of this institute 1,538 persons were treated for threatened rabies by the Pasteur method. One thousand three hundred and eighty-two persons were bitten by dogs, 48 by cats, 55 by horses, 15 by skunks, 5 by wolves, 11 by cows, 5 by calves, 1 by a burro, 2 by coyotes, 1 by a rat, 3 by mules, 1 by a pig, and 9 by hydrophobic human beings. Seven hundred and sixty-two persons received severe and multiple lacerated bites on the hands and wrists, 209 on the head and face, 208 on the arms, 327 on the legs and thighs and 32 on the trunk. Following the rule of Pasteur, the patients treated were classified as follows: (1) Persons bitten by animals recognized and ascertained to be rabid by the test experiment made in the laboratory or by the death of other persons or animals bitten by the same animal; of this class 660 were treated. (2) Persons bitten by animals recognized to be rabid by the symptoms of disease shown during life; of this class 647 were treated. (3) Persons bitten by animals strongly suspected to be rabid; of this class 231 were treated. Seven deaths were reported, giving a mortality of 0.45 per cent.

An X-Ray Suit Dismissed.—A young woman recently brought suit in the Supreme Court of this State against two dentists, asking $50,000 damages for *x*-ray burns. She was suffering from some disease of the jaw and was advised to submit to an *x*-ray examination. This she did, with the result that her face and shoulder were burned so severely that permanent disfigurement resulted and the hair on one side of the head has fallen out. In her complaint she said that "one million volts of electricity" had been turned upon her. The examination, from which the injury was alleged to have resulted was not made by the defendants, but was only advised by them, and the complaint was dismissed.

Tri-State Medical Association of Mississippi, Arkansas, and Tennessee.—The Nineteenth annual meeting of this association will be held at Memphis, Tenn., November 11, 12, and 13, 1902, under the presidency of Dr. J. B. McElroy.

The Egyptian Medical Congress.—The President of the Egyptian Medical Congress, which is to be held at Cairo on December 19 to 23, is Dr. Ibrahim Pacha Hassan; the Secretary-General Dr. Voronoff. The principal object of the congress is the study and discussion of diseases occurring in warm climates. There will be four sections: Pathology, President, Dr. Comanos Pacha; Diseases of Hot Climates, President, Dr. Ruffer; Surgery, President, Dr. Milton; Ophthalmology, President, Dr. Mohamed Bey Eloui. A combined meeting of all the sections will be held for the discussion of hepatitis and abscess of the liver, and the Sections of Diseases of Hot Climates and of Surgery will meet together to discuss bilharzia hæmatobia. Cholera, dysentery, leprosy, and plague are among the subjects to be discussed by the Section of Pathology; while Egyptian ophthalmia is one of the subjects selected for the consideration of the Section of Ophthalmology; the Section of Diseases of Hot Climates will discuss, among other subjects, malaria and filariasis. The official languages of the congress will be French and Arabic, but German, English, Greek, and Italian may also be employed. Special reductions in fares will be granted by certain steamboats and railway routes to Cairo, and upon the Nile steamboat, as already announced; the hotels in Cairo also offer special terms. Members reaching Cairo before the congress begins will find arrangements made for them to visit various places of interest in Cairo on December 17 and 18. On December 25, after the congress, there will be an excursion to Sakkarah; on December 26 to 30 there will be a short excursion to Upper Egypt by railway; and on December 31 and January 1, 1903, an excursion on the Suez Canal. The Khedive, the Egyptian Government, and the Committee of Organization will give fêtes and receptions in honor of the congress.—*British Medical Journal.*

Prescribing Druggists in Trouble.—A Supreme Court jury a few days ago gave a lawyer of this city a verdict for over $3,000 damages against a firm of druggists for having sold him a medicine that made him sick. The plaintiff said that he had asked for some quinine to cure a cold in the head, but the clerk recommended "something much better." The first dose he took made him very ill, and he was under medical care for two weeks. He asked for $5,000 damages, but got $3,281.08.

In Memory of Virchow.—On October 20 the Berliner Verein für Innere Medicin held a special meeting in memory of the late Professors Gerhardt and Virchow, Professor v. Leyden delivering the oration. On the 29th of the same month, a Virchow memorial meeting of the Berliner medicinische Gesellschaft was held. It is proposed to erect a statue of Professor Virchow in Berlin, and a meeting to organize a committee to raise funds for this purpose was held at the instance of Professor Waldeyer on October 15.

Testing Food Adulterations.—The testimony regarding the effects upon the human system of continued small doses of boric acid and other food preservatives, as well as of coloring matters and adulterants in general, is so conflicting that the Agricultural Department in Washington is about to submit the question to a test *in corpore vilo.* A number of healthy, but impecunious individuals have been secured who are willing to subject themselves to experiment in exchange for free board, and they will accordingly be fed for stated periods on food with various preservatives and adulterants added, and the effect of these substances upon digestion, body weight, and metabolism will be scientifically determined. When the experiments have been concluded and the results announced, some one else will probably repeat them and reach diametrically opposite conclusions. In the mean time a good many men will have "victualed free" for a time without suffering any special injury.

Results of the Mosquito War in South Orange. The Committee of the South Orange (N. J.) Village Improvement Society which has been endeavoring for two seasons to exterminate the mosquitos of the vicinage, recently made a report on the work accomplished. Mr. Spencer Miller, Chairman of the Committee, said: "Speaking roughly of our results, we should say that in 1901, by the use of oil alone, we reduced the mosquitos at least 50 per cent. This year by adding drainage to the oil work we have surely cut down the supply 75 per cent. We can hope another year to reduce the supply 10 per cent. more, but that is the best we can do until the surrounding communities take up the fight. The area we have been treating is two miles long and one and three-quarters wide. This year we expended $1,100, and our results are much more emphatic than last year. Ten thousand dollars spent at once would drain and fill every wet spot in town, and the problem would take care of itself." Mr. Miller said that a convention would be held in New York soon, which committees and health officials from points within 100 miles of New York would attend and discuss means for a concerted campaign against the pest.

Washington Medical Society.—At the annual meeting of this society, held recently, the following officers were elected for the ensuing year: *President,* Dr. Charles McCutcheon, Tacoma; *First Vice-President,* Dr. Geo. W. Libbey, Spokane; *Second Vice-President,* Dr. A. E. Stuht, Colfax.; *Secretary,* Dr. A. H. Coe, Spokane; *Treasurer,* Dr. J. B. Eagleson, Seattle.

Prizes for Essays on Preventive Medicine.—The two prizes offered in January of this year by the Maltine Company for the best two essays on "Preventive Medicine" were awarded on October 18 by the judges, Drs. Daniel Lewis of New York, Charles A. L. Reed of Cincinnati, and John Erwin Rhodes of Chicago. The first prize of one thousand dollars was awarded to Dr. W. Wayne Babcock of Philadelphia for an essay entitled "The General Principles of Preventive Medicine," and the second prize of five hundred dollars to Dr. Lewis S. Somers also of Philadelphia for an essay on "The Medical Inspection of Schools: a Problem in Preventive Medicine." Although two hundred and nine essays were submitted by contestants from nearly every State in the Union, from Alaska, and from the Dominion of Canada, the two successful competitors are from the same city and live on the same street within less than a quarter of a mile of each other.

Pennsylvania State Medical Examinations.—At the examinations for license to practise medicine in the State of Pennsylvania, held in June last, there appeared eighty-nine graduates of the University of Pennsylvania, of whom eighty-seven passed, with a general average of 84.54; nineteen graduates of the

Woman's Medical College, all of whom passed, with a general average of 82.91; eighty-six graduates of Jefferson Medical College, of whom eighty-three passed with a general average of 82.47; seventy-six graduates of the Medico-Chirurgical College, of whom sixty-eight passed, with a general average of 80.45; and fifty-nine graduates of the Western University of Pennsylvania, of whom forty-nine passed, with a general average of 79.31.

Measles Epidemic in Kamchatka and Alaska.—The natives of the Kamchatka Peninsula are reported to be suffering terribly from measles, over ten thousand having already died since the beginning of the epidemic. The same disease is ravaging the Arctic coast of Alaska and Herschel Island, the mortality there being excessive.

The Finsen Light for Lupus; a Correction.—In the report of Dr. Kinnicutt's paper on the Finsen light, read before the New York State Medical Association, the speaker was made to say (page 714) that "tuberculosis was a dermatosis which was especially favorable for a study of this subject." The report should have read "lupus vulgaris" instead of "tuberculosis."

The New York Obstetrical Society.—At the annual meeting of this society, held October 14, 1902, the following officers were elected: *President*, Dr. Egbert H. Grandin; *First Vice-President*, Dr. J. Clifton Edgar; *Second Vice-President*, Dr. G. W. Jarman; *Recording Secretary*, Dr. W. S. Stone; *Assistant Recording Secretary*, Dr. H. C. Taylor; *Corresponding Secretary*, Dr. E. E. Tull; *Treasurer*, Dr. J. Lee Morrill; *Pathologist*, Dr. W. S. Stone.

Philadelphia County Medical Society, South Branch.—At a stated meeting held October 24, Dr. W. M. L. Coplin spoke upon "The Morphology of the Blood," illustrating his subjects with lantern demonstrations; Dr. L. Napoleon Boston discussed "Blood Examination by the Microscope;" Dr. Randall C. Rosenberger read a paper on "Bacteriology of the Blood;" and Dr. F. J. Kalteyer one on the "Parasitology of the Blood."

Philadelphia Neurological Society.—At a stated meeting held October 28, Dr. F. X. Dercum referred briefly to "A Case of Astasia-abasia" in a colored boy in which recovery followed rest in bed with suggestion but without hypnosis. Dr. Dercum also presented "A Case of Unusual Dystrophy of the Right Hand." The patient was a large woman about thirty years old, who had recently gained 100 pounds in weight and who presented a painless tumefaction of the soft tissues of the hand, wrist and lower portion of the forearm, with increased color of the overlying skin. This condition had been present for several years, following a somewhat acute swelling of all four extremities. The Secretary read for Dr. Theodore Diller of Pittsburg a communication entitled "A Case of Myasthenia Gravis Complicated by Angioneurotic Edœma." Characteristic symptoms were present and these. together with the œdema, were thought to be of toxic origin. Dr. Chas. K. Mills exhibited "A Case with Symptoms of Myasthenia Gravis (?) Resulting from an Electric Shock of 1,300 Volts." The patient was a man who presented weakness and wasting of bulbar and other muscles following the accidental passage through his body of the high voltage mentioned, with preservation of the knee-jerks and the ankle-jerks and of the functions of the sphincters. The possibility of the case being one of muscular atrophy of bulbospinal origin was suggested. Drs. Samuel W. Morton and Chas. K. Mills reported "A Case of Acute Bulbo-spinal Paralysis." The patient was a man who, in the pursuit of his profession as an electrician, was compelled to submit many times daily to the passage through his body of the current from a battery of four dry cells. Dr. Theodore H. Weisenberg read by invitation a communication entitled "The Pathological Changes Induced by Electric Currents of High Potential." Dr. William G Spiller presented "A Case of Bulbar Paralysis in its Earliest Stages." The possibility of the case being of other origin was admitted, and the difficulty of diagnosis at this stage pointed out. Dr. Alfred Gordon read a paper entitled "A Study of Sensation in Motor Paralysis of Cerebral Origin, based upon Thirty-five Cases." In a large proportion of the cases alterations in one or another variety of sensation were present, but the significance of the changes was not clear. Dr. Francis X. Dercum reported "A Case of Adiposis Dolorosa with Involvement of the Joints."

Philadelphia County Medical Society.—At a stated meeting, held October 22 ,Dr. Albert P. Francine read a paper entitled "The Etiology of Gastroptosis." The causes of this condition are of two kinds, namely, predisposing and exciting. The former comprise inherited tendencies and constitutional weakness, the latter mechanical influences, such as constriction of the waist by clothing, pyloric obstruction, and other causes of distention of the stomach. The displacement of the stomach may occur independently or be associated with displacement of other abdominal viscera. Dr. J. Dutton Steele presented a communication entitled "Preliminary Report upon Some Experiments to Determine the Pressure in the Bile-ducts in Floating Liver." These observations go to show that displacement of the liver may give rise to such changes in the relations of the biliary ducts as to interfere more or less seriously with the flow of bile into the duodenum. Dr. Alfred Stengel pointed out that the co-called Dietl's crises might in some instances be induced by displacement of the stomach, particularly its pyloric extremity, through descent of the right kidney or of the liver. Dr. Henry D. Beyea discussed the surgical treatment of gastroptosis. Among the operations that have been advised to this end are shortening of the gastrohepatic and gastrophrenic ligaments, alone or in conjunction with the formation by suture of a fold in the greater curvature of the stomach, and attachment of the stomach to the anterior wall of the abdomen. The latter procedure is to be condemned as interfering with the mobility of the organ and thus constituting a source of danger. Dr. Beyea has devised an operation of the former type, as have also others, and the results have been entirely satisfactory. Operation should, of course, be undertaken only after all other measures have failed to bring relief. Dr. Andrew J. Downes read a paper entitled "Electrothermic Hemostasis in Hysterectomy for Cancer." He spoke of the safety and the security attending this mode of operation, as well as the rapidity with which it can be executed; and he demonstrated a series of instruments that he has devised for the purpose. These consist of forceps-like clamps, one blade of which is grooved to receive a projection or shoulder from the opposite blade, and both of which are lined with platinum, which is rendered incandescent by the passage of an electric current. Several cases were related in which the method has been employed with the utmost satisfaction. The result of the application is cooking of the tissues, so that infection and hemorrhage are prevented, without the necessity for a single ligature. Drs. Barton Cooke Hirst, Chas. P. Noble and John M. Fisher spoke from personal observation in the highest terms of the usefulness of the mode of operation and of the excellence of the instruments and their successful application. Dr Herman A. Bray read a paper entitled "Diseases of the Rectum as a Specialty" He dwelt upon the importance of diseases of the rectum, of the neglect that has been bestowed upon them, and of the discomfort to which they are capable of giving rise. Dr. Gwillym G Davis exhibited a modification of the Kelly rectal speculum. In this instrument the edges are less sharp than in the original, and the plunger is acorn-shaped instead of being cylindro-spherical.

Pathological Society of Philadelphia.—At a stated meeting, held October 24. Dr. W. M. L. Coplin presented a communication entitled "Myosclerosis with Especial Reference to Elastic Myocardial Sclerosis." He described a form of inflammation or degeneration of the myocardium in which elastic instead of ordinary fibrous tissue replaces the muscular structure of the heart, and he exhibited a heart presenting occlusion of a coronary artery with anæmic necrosis and fibroid substitution, together with the presence of elastic tissue in the heart-muscle at various points. During life there had been attacks of angina pectoris, in one of which death took place. It was thought that the attacks were due to repeated embolism of the coronary artery. Drs. D. L. Edsall and C. A. Fife presented a communication entitled "A Case of Pyloric Carcinoma with Symptoms Simulating Gastrocolic Fistula." About two years before death there had been symptoms suggestive of malignant disease of the stomach, but no tumor was detected, and recovery apparently followed. At a later date there was vomiting of feculent matter, and introduction of air into the large intestine rectum was followed by dilatation of the sigmoid flexure and the descending colon, abruptly subsiding in the left hypochondrium. After the introduction of milk into the rectum, the vomited matters contained a fine emulsion of fat, which could have been derived from no other known source than the enema. Other evidence was obtained indicating that materials introduced into the rectum were subsequently ejected from the stomach. It was, accordingly, believed that a communication existed between the colon and the stomach. Post-mortem examination, however, disclosed the existence of extensive carcinoma at the pyloric extremity of the stomach, reducing the pyloric orifice to a small opening. Drs. Chas. K. Mills and William G. Spiller reported a case of external spinal pachymeningitis implicating the entire ventral surface of the spinal dura." The patient complained of inability to walk, with a certain amount of rigidity and contractures and exaggeration of the reflexes generally. Post-mortem examination disclosed a most extensive and intense condition of inflammation of the anterior aspect of the external surface of the spinal dura mater throughout its entire length, the membrane being attached to the bodies of the vertebræ, and in places compressing nerve-roots and cord itself, and giving rise to areas of degeneration in the posterior and the lateral columns, and in places in the entire circumferential periphery of the cord. The dorsal portion of the cord was extremely small.

Obituary Notes.—Dr. W. W. Archer of Clifton Springs, N. Y., died on September 26 of organic heart disease, at the age of fifty-six years. He was a graduate of Hobart College, Geneva, in the class of 1867.

Assistant Surgeon Walter E. Griffin of the Navy died on October 28, at the Cavité naval station, Philippine Islands. He had been in the service only eight months, having been appointed from Michigan on February 20. Dr. Griffin went to the Philippines in April.

Dr. Andrew [illegible] died on October 25, 1902, of apoplexy. He was graduated from the Medical College of Ohio in 1861 and began practice in Chicago in 1863. He was chief surgeon to Alexian Brothers' Hospital of Chicago for the first twenty-four years of its existence. He was surgeon to Cook County Hospital for fourteen years and to Michael Reese Hospital for seven years.

Dr. Joseph H. Sheppard died at Bridgeton, N. J., on October 23, at the age of seventy four years. He was graduated from the medical department of the University of Pennsylvania in 1849, and was at one time a resident physician in the Philadelphia Hospital. During the Civil Was he served as a surgeon in the United States Army, and at the time of his death he was a member of the Pension Examining Board.

Dr. Daniel E. Hughes, for twelve years chief resident physician to the Philadelphia Hospital, died of peritoneal tuberculosis on October 28, at the age of forty-five years. He was graduated from Jefferson Medical College in the year 1878, and was the author of "A Compend of the Practice of Medicine."

Obituary.

FREDERICK A. PACKARD, M.D.,

PHILADELPHIA, PA.

Dr. Frederick A. Packard died in Philadelphia on November 1, at the age of forty years, from exhaustion in the sequence of typhoid fever complicated by appendicitis, intestinal perforation, and phlebitis. He received his preparatory education at Rugby Academy, and his academic education in the University of Pennsylvania, from the medical department of which latter institution he was graduated in 1885. After serving as resident physician in the University and Pennsylvania Hospitals, he became successively visiting physician to the Philadelphia, Episcopal, Methodist, and Children's Hospitals, and hardly more than a year ago physician to the Pennsylvania Hospital.

A little more than a year ago he was elected one of the trustees of the University of Pennsylvania. In the the absence of Dr. Horatio C. Wood, he delivered the lectures on therapeutics in the medical department of the University during the session of 1901-'02. Dr. Packard was a member of the Association of American Physicians, of the American Pediatric Society, of the American Medical Association, of the College of Physicians of Philadelphia, of the Philadelphia County Medical Society, of the Pathological Society of Philadelphia, of the Philadelphia Pediatric Society, and of the Philadelphia Neurological Society. He had been President of the Pathological Society of Philadelphia and of the Philadelphia Pediatric Society. He was a generous contributor to medical literature.

He is survived by a widow, by his father, Dr John H. Packard, who was a medical director in the United States Army during the Civil War, and for many years one of the surgeons to the Episcopal and the Pennsylvania Hospital, by a brother, Dr. Francis R. Packard, editor of the *American Journal of the Medical Sciences* and professor of otology in the Philadelphia Polyclinic, and by another brother, Mr. Chas. S. W. Packard, president of the Pennsylvania Company for Insurances on Lives and Granting Annuities. Dr. Packard was one of the most industrious, most progressive, and most brilliant clinicians of his generation, and his fine qualities combined with his high professional attainments, served to gain for him the esteem and friendship of and to endear him to all brought in contact with him. In his death the medical profession of Philadelphia and of the United States loses a most distinguished and worthy representative.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PROFESSOR ERB'S ADDRESS—SIR F. TREVES AT LIVERPOOL—SOCIETIES OPENING SESSION—SOCIETY OF MEDICAL OFFICERS OF HEALTH—OWEN TESTIMONIAL—NEW STAFF COLLEGE—THE LATE MR. BIRD.

LONDON, October 17, 1902.

PROFESSOR EBR of Heidelberg has been over here, and was entertained at a dinner on Saturday. He came on the invitation of the West London Postgraduate College, and opened their session with a lecture in which he described some of the most recent advances in neurology, and especially two diseases which he has himself differentiated. At the dinner, Dr. Hood, the chairman, spoke of the lecture as one that would ever remain a classic on the subject, and expressed the gratitude the college and staff of the hospital owed to the illustrious professor for coming to address them. In replying to the toast, Professor Erb said that if he were not so proud of being a German, he would like to be an Englishman, especially at that moment, as he would have a better command of the language to express his gratitude for his reception. He congratulated the college on its work, such as that being carried on also in Germany, and which tended to develop and strengthen medical science, which has no international or frontier disputes. He held that England and Germany had done more than all the rest of the world to advance natural and medical science, and he hoped the two great branches of the Teutonic stock would continue to work together in the future, as they had done in the past, for the good of suffering humanity.

Of the lecture itself, it would be impossible to give an adequate description in the space at my disposal, but I may say that it deserves the attention of every neurologist—which, indeed, it is certain to receive—and even your general readers may study it with advantage, for it is sure to be republished on your side. The *Lancet* has already printed it here. He described rather fully two forms of chronic myelitis, for the clear differentiation of which we are indebted to him. His "spastic spinal paralysis—primary spastic paraplegia"—which he described in 1875, remained for many years a matter of doubt, on account of the difficulty of obtaining sufficient anatomical proofs to satisfy all, but eventually this was obtained. The rarity of the disease and its extreme chronicity accounts for the duration of a certain degree of scepticism, and moreover it does not of itself lead to a fatal termination. The second form of disease discussed was differentiated by Professor Erb in 1892. It occurs almost exclusively in patients who have had syphilis, and he named it "syphilitic spinal paralysis." It is distinguished from the simple form by the presence of disturbances of sensation and bladder function; from transverse myelitis by the absence of marked paralytic phenomena with decubitus cystitis; from meningomyelitis by the absence of meningitic and root symptoms with their variable intensity and complicating paraplegia. Actual syphilitic myelitis, spinal gummata, softenings and hemorrhages due to syphilitic disease of the vessels, generally present clinical pictures of a different kind, though they may be difficult to recognize individually. Other spinal diseases do not cause much difficulty in diagnosis. As to prognosis, recovery can only be hoped for in the earlier stages, but improvement often occurs, and the power of gaining a livelihood may be obtained for a considerable period. Treatment with mercury and iodides must be continued—often for years. The professor pointed out that the effects of syphilitis on the cord are manifold and erratic, and as we are learning that tabes is due to syphilis, so other alterations in structure—so far considered non-specific—may have the same origin.

The *Religio Medici* of Sir Thomas Browne has held such a high place for some 260 years that few men would like to suggest a comparison between that classic and anything of their own. Yet this is what Sir F. Treves deliberately did in his address to the Liverpool students, last Friday. He told them there was much in the *religio medici* personal to the author, which would be unacceptable to the modern physician, and a not inconsiderable part which rests upon unchangeable foundations and is beyond criticism. To Sir T. Browne, he said, disease was the outcome of an influence outside the body, had nothing natural in its processes, and nothing beneficent in its manifestations; every symptom was regarded as noxious, and to be stamped out with unconsidered violence. But the modern *religio medici* looked on the human body as highly organized, frail, finite, and necessarily prone to dissolution. It grows, reaches its maximum capacity, and declines. In the progressive enfeeblement of age there is nothing unnatural, and disease is the outcome of natural processes, and many of its manifestations are marked by a beneficent purpose, having for its end the cure and not the destruction of the patient. As examples, tuberculosis and appendicitis were cited to show that inflammation is always a benevolent process, the purpose of which is to cure. Turning to the second element of the *religio medici*, the relation of the physician to his patient, Sir Frederick said the student could keep no better motto before him than this: *Fortiter, fideliter, feliciter.* We need to be strong, not with crude force, but with the power of fine cultivated sense, quick perception, and ready judgment; faithful in right doing, and with truest care for the patient's interest; kind, with the genuine sympathy which cannot be assumed or mimicked.

Later in the day Sir F. Treves opened the new operating theater of the Royal Infirmary, which is the gift of Mr. Ralph Brocklebank. In doing so, he said that twenty or thirty years ago the operating theater was often a neglected part of even a great hospital. It has, since the antiseptic system was introduced, become the most conspicuous, and in some sense the most important. He could pay this theater no higher compliment than to say it was worthy of the reputation of the surgeons of Liverpool, who had not gone in for anything fantastic, but whose work was characterized by sturdy common sense.

Not only the schools but the societies have now begun their winter sessions. On Monday the Medical Society of London opened with an inaugural address by the new president, Mr. Pearce Gould. He alluded to the death of Professor Virchow, who was an honorary Fellow of the Society, and the great influence he had exercised upon two generations of pathological observers. The wide extent of Virchow's interests was also mentioned, and a doubt expressed as to whether the medical profession was wise to avoid politics or not. Mr. Gould also dwelt upon the value of this and similar societies, and the great advantage of attending their meetings over merely reading reports.

The President of the Clinical Society, Mr. Howard Marsh, in his address, reminded his audience that the society was established to promote clinical science by accurately observing, recording and discussing cases and their treatment. Progress was slow, not because medicine is an inexact science, as is so often said. It was founded on biology, which he spoke of as exact, and said it may itself become exact. But the bases, unlike those of astronomy, themselves vary. Yet research will meet with success. Though the society chiefly has to study individual cases, he thought certain questions might, from time to time, be submitted to small committees for reports which could be carefully debated.

Afterward a paper was read which excited considerable surprise, in which it was claimed that asthma was more amenable to local nasal treatment when the nasal passage was normal than when it was obviously diseased. Rhinologists will scarcely go further than that.

The annual meeting of the Society of Medical Officers of Health was held last Friday, when Dr. Spottiswoode Browne, president, delivered a rather cheering address. He looked hopefully at the progress of electricity as a motor force likely to lead to the erection of small factories in rural districts. He held that there should be a medical man attached to every school, who should attend within an hour of the morning assembly, and should have authority to examine every child about whose state the teacher was suspicious.

The annual dinner of St. Mary's Hospital students was attended by some 220, and was made the occasion of presenting to Mr. Edmund Owen, who retires from the active to the consulting staff, with a testimonial of antique plate, an album with an address signed by above 400 pupils and colleagues, and jewelry for Mrs. Owen and daughters. Sir W. Broadbent, in presenting it, said all were sorry to lose his services. Mr. Owen said he was bankrupt in words, and could only repeat "I thank you." He did not claim to have done his duty, but he had tried to do it; in one little respect he claimed he had really done it—in punctuality, not much, and yet a good deal.

The Medical Staff College has held an inaugural dinner in its temporary quarters, where the War Minister made an encouraging speech, in which he said he hoped to see the college accommodated in suitable buildings in London, and he considered the success of the college was assured by the fact that Colonel James was at the head of it.

There was felt a sense of regret at the West London celebration mentioned above on account of the death of Mr. Wm. Bird, consulting surgeon to the hospital, and for many years its Chairman. To him is largely due the greatly improved position of the hospital and its enlarged buildings. He was also a J. P. and chairman of the local bench of magistrates, to the duties of which he gave constant attention. He died on the 4th inst.

LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

THE VAGARIES OF QUARANTINE—SYPHILIS IN ASIA MINOR—SANITARY COMPLACENCY—HÔPITAL DE LA PAIX—TYPHOID FEVER—PUBLIC ADVICE TO PREGNANT WOMEN—MEDICAL SCHOOLS AT BEYROUT—THE AMERICAN HOSPITAL.

CONSTANTINOPLE, October 15, 1902.

BEYOND the monotony of taking off and putting on of quarantine, for and against plague, there has been little of interest in the medical world.

Freedom from quarantine restrictions was declared late in June, but was of short duration, for within a few days after the announcement four cases of plague were reported, two demonstrated, two suspected in Galata and Stamboul—the last case on June 2[illegible]. A circular telegram was issued from the sanitary office by decision of the Superior Council of Health, viz., "Patents of Health delivered to the Shipping at Constantinople and Kavak will even from July 2, bear the following annotation: 'It has been demonstrated that in the city four cases of plague have occurred, one mortal. The three cases have been isolated; the last case of date June 3[illegible].'" The fatal case alluded to in the circular occurred in the person of a child of eight years, living in Galata. The doctors thought at first it was a case of typhoid fever, but later on they determined that it was plague. As usual, Greece, Russia, Roumania, and even Malta, imposed their reglementary quarantine against Turkey, and Turkey against herself, as persons leaving Constantinople for other ports of the Ottoman Empire were subjected to medical inspection and disinfection.

The outbreak of cholera in Egypt was reported on July 21, and this called out all the forces of quarantine. That the former fear of plague has nearly died out in Turkey and the Levant may be shown by the little notice the inhabitants take of the sanitary notifications. Certainly the present plague record of mortality has been so mild that many are sceptical as to the real nature of the disease, though the cases are reported as having been demonstrated by bacteriological examinations. The oddities of quarantine are at times more amusing than alarming. Why, for, instance should Greece impose only forty-eight hours, when Roumania imposes eight days, Bulgaria ten days, and Russia ten or eleven days? And the various sanitary departments, day by day, reduce and increase the periods of quarantine with little or no apparent cause. The dread of cholera, however, remains as of old, and the most severe regulations of quarantine are accepted as safeguards against it.

It would appear that the Health Board and the Palace are not quite in accord with reference to the period of quarantine against Egypt, especially in what concerns Asia-Minor. The Board imposed ten days against passengers, etc., going from Egypt to Syria. The Palace ordered fifteen. The Board resents the action of the Palace, taking its stand on the regulations of the Venice conference, which limits quarantine to ten days. It is stated, however, that Turkey is not bound by this conference, not having subscribed to the regulations.

Syphilis in Asia Minor, to which allusion has been made, appears to be no false alarm. The subject is freely discussed in the Turkish journals. It is stated that the disease prevails in the districts of Braussa, Bassora, Erzeraum, Monastir, and Treluzoud, and that its ravages are extending actively toward other localities not yet contaminated. "Syphilis," states one journal, "in spite of prophylactic measures taken for thirty years, continues its devastations with such activity as forces us to attribute the increasing extension to the ignorance of the population of the rudimentary principles of hygiene. All the measures taken have been unsuccessful. The Imperial Government has spared nothing for the support of hospitals for syphilitics. The annual contribution for this purpose has exceeded 25,000 lire, yet with little success."

It may, therefore, be assumed that the measures taken have not been in accord with the usages and habits of the people, amongst whom the principles of hygiene recommended by authority have little chance of being practised. In connection with this subject a certain Zahidè Ranem (lady) has applied to the competent department to grant her leave to treat syphilitic patients with an infallible remedy which she has discovered. The application is stated to have been granted, and an apartment placed at her service.

Several important changes have taken place in the sanitary service of Turkey. Dr. Cozzonis, the chief of the administration, retired on pension, Dr. Ducas has succeeded to the post. This appointment is hailed with satisfaction. Dr. Ducas has had a good training as Ottoman Delegate on the Egyptian Sanitary Board. Dr. Stiepovitz, late secretary of the Constantinople Board, replaces Dr. Ducas in Egypt.

The twenty-sixth anniversary of His Majesty's accession to the throne has elicited from the medical world a paean of panegyric for the benefit medical science has obtained during his reign. Praise certainly is due, but the following is somewhat highfalutin: "Our hospitable institutions march with the most recent progress of medical sciences, and we possess even hospitals which may compete with no matter what similar institutions abroad. Our sanitary service is so perfected that it has been able to repulse more than one epidemic, which, however, ravaged other places abroad. If sometimes a scourge, as plague or cholera, attempts to penetrate amongst us, it is immediately stifled on the spot, which does not happen in ports the most salubrious of countries, the most advanced in prophylactic hygiene," and so on *ad nauseam* to those who see and smell intelligently.

His Majesty has shown his solicitude for the further improvement of the "Hopital de la Paix" at Chichli, the oldest hospital in Constantinople, by giving it a large amount of land of great value, and enclosing it with a good wall and railings. The French Sisters of Charity thus become proprietors of an establishment of [illegible] class, with still farther room for improvement. A marble slab has been erected to commemorate the event, with the following inscription:

"Le 27m. fevrier, 1902.
S. M. I., Le Sultan Abdul Hamid II,
désireux de donner un nouveaux témoinage
de sa compassion
pour les malades et les déshérités
a accordé, à la demande de
S. Ex. M. Constans,
Ambassadeur de France,
le terrain à l'Hôpital de la Paix,
et a fait construire
à ses frais le mur de
clôture."

The ceremony of transfer was made in presence of H. E. M. Constans, Ambassador of France, and of Madame Constans.

The Imperial Society of Medicine, some few years ago, had an interesting discussion on the mortality of typhoid fever in Constantinople. It has been maintained by many practising physicians that typhoid fever was of a milder form, and less fatal here than in many other places. Dr. Kambouroglou, surgeon-in-chief of the German Hospital, has devoted an able article on this subject, communicated to the society on June 6, 1902, in which he clearly shows, from public and private statistics, that true typhoid fever is just as fatal in Constantinople as elsewhere. The term "typhoid" is somewhat loosely used in Turkey, and covers many of the unclassified forms of gastric and gastroenteric irritations attended with fever, even the so-named Malta fever.

The society, at its meeting of June 13, passed a resolution to address to the public, through the local press, certain advice to prevent accidents and complications that might arise during the course of pregnancy, in labor, or in consequence of labor.

This was done, and a series of ten (10) paragraphs appeared, based, apparently, on the supposition that pregnancy is a disease, and couched in corresponding language. Paragraph 5 may be quoted as an illustration:

"Toutes femmes qui accouchent dans de bonnes conditions, ne doivent jamais avoir le fièvre; la soi-disante: fievre de lait n'existe pas, toute elevation de la temperature doit être attribuée à une infection, et par suite dès qu'un constate la moindre fièvre, il faut appeler aussitôt le medecin pour que celui-ci puisse déterminer l'origine réele de cette infection et agisse en conséquence sans perdre un instant."

It is difficult to understand to what class of the population these instructions are addressed. Doctors abound—alas! The family doctor is an institution. Why, then, a society of medicine should consider it necessary to address the public on such a delicate subject, through the public press, is one of the curiosities of medicine.

To the index expurgatorius of drugs have been added bicarbonate of sodium, cream of tartar, certain medicated cottons, and certain animal extracts, like thyroid.

The American School of Medicine at Beyrout claims to be placed on the same footing as the French school. Presumably it has equal rights. It may, however, be a fair question if either of these establishments are necessary even in Turkey, when outside the Capital. The teaching cannot compare with the provincial schools of Germany, France, or America. The preliminary education is scarcely enough; clinical material is not abundant; facilities for dissection are lacking. The standard of the graduates can be but mediocre, and this is so far evident that those who can afford it take further courses and degrees in America, France, and Germany. The local papers report that in consequence of some deaths after operation in the American Hospital at Van, the government proposes to close it, and build a hospital of their own, as they consider the American one lacks in sanitation!

The old "British Seamen's Hospital" in Galata is in process of demolition. A new one will be constructed on the old site. Public rumor says 20,000 pounds will be spent on it, which is unlikely.

In view of the sanitary, quarantine, and many other hygienic regulations daily printed and published, it is satisfactory to know, through the press, that Turkey at large is in the vanguard of sanitation, and her sanitary motto is "Excelsior." Why should it be otherwise—a few queerly suggestive smells here and there notwithstanding?

The season of "Villeggiatura" is almost over, when the fashionable world and its doctors will return to town. The meetings of the Imperial Society of Medicine have been resumed. A discussion on the contagiousness of leprosy is forthcoming. It may be both useful and interesting if Dr. Zambaco takes part. Quarantine against plague no longer exists, so far as Constantinople is concerned.

RELATION OF SEA-SICKNESS TO VERTIGO.

To the Editor of the Medical Record:

Sir: Referring to the article by Dr. E. Costelli of Washington, D.C., in the Medical Record, of October 11, 1902, I beg to say that, as far as the idea of the relationship of sea-sickness to vertigo is concerned, he is most probably correct, but it is not a new theory. Gowers, in "Diseases of the Nervous System," 1898, says, in the chapter on Vertigo, "It probably underlies the pathology of sea-sickness, in which the vomiting may be simply a reflex effect of the unaccustomed oscillations of the endolymph in the semicircular canals."

In vertigo, disturbance of the endolymph produces the apparent oscillations of objects; in sea-sickness the oscillations produce the disturbance in the endolymph. In both vertigo and sea-sickness the subjects close the eyes to shut out the painful sense of movement, both of objects and their own bodies.

In minor degrees of seasickness and vertigo there is a sense of swaying and of nausea, but not actually prostration and vomiting. J. E. Courtney, M.D.

Denver, Col., October 20, 1902.

Progress of Medical Science.

The Boston Medical and Surgical Journal, October 30, 1902.

A Report of the Blood Examination in Ten Cases of Severe Burns of the Skin.—Edwin A. Locke gives his conclusions as follows: (1) The blood flows sluggishly and is of a peculiar dark, purple appearance. (2) There is an immediate increase in the number of erythrocytes, in severe but not fatal cases, of from 1,000,000 to 2,000,000 per c.mm. within a few hours; in fatal cases, of from 2,000,000 to 4,000,000. (3) A rapidly increasing leucocytosis constantly occurs; in cases ending in recovery often of 30,000 or 40,000 per c.mm., in fatal cases usually above 50,000 per c.mm. (4) Morphological changes in the erythrocytes are slight. (5) The percentage of neutrophiles is somewhat above the normal, but not so much as in the ordinary inflammatory leucocytosis. (6) A considerable destruction of the leucocytes takes place, especially in the very severe burns. (7) Myelocytes may be present in small numbers in severe cases. (8) There is, as a rule, marked increase in the number of blood plates.

A Case of Ununited Fracture of the Radius Due to Osteomyelitis.—Charles F. Painter reports the case of a child of six years in whom acute osteomyelitis with trauma was mistaken for green-stick fracture, and was rendered a complete fracture. Union did not occur, in spite of operative treatment, and this condition of things went on for more than two years. Finally, after constitutional treatment for several months, a seventh operation was performed, the diseased bone was refreshed, and enough of the sound bone excised to compensate therefor, and the bones were sutured. The result was excellent. Union was apparently solid at the end of two months; there is now a moderate degree of bowing of the ulna backward when the forearm is held supinated. Pronation and supination are normal, and the functional result is perfect. The arm is, of course, shorter and slightly smaller, as is also the hand on this side. The author says that he is aware that this compensatory shortening of bones in cases of this sort is no new procedure, but the case is recorded as being of interest in connection with this subject.

Journal of the American Medical Association, Nov. 1, 1902.

Some Physiological Factors Involved in the Origin of Scurvy.—R. R. Rogers summarizes his views as follows: (1) The direct cause for the appearance or continuance of an attack of scurvy does not depend upon the activity of microorganisms, although the latter may establish conditions favorable to the onset of scurvy or aggravate a case already existing. (2) The direct cause for the appearance or continuance of an attack of scurvy lies in the establishment of the condition known as "lack of oxygen" in the tissues. (3) Those conditions which tend to prevent the formation of acid, *i. e.* of hydrogen ions (and possibly other products also), in the tissues and tend to increase the store of available alkalinity, *i. e.* hydroxyl ions, in the blood and lymph, are the conditions most antagonistic to the development of scurvy or its continuance, and those most favorable to its cure.

Principles Controlling Operative Interference in Strabismus.—E. Jackson says that the first question to be asked concerning a proposed operation is, how will it influence the innervation of the muscles acting on the eyeball, or will it leave that innervation quite unaltered? According to the answer given this question, strabismus cases are to be divided into two classes: (1) Those in which operation is likely to modify the innervation, as in concomitant squint, in which it will render possible binocular fixation; and (2) Those in which it is not likely to modify innervation, as in paralytic strabismus or in concomitant squint in adults. In these cases operation should be deferred until the extent of duration has become fixed and incapable of further favorable modification by non-operative measures. In case of paralytic squint, this will be months, or even years, after the occurrence of paralysis. For concomitant squint it will be only after the most thorough trial of appropriate lenses and exercises calculated to modify the innervation of the muscles, and not until the years of early childhood have been passed, or possibly not until adult development has been reached. In any such case the time for operation will be not until long observation has shown that the deviation is quite constant, or that the limits within which it varies are stationary. When such a permanent condition is to be altered by operation, the operation should aim at the most exact mechanical adjustment of the visual axes possible, with proper consideration of probable cicatricial changes, and an allowance for slight tendency toward divergence with increasing age, in eyes removed from the influence of binocular coordination and excessive accommodative effort. The author also calls attention to the fact that the effect of the setting forward or backward of muscular insertion on the eyeball may be nullified by changes occurring in the muscles themselves. Thus, the muscle, the influence of which is supposed to have been diminished by tenotomy, might under the needful nerve impulses, undergo an hypertrophy that would restore the excess of influence it had lost. Unintended effects of operation may cause a similar result. Thus, after advancement, a firm adhesion between the advanced tendon and the sclera may cause the muscle to exert its influence on the globe farther back than its original insertion, and thus cause a limitation rather than an extension of its influence. Finally, the effect on rotation of the different muscles must be considered not in its singularity but in its relation to the action of other muscles. An ocular muscle turns the visual axis toward its insertion only when the direction of its action and the visual axis lie in the same plane.

Medical News, November 1, 1902.

Parasitic Amœbæ.—Frederick G. Canney declares that while the occurrence of the amœbæ in malignant tumors is an interesting coincidence, and while there are many reasons for suspecting an infectious agent in certain cases, we must as yet be satisfied to accept the possibly rather unsatisfactory theory that the cause lies in some unexplained stimulus causing epithelial tissue to proliferate and infiltrate in an unnatural manner, mesoblastic as well as epiblastic, and hypoblastic tissue. While the parasitic theory satisfactorily explains many of the primary growths, it fails to show why epithelial tissue proliferates in a locality where it has no normal habitation, as in metastatic growths occurring in mesoblastic tissue. The amœbæ which the writer has seen have almost always been situated in a vacuole. The relation of these parasites to their host is problematical. The amœba multiplies by sporulation.

Ocular Vertigo.—Wilbur B. Marple states that by far the commonest cause of ocular vertigo is the diplopia following a paralysis or paresis of some nerve supplying the ocular muscles. Diplopia is, however, often met with unassociated with vertigo. Two points regarding diagnosis are referred to by the writer: The less conspicuous the [illegible] anomaly [illegible] to the observer. [illegible] the patient to suffer from vertigo, the failure of the vertigo to disappear when one eye is closed does not necessarily exclude the possibility of the existence of some muscular anomaly of the eye. The following safe rule is given: If closing one eye does not cause a disappearance of the vertigo, then have the patient close the other eye only. If there is a paralysis or paresis of an ocular nerve the vertigo will then disappear at once. After excluding any paralytic muscular anomaly, the writer declares that his expectations of finding any ocular cause for the vertigo are very much lessened. He believes that the influence of insufficiencies of the ocular muscles in the production of various disturbances has been vastly overestimated, and that a great deal of injudicious snipping of the ocular muscles has been done. He has met with not a few cases of vertigo associated with ocular palsy, but the number in which a muscular or refractive anomaly of the eye was the cause has been very small.

Report of Ninety Cases of Typhoid Fever in Infants and Children.—Isaac A. Abt presents this report. Typhoid fever in children under two years of age is extremely uncommon. It can hardly be doubted that fetal typhoid can occur. Headache was the most frequent prodromal symptom. In the younger children the pulse was rapid, while in the older children it was slow. There is nothing new to note from the temperature records. Relapse occurred in 10 per cent. The onset of the disease is often characterized by the occurrence of nervous symptoms. Infection of the mouth occurred despite the greatest care. The writer takes up the various symptoms, after which he considers the organs. But perhaps the most interesting feature treated is the urine. Out of ninety specimens of urine, representing fifteen cases of typhoid fever, seventeen specimens, representing five cases, showed the presence of the typical typhoid bacillus. In eighteen specimens, varieties of the bacillus coli and of the typhoid germs were found. In the greater number of cases the typhoid organisms were first found from the end of the third week to the middle of the fourth week of the disease. They may, however, make their appearance as early as the end of the second week, or as late as the fortieth or forty-fifth day. The typhoid bacillus, when accompanied by other species, may occur in such small numbers as easily to escape notice. The bacilli may be so numerous as to make the urine turbid. The largest number is more likely to be found just after the height of the fever, or at the beginning of the defervescence, from which time they usually decrease in numbers as long as the examinations continue. In Abt's cases in which the typhoid bacillus was found, albumin was always present. In the cases in which the typical typhoid bacillus was found, pus could nearly always be demonstrated, even though, in many cases no pus microbes were present. Prophylactic measures should be taken in these cases. Rigid disinfection of the urine should be made from the first appearance of the bacillus till it disappears. The administration of small doses of urotropin to the patient is one way of accomplishing this result. The treatment employed in these cases was the same as that which is everywhere in vogue.

New York Medical Journal, November 1, 1902.

The Dependence of Skin Affections upon Nutritive Disturbances.—W. R. Inge Dalton finds the acid dyscrasia to be the starting point of many skin troubles, and insists upon the necessity of daily evacuation of the bowels, abstinence from alcohol and malt liquors, absolute avoidance of sweets, no meat for six weeks, though fish and eggs are permitted and copious draughts of water, especially before breakfast. He favors the use of the following combination, in tablet or capsule: naphthalin, one grain; ipecac, one-half grain; willow charcoal, one and one-half grains, and one one-hundredth grain each of calomel, strychnine and pilocarpine.

The Burke Foundation and a Plea for Proper Homes for the Convalescent Poor of the Large Cities.—S. A. Knopf suggests that on the foundation recently established by Mr. Burke there should be erected the following institutions: (1) a home for patients convalescing from nervous diseases; (2) a convalescent home for patients discharged from obstetrical and surgical wards; (3) a home for convalescents from typhoid fever, pneumonia, grippe, rheumatism, etc., and (4) a home for convalescent consumptives. All four institutions should be in different localities and at some distance from each other, for the aggregation of too large a number of people would prove injurious to no matter what class of convalescent patients. If at all practicable, each home should have a division for convalescent children.

A Case of Necrosis of the Mucosa of the Large and Small Intestine, with Hemorrhage into the Tissues, Produced by Streptococci (Enterococci).—The case is reported by H. F. Harris, the patient [illegible] suffering from eclampsia. [illegible] and a dead child was removed. The patient died two days and a half after the operation, apparently from exhaustion. The autopsy findings are recorded with the most painstaking minuteness and the record cannot be reproduced here. The author believes that, in view of the fact that the patient was suffering from Bright's disease, it seems highly probable that the condition of [illegible] resistance in the body resulting from the renal lesion was, in a large measure, responsible for the pronounced character of the changes observed in the intestine.

American Medicine, November 1, 1902.

Arthropathy of the Vertebral Column in Tabes.—William G. Spiller reports this case of tabes dorsalis in a patient aged fifty-nine years. She first noticed, about four years ago, that her spinal column was being deformed. She has pronounced scoliosis and lordosis in the thoracicolumbar region, and this deformity is said to have developed gradually. The right hip is raised considerably higher than the left when the patient is sitting on account of the deformity of the vertebral column. The spinal arthropathy is associated with arthropathies of the left foot, left knee, and right shoulder, and an arthropathy is probably now developing in the left shoulder. According to Marie, it may be very difficult to determine whether the condition is one of fracture or arthropathy of the vertebras and possibly the two conditions exist together. Arthropathies of the vertebral column in tabes are of very rare occurrence.

The Causes, Prevention, and Cure of Puerperal Eclampsia.—Robert Reyburn states that after the initial stage of nausea in pregnancy, the appetite is apt to become abnormally keen when the patient eats too largely. Many physicians are accustomed to prescribe alcoholic drinks at mealtime for these patients—a reprehensible practice. Two other factors in relation to the causation of the disease under discussion are neglect of sufficient exercise and neglect to keep the skin in proper condition by bathing and friction. Preventive treatment is far more important than remedial. Purgatives and diuretics are indicated in cases of albuminuria. Hydrotheraphy and diminution or total abstinence from nitrogenous food help wonderfully in the treatment. If convulsions develop during labor, delivery should be accomplished as quickly as possible. Bleeding is sometimes indicated, as in a case of the writer's, when the convulsions came on after the delivery of the child. When the disease develops during the early period of pregnancy, the writer recommends that all other methods of treatment be tried before premature labor is induced. The skin, bowels, and kidneys should be made to act vigorously. Elimination is the keynote to the whole situation.

Why Do the Stomach and Pancreas Not Digest Themselves? Howard B. Baker suggests the following theory. The "secretions" that are manufactured by cells are substances that they do not need—are, in fact, their excretions. Bacterial cells are poisoned and their processes brought to a standstill by accumulation of the products of their own activity. It is probable that this is more or less true among living things. It would seem from Beaumont's observations that the stomach is normally empty without food. If this is so, then undiluted gastric juice does not normally lie on the lining membrane of the stomach. When it is being produced the food is in the stomach and takes it up and carries it away. Long before there is an over-accumulation, the cell begins to be depressed by its own products and to pour them out more slowly. If they still accumulate, the cell is paralyzed altogether, its excretion stops, and this before the product has become strong enough to do any damage to the cells at the place of its formation. The essential idea is that in the glands there is an inhibition of cell activity when the normal excretions accumulate. The relation of this theory, like that of others, to the pathologic autodigestion of the organs of digestion mentioned, is most interesting. If vitality of the part were lost, it is probable that a degree of accumulation which would only slightly inhibit a vigorous living cell would be able to digest it. Or, under the influence of excessive nerve stimulation, the cells of a part of a gland may overwork, and be suddenly overwhelmed, killed and digested. This may explain some cases of pancreatitis.

The Philadelphia Medical Journal, November 1, 1902.

Report of a Case of Penetrating Wound of the Heart; Unsuccessful Attempt at Suturing.—John H. Gibbon saw this patient about half an hour after he had been stabbed. Blood was slowly oozing through the wound in the fourth costal cartilage. The pulse was so small and rapid that it could not be counted. There was no evidence of blood in the pleura. The patient was semiconscious, and any manipulation produced a state of great restlessness. A hypodermic of morphine and atropine was given, but a small amount of chloroform was found necessary in order to proceed with the operation. A flap was turned back and the fourth costal cartilage excised. Considerable semifluid blood was found outside of the pericardium. The opening in this sac was readily found, and, when it was enlarged, a stream of dark blood spurted out. The pericardium was filled with blood. The tip of the finger discovered the opening in the heart, and controlled the bleeding. The third costal cartilage was resected. A catgut suture was passed into the heart near the wound, for the purpose of bringing the organ up into the external opening where it could be sutured. But at this juncture the patient died. The wound was found to be in the right ventricle, just below the pulmonary opening and very near the septum.

A Contribution to the Study of Nephritis in Smallpox Based upon Analyses of Urine in 128 Cases.—William M. Welch, Jay F. Schamberg, Holder C. Kirby, and Russel R. Jones conclude that: (1) Albuminuria is more common in smallpox than is generally believed, having been present in 65 per cent. of the cases examined. The fact that tube casts were found in 45 per cent. of the cases warrants the assertion that the albuminuria in most cases is the expression of a structural change in the kidneys. (2) Cases of discrete variola and well-marked varioloid have, in the experience of the writers, been accompanied with nephritis almost as often as cases with more profuse eruptions. This would suggest that the kidney involvement is the result of the influence of the smallpox poison. (3) The daily fluctuation in the presence of the abnormal urinary constituents necessitates repeated examinations in order to avoid misleading results. Microscopical examinations of the sediment will frequently reveal the presence of tube casts when albumin is not present in quantities demonstrable by the ordinary tests. (4) The clinical symptoms of variolous nephritis are, as a rule, mild, and by no means as obvious as those observed in scarlatinal nephritis. (5) Arnaud's investigation demonstrates that albumin may persist in the urine in minute quantities after convalescence from smallpox. This occurred in 75 per cent. of his cases. The histological examination of the kidney would indicate that this minimal albuminuria represents interstitial changes in the kidney. (6) If it be true that the albuminuria accompanying infectious diseases is, in large part, the expression of a structural change in the kidneys, is it not probable that the damage thus done may, if unrecognized and uncared for, insidiously eventuate in chronic Bright's disease? (7) The practical lesson which is contained in this proposition is that the urine of patients convalescent from infectious diseases should be carefully and repeatedly examined, and the diet and mode of life of the patient regulated accordingly.

The Lancet, October 25, 1902.

Strangulated Hernia in a Woman Ninety Years of Age; Operation; Recovery. The case is reported by E. F. M. Neave, and is of interest from the age of the patient and the duration of the strangulation, which had lasted fifty-two hours. Owing to the slight symptoms of the immediate seizure the friends of the patient would not consent to earlier intervention. The hernial sac was opened and found to contain very little fluid. The bowel looked fairly healthy. The constriction was found to be at the crural ring. The tip of the little finger could not be passed into this opening. With a probe-pointed bistoury the stricture was notched, and the bowel, after being carefully washed with lotion, was pushed back into the abdomen. The sac was dissected up, ligatured, and cut off. The wound was closed with a continuous catgut suture and a carbolic gauze dressing was applied. Recovery was rapid and uneventful. Stitches removed on the tenth day. Ten days later the patient was going about as well as ever.

Mental Dissolution the Result of Alcohol.—R. Jones discusses the distribution of alcohol, its general effects, and quotes certain statistics of the relations between alcoholism and insanity. Acute alcoholic insanity presents a rapid course and a short duration. Chronic alcoholism implies an altered nutrition of all the tissue, particularly parenchymatous elements and epithelium, such as that of the blood vessels, causing thickening and ultimately fibroid changes. The degeneration of the tissue—nervous and non-nervous, consequent upon altered nutrition—is so general and far-reaching that the resulting symptoms are of a most varied nature. Attempts have been made to differentiate these according to the particular form of alcohol taken—such as wines, beer, spirits, liqueurs (absinthe), etc., but the distinction is less psychical than physical, and the symptoms consist in the greater frequency of convulsive discharges from such as absinthe, of analgesia from wines, and of hyperalgesia from essences. The liver of the spirit-drinker is familiar, as also the gross fatty changes in beer-drinkers. Modifying factors are (1) diathesis, idiosyncrasy, or inheritance of the patient; (2) sex (effect-worse in women); (3) elimination depending on eliminative activity and varying in each individual, (4) exercise, and (5) age. The period of greatest incidence to the pernicious effects of alcohol corresponds closely with that period upon which falls the greatest mental strain. The author discusses the symptoms of alcoholic insanity, pathology of chronic alcoholism, and treatment of the insanity, but nothing new is presented under these headings.

A Remarkable Case of Pneumothorax.—The patient of H. C. L. Morris was a man thirty years of age, who fell some twenty feet. Examination showed traumatic emphysema over the left side from the clavicle to the lower-rib border. The left chest was very nearly immobile, and the general signs and symptoms were those fo lung penetrated by a fractured rib, but at no time could a trace of the fracture be discovered. Shortly after, an unusual sound was heard on auscultating the chest. It was synchronous with the cardiac systole. It was someting between a click and the noise made by a bursting bubble, and was distinctly heard all over the room. On auscultation, in addition a loud to-and-fro churning sound was heard over the præcordium. The subcutaneous emphysema was distinctly less, but no breath sounds could be heard. The patient had very little discomfort, his temperature was normal, and his pulse was 68 and of good volume. Indeed, during the whole course of his illness the temperature never rose above normal, neither did his pulse-rate after the first day range above 70. The clicking sound was audible to those standing by the bedside for four days, and was always worst when he turned on to his left side. The subcutaneous emphysema had disappeared by the third day. On the fifth day breath sounds were faintly heard over the apex, and gradually became louder each day until the fourteenth, when the lung had fully expanded. The sounds heard over the præcordium—namely, the clicking and friction sound—remained very loud until the seventh day, and then got fainter and were last heard on the tenth. Morris thinks that they were caused by the squeezing of bubbles of air between the pericardium and the parietal layer of the pleura. Most certainly the man had no pericarditis. A fortnight after the accident the chest presented no abnormality whatever and a week later the man returned to work perfectly well.

The British Medical Journal, October 18, 1902.

The Therapeutic Value of Arsenic and the Justification of Its Continued Use in the Light of Recent Observations Concerning Its Toxic Action.—Ralph Stockman believes that the occurrence of serious chronic arsenical poisoning as a result of the medicinal administration of the drug is decided rarity, and happens very seldom in ordinary medical practice. There is practical unanimity of opinion that serious effects very seldom accompany or follow its therapeutical administration. However, Jonathan Hutchinson holds that the prolonged internal use of arsenic may give rise to epithelioma. The writer speaks of the signal value of this drug in cases of certain chronic skin diseases, in chorea, malaria, asthma, and in chronic heart affections. He has not found it of any use in diabetes mellitus. There is no evidence to show that arsenic has any pronounced effect as a hæmatinic tonic. It is undoubtedly a valuable general tonic. The late researches concerning the value of cacodylic compounds as substitutes for the ordinary preparations of arsenic are discussed. Stockman thinks that it is unlikely that the different chemical compounds containing arsenic are much superior to the original drug.

Pure Urea in the Treatment of Tuberculosis.—Henry Harper declares that urea fulfils many of the requirements of a remedy for tuberculosis. It is not a corrosive, poisonous to the tissues, so that it can be administered in doses sufficiently large (1 to 1½ per cent. body weight) to exert an inhibitory power on the bacillus. It is capable of good, and almost incapable of harm. It is an animal substance, not one foreign to the economy; its action is to supply something that is needed to reinforce the body to resist the invasion of the intruder. In its administration, begin with twenty-grain doses, and gradually increase up to sixty, eighty or one hundred gr., three times daily between meals, dissolved in water flavored with peppermint. If symptoms of gastritis show, then cease the urea for a few days and begin again. It is valuable in all forms of tuberculosis, including that of bone and lupus. In cases of mixed injection the writer has given, along with pure urea, calcium sulphide. Surprising results have been obtained. In proportion as he has increased the nitrogen in [illegible] the death-rate has lessened. In the last year this death-rate has been reduced by 75 per cent.

Exaltation of Bacterial Virulence by Passage Outside the Animal Body.—E. W. Ainley Walker declares that the virulence of a bacterium for a particular species of animal is in general heightened by its growth in the tissues of an animal of that species. The usual method for increasing the virulence is that of "passage" through a succession of animals. The writer has carried on experiments by growing a particular variety of typhoid through fresh (bacteriolytic) normal rabbit's blood for nearly thirty passages, and noting the effect upon its virulence. The virulence of the organism for guinea-pigs was at least doubled by twenty-six passages through fresh rabbit's blood. In regard to rabbits, the virulence was more than doubled by a passage through fresh blood of the same species of animal. The writer concludes that: The virulence of a bacterium may be increased by "passage" through a bacteriolytic fluid *in vitro*. The practical bearing of this observation and its relation to certain of the problems of infection and immunity are apparent. The increase of bacterial virulence, which may be brought about by "passage" through the body of a living animal, is probably attributable to the effect of the successful resistance of the surviving microorganisms to the bacteriolytic action of the living tissues.

On the Use of Alkalies in Relieving Pain. Lauder Brunton calls attention to the fact that the presence of acid in a carious tooth is a most potent cause of toothache. Dyce Duckworth has shown how toothache may be stopped as if by magic by putting into the cavity a little cotton dipped in sodium bicarbonate, thus neutralizing the acidity. It may be mixed with laudanum or cocaine, or both, or it may be used alone. When pain is felt in all the teeth, it often depends upon irritation of the roots of the teeth, just at the edge of the gums, by acid fluid in the mouth. This pain may be generally be relieved by rubbing a little sodium bicarbonate along the edge of the gums, or by rinsing the mouth with a solution of sodium bicarbonate. The strength is not important. A teaspoonful to half a tumbler of water answers well. The writer then speaks of his own experiences with boils. These were very painful, and he took sodium bicarbonate by mouth with benefit. Later he applied a solution to the boils themselves with the most satisfactory results. He speaks of the more extended use of alkalies in neuralgia. The relief in these cases after taking food not unlikely depends more on the secretion of acid in the stomach and a consequent increase in the alkalinity of the blood than to any change in the circulation. In this case the free use of sodium bicarbonate and potassium bicarbonate in such cases may help to give relief.

British Medical Journal, October 25, 1902.

A Fifth Attack of Scarlet Fever.—A. G. Everard gives an account of a patient who had the fifth attack of scarlet fever. The first attack was at the age of two and a half years; this was complicated with chickenpox and measles, all three rashes being present at the same time. The second attack came at the age of seven, the third in 1887, the fourth and fifth in 1896 and 1901, respectively. The daughter of the patient, ten years old, had her second attack of the disease at the time the mother suffered from her fifth.

Serum Therapeutics and Carcinoma.—William James Hoyten reports two cases of incurable cancer in which he used injections of serum expressed from carcinomata taken from other patients. In one case he mixed the serum with normal saline solution, and in the other he used the plain serum. In both cases the infiltrated glands cleared up wonderfully, and the great pain practically ceased. The writer believes that if the surgeon in general practice could obtain fresh specimens of carcinoma for the preparation of serum, the results would be very happy both for the patient and the profession.

The Harveian Oration on the Heart and Nervous System.—David Ferrier considers his subject in several sections. He first takes up the circulation and the nervous system, and reviews Harvey's work. The subject of visceral nerves next receives attention. These nerves consist of two sets, possessed of opposite functions—motor and inhibitory. These terms are applicable to their action on the heart, blood vessels, and hollow viscera. The writer then brings us down to the time of the brothers Weber, who, in 1845, observed that electrical irritation of the vagus caused the heart to beat more slowly, or even to stop temporarily in diastole. The heart is hardly, if at all, sensitive to tactile stimuli. But it is sensitive to severer forms [illegible] to [illegible] of [illegible] normal tension. The [illegible] part [illegible] the part toward the base. The centers, both of the cardiac accelerators and inhibitors and augmentors are in the medulla oblongata. They are more or less continuously automatically active. As a rule there is no direct voluntary control over the heart. There are cases on record, however, in which the heart's action has apparently been inhibited. Some of these may be explained as occurring through the medium of the respiratory mechanism. In other cases this explanation will not suffice. The caliber of the blood vessels like the heart is regulated by mutually antagonistic sets of nerves, the vasoconstrictors and the vasodilators. The center which regulates the caliber of the blood vessels is in the pons. There is also evidence of subsidiary centers in the cord itself. The centers of the vasodilator nerves have not been determined with the same precision as those of the constrictors. They are probably related to the segments of the cord from which they arise. Vasodilatation is sometimes only a cessation of normal tone. There is one nerve whose action is always vasodilatation. This is the depressor, one of the afferent or sensory nerves of the heart. The writer then discusses the function of the cardiac and vasomotor nerve mechanism. The cardiac and vascular reflexes are intimately connected with the circulation of the brain. No satisfactory experimental evidence has yet been furnished as to the existence of vasoconstrictors or vasodilators of the cerebral blood vessels. However, nerve plexuses like those of vasomotor nerves elsewhere have been demonstrated on the vessels of the pia mater. The cerebral circulation varies, on the whole, only passively with the circulation as a whole. The cerebral circulation depends largely upon the tone maintained by the vasomotor center. The last section considers the influence of cerebral activity on the circulation. This is a very complex problem, which still awaits a definite solution. It has been shown that every feeling, whatever be its nature, acts primarily as an excitant. Vasoconstriction is caused by the passage from a condition of repose to one of activity, whether intellectual or emotional. Wundt holds that the discrepancies are due to the fact that the characters of feeling are far more complex than can be expressed in simple terms of pleasure or pain. Pleasurable states of mind are accompanied by a more active circulation and exaltation of all the vital processes, while the opposite condition exists in a state of mental pain. Under the influence of fear, not only is the circulation affected, but there is a tendency to irradiation beyond the cardiac and vasomotor into all the splanchnic functions. Various phenomena, such as profuse perspiration, horripilation, etc., are the result of its action. It is not accurately known through what channels the cerebrum influences the cardiac and vasomotor centers, but they probably traverse the tegumentum beneath the corpora quadrigemina.

Deutsche medicinische Wochenschrift, October 9, 1902.

Hæmolytic Blood Plasma.—G. Ascoli, after a series of experimental observations, comes to the conclusion that the blood plasma possesses the same hæmolytic properties which have been demonstrated in the blood serum [illegible] vitro and in vivo. When all the facts are taken into consideration, it is improbable that hæmolysis is an [illegible] process or dependent upon plasmolysis or [illegible] and it seems certain that it is due to the combined action of two ferments, known respectively as the immune body and complement, which are present in the blood plasma and are not encountered in the serum as the result of [illegible] tion, leucolysis, or post-mortem changes.

Cutaneous Gangrene Following Subcutaneous Infusions.—E. Wormser does not agree with Baisch that the cutaneous gangrene, which the latter observed after the subcutaneous injection of Tavel's solution, is due to the [illegible] which is contained therein. Wormser [illegible] used subcutaneous infusion in upward of [illegible] cases; in about one-half of these Tavel's solution was employed and in the rest a saline solution. Two cases of cutaneous [illegible] were observed, one following Tavel's and the other following the salt solution. Certainly, upon this basis, [illegible] be said that the soda in Tavel's solution is [illegible] of cutaneous gangrene and it is certain that in the [illegible] which it is present other factors are responsible [illegible] appearance that have as yet been discovered.

Penalties for Drunkards.—The Austrian Government [illegible] preparing a bill for the purpose of combating drunkenness. The measure provides for the imposition of severe penalties upon dipsomaniacs.—*New York Tribune.*

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-eighth Annual Meeting, Held in Kansas City, Mo., October 15, 16, and 17, 1902.

The association met at the Midland Hotel, under the presidency of Dr. S. P. Collins of Hot Springs, Ark. After the reading of the reports of the secretary, treasurer, Committee on Credentials, Committee on Publication, etc., the president delivered his address.

The Relationship Syphilis Bears to the Body Politic was the title of the presidential address. His reasons for selecting this subject were, first, because of the importance of calling attention constantly to a disease so widespread as syphilis; second, because it was a disease which, with proper education concerning its frequent occurrence, together with its various modes of transmission, could be controlled more effectively than most diseases, and, thirdly, because for the past twenty-five years he had been a daily observer of its frightful ravages upon the body politic or society at large.

The history of syphilis was so closely interwoven with the history of the world that it was difficult to disassociate the one from the other. From the earliest records kept by the Chinese and Hindoos down to the records of the Greeks and Romans, a disease characterized by a primary sore, followed by constitutional symptoms, had existed. Anthropology had demonstrated that an affection was present among men in prehistoric times which produced lesions corresponding with those found to-day in tertiary syphilis, and in the inherited forms of this disease. Records showed that 4,526 years ago the Chinese knew of the duality of the chancre. They also knew that mercury was the antagonistic medicine, and syphilis existed among the Jews centuries before the birth of Christ, assuming such proportions at one time that Moses had 24,000 men who had contracted it summarily put to death. With the outbreak of the epidemic of the fifteenth century, the disease seemed to have assumed a malignant form, the general characteristics of the affection becoming apparently more pronounced and malignant. The prevention of the spread of syphilis, in the author's opinion, by educating the public more thoroughly as it is being educated concerning the communicability and modes of transmission of tuberculosis, should be more vigorously advocated. The public, however, must first be willing to learn before it can be taught.

Syphilis was communicated not only by some infected person, but by articles which have come in contact with the specific poison, and kissing was a prolific source. Bulkley had shown it could be conveyed by knives, forks, cups, pipes, cigars, chewing-gum, and candy passed from one person to another. A new-born babe, with inherited syphilis, was extremely infectious to those about it. The history of this disease was intimately associated with the subject of prostitution.

In our day the prohibition of prostitution was not practical. Regulation of the vice had proved ineffectual in controlling its spread. If it was legalized, the men frequenting the houses should be subjected to the same rules in regard to examination that the unfortunate inmates were subjected to. In New York City there were, in 1901, about 200,000 cases of syphilis, and Gihon, a few years ago, estimated that there were two million cases in the United States. Syphilis was prolific of harm to humanity; its dire results were far reaching; it was no respecter of persons, being as vicious in the palace as in the hovel, and physicians could do more by educating their patients as to the modes of infection, and by advising with the younger ones among those whom they treat, than all the laws that had been or will be enacted could do to prevent the spread of syphilis.

The association divides its scientific work into two sections, medical and surgical.

MEDICAL SECTION

Smallpox.—Dr. John M. Batten of Downingstown, Pa., read a paper on this subject, in which he detailed the symptoms, and then discussed the diagnosis, prognosis, and emphasized the necessity of vaccination.

An Attempt to Obtain Uniformly Active, Sterile, and Non-Irritating Preparations of Digitalis for Subcutaneous and Internal Administration.—Dr. E. M. Houghton of Detroit, Mich., referred to the unsatisfactory condition of our knowledge of the chemistry of digitalis, and stated that a sterile, non-irritating, and uniformly active preparation was greatly needed. He detailed his efforts to obtain such a preparation containing the largest possible amount of active constitutents and the smallest amount of the inert constituents of the drug, based on pharmacological experiments on the lower animals. He gave the clinical results and conclusions arrived at.

Some Developments in the Therapy of Iodoform.—Dr. J. J. Gaines of Excelsior Springs, Mo., followed with a paper on this subject. He regarded iodoform as the best remedy for tuberculosis at the command of the physician. He spoke of it as an ideal iodide, storing all quantities of iodine, which could be easily liberated. He mentioned its use in pulmonary and gastrointestinal diseases, and reported a number of cases in which he had used it with gratifying results.

Normal Sleep Versus Drug Unconsciousness.—This paper was read by Dr. J. B. Learned of Northampton, Mass. Natural sleep was indispensable to long life and business success. Drug unconsciousness, labeled sleep, was the reverse. The indoor brain-worker failed to lay the foundation of normal sleep by day, and suffered by night the result thereof. Brain and muscle employed in the open during the day would secure the normal conditions of sleep at night. Automatic brain activity at the sleeping hour was the immediate cause of wakefulness. The ready remedy was muscular exertion under the direction of the will, either mild, without change of parts, or the reverse. Control of the respiratory and circulatory functions met the desired end by withdrawing power from the brain centers. All automatic brain work was suspended when concentrated attention was paid to alternate contraction. and relaxation of certain groups of muscles. Automatic brain work was pathological. Brain and muscle work, under the direction of the will, was physiological. The author detailed a method of inducing sleep.

The Treatment of Exophthalmic Goiter by Electricity.—Dr. H. M. Beaver of Spring Hill, Kan., in this paper defined exophthalmic goiter, and then discussed the clinical history, cause, etc. He said predisposition might act as a predisposing cause. The exciting cause might be a previous illness, injury, or over-exertion. The exciting cause involved a determination of blood to the brain and medulla oblongata. This determination of blood acted as an irritant by pressing upon the nerve centers, causing the incoordinate nerve action found in this disease. The symptoms referable to the heart, lungs, stomach, thyroid gland, and eyes were nervous phenomena. The cardinal principle of treatment was to decrease the flow of blood to the head. When this was accomplished, all the minor symptoms would subside. The author reported three cases of the disease, and described the mode of application of electricity, also the battery used. He regarded exophthalmic goiter as a vasomotor paralysis; hence it was amenable to electrical treatment.

Symposium on Tuberculosis.—Dr. W. A. Campbell of Colorado Springs, Col., read a paper entitled "What Class of Pulmonary Cases Do Well in Colorado?" After speaking of the prevalence of tuberculosis and the frequency of unrecognized and cured cases as shown by autopsies, Dr. Campbell gave an analysis of 250 cases coming under his observation, in which his examinations were made soon after their arrival in Colorado. He found in this series of cases that the average age was twenty-nine and four-fifths years. Sex or social station made no difference in physical condition or result. Twenty-nine States and five foreign countries furnished the cases. Those with tuberculous family history did not do as well as the non-tuberculous. The percentage of benefited decreased as the duration of the disease increased. The right lung was involved alone oftener than the left. The percentage of benefited was slightly in favor of the right lung. Where both lungs were involved the mortality was 50 per cent. In the first-stage cases 92 per cent. were benefited; in the second stage, 54 per cent.; in the third stage, 13 per cent. Hemorrhage, occurring in the first stage of the disease, was no contraindication to residence in high altitude. The diminished arterial tension and dilatation of external capillaries, due to lessened atmospheric pressure, made it safe for hemorrhagic patients to seek a higher altitude. He would not send patients of acute military tuberculosis or phthisis florida to high altitudes; neither would he send the extremely nervous, with an irregular or rapid heart and high temperature. Patients with well advanced disease, with rapidly breaking-down lung, should not come. Those having cardiac dilatation or acute endo- or myocarditis should not come. Cardiac murmurs were no contraindication if compensation had taken place. Those having Bright's disease should not come. Those with advanced laryngeal or intestinal disease did not do well. He would have patients come with sufficient money to support themselves on good food until acclimated and improvement was well advanced. In conclusion, he cited the high percentage of cases benefited in the first stage, and made an appeal for the early detection and early protection of the tuberculous subject.

Climatic and Electric Peculiarities of Colorado Favoring Recovery in Pulmonary and Intestinal Diseases and from Surgical Operations.—Dr. J. E. MacNeill of Denver, Col. followed with a paper on this subject, in which he discussed the physical characteristics of Colorado affecting its climate; the mineral springs of Colorado, and cited some generally-accepted facts regarding mountain climates applicable to Colorado. He also discussed the value of high altitudes with their rarified air and direct sunlight in the treatment of abnormal conditions, and, finally, the electric conditions.

Digestive Disorders in Consumption, with Notes on Mixed Infections.—Dr. Paul Paquin of Asheville, N. C., regarded consumption as a mixed infection, and the plague of civilization. The majority escaped this disease, not because they were not attacked, but because they resisted the attack. Here was a problem of protection. A condition that would prevent the germs of consumption from developing in the system, and if they did get a start in growth, a condition that would stop them. The digestive apparatus was the system on which the vital energy chiefly depended. If it did not carry on its functions with sufficient effectiveness and persistency, life was a nightmare, and when an individual was sick recovery was a serious problem.

So with respect to consumption, the most vital question was that of nourishment, whereupon one might base such measures of treatment as might be deemed best for restoration. Without nourishment of a sufficient kind, in quantity and quality, nothing would avail in therapeutics. Tuberculosis could not be arrested without the assimilation of sufficient and proper food. Bearing in mind the pathology of the gastrointestinal affections accompanying consumption, a normal condition of the mucosa must be restored before good digestion can take place. Among the local measures to this end were stomach and high intestinal lavage. He had known patients who were declining steadily from the ravages of consumption and dyspepsia to gain from two to four pounds a week after the beginning of weekly or semi-weekly lavage of the stomach alone.

As specific measures, serotherapy, the cacodylates and iodine offered the greatest aid in preventing organic changes. Immunizing antitubercle serum was effective, because it was antagonistic to the tubercle toxins, which were, in a large measure, responsible for such lesions.

Mixed infections in tuberculosis offered the greatest complexity in the dyspepsia accompanying them. He thought it was due to the effect of a combination of the numerous kinds of germ poisons produced in such cases, both in the lungs and alimentary canal.

Excellent Results in the Treatment of Disease, Especially Tuberculosis, by the Use of the Ultraviolet Ray.—Dr. Albert E. Sterne of Indianapolis, Ind., read this paper. He spoke of the division of the sun's rays, dwelling particularly upon the actinic or chemical rays of light, and the identity of those emitted from the voltaic arc with those of the solar planet. From this he had elaborated a method of treatment, for which it was claimed that most excellent results had been attained, both in a general and local manner. The nude body was exposed to intense light from powerful voltaic arcs, and, in addition, free ozone was developed from a special ozonating apparatus. In local applications only one pole was used, and this was connected with vacuum tubes devised for different portions of the body to be treated.

Dr. Sterne claimed most excellent results in almost all conditions of debility, notably in neurasthenia, and in the primary stages of tuberculosis.

His conclusions are: (1) Actinic rays are chemical in their quality, but of small caloric value; (2) They exist mainly in the ultra-violet zone of the spectrum; (3) Actinic rays derived from high power electric lights are similar or identical to those of solar origin; (4) Their use is as rational as sunlight itself; (5) Their value lies in their decomposing, but, at the same time, reconstructive, molecular action upon the body tissues, mainly the blood elements; (6) Their activity is enhanced by the generation of ozone in free and nascent form; (7) Their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system; (8) Their germicidal action is especially pronounced, on account of the fact that germs can exist in the presence of free or nascent oxygen in either bi- or tri-atomic form.

Sanatorium Treatment of Pulmonary Tuberculosis, and How It May Be Carried Out at Home.—Dr. Robert H. Babcock of Chicago discussed this phase of the subject. He divided the sanatorium treatment into four classes: Pure air, nourishment, or forced feeding, hydrotherapy, and a strict régime or control of the patient's daily life.

The open-air treatment was obtained by the patient being exposed on a balcony or in properly-constructed shutters, where he was protected from cold winds and elements, and kept in the open air, sometimes even when the temperature was as low as 13° below zero. Among the conditions which indicated rest in the open air were progressive loss of weight and cardiac asthenia. When patients had passed out of the stage in which these conditions existed, were convalescing, then exercise was permitted, the exercise being carefully determined by the medical attendant. The nourishment of the patient was carefully selected, not only with reference to a proper proportion of proteids, which should be large, but which also included the proper amount of carbohydrates. Milk, raw eggs, meat, and its varieties, poultry and fish, etc., were articles on which reliance was chiefly placed.

Hydrotherapy played an important part in the treatment. Hydrotherapy was applied for the purpose of stimulating nutrition, toning up the circulatory system, and overcoming the hyper-sensitiveness of the skin, which existed in so many tuberculous patients.

As to the control of the patient, a very important element in treatment, every patient should be controlled from the time he got up in the morning until he went to bed, and this was done by the supervision of a skillful medical attendant and nurse. The temperature was carefully recorded and even the recreations in which they indulged were carefully selected by the medical attendants, with a view to the prevention of excitement, for even mental emotion was deleterious to many of these patients.

Speaking of the home treatment of tuberculosis. Dr. Babcock detailed it at considerable length, saying that the majority of medical practitioners were not fully alive to the importance and value of this treatment, and were not properly instructed in the details or method.

Tent Life in the Treatment of Tuberculosis.—Dr. A. Mansfield Holmes of Denver, Col., read a paper on this subject. He stated that pure air and sunshine were two important factors in effecting a cure of tuberculosis. Tent life was the most important means of securing the advantages of these factors. The author called attention to the essentials of an ideal tent cottage, and gave rules for governing tent life. These who had had no experience with tent life invariably entertained an exaggerated idea of its dangers and inconveniences. A short experience soon dispelled this fear, and patients were, with difficulty, induced to return to an indoor life. Extended experience with tent life in Colorado justified him in making the following deductions: It increased the appetite; improved nutrition, diminished cough; night sweats ceased; sleep was improved; weight increased; fever decreased, and the tendency to take cold was diminished.

A model of the tent cottage adopted by the Rocky Mountain Industrial Sanatorium was exhibited, showing improved methods of construction and ventilation.

Address in Medicine.—This was delivered by Dr. Hugh T. Patrick of Chicago, who selected for his subject, "How Not to Be Nervous." The author stated that the initiative of all therapeutics should be prophylaxis. Prevention was paramount to cure. The first and most effective preventive of nervousness was a reasonably long line of first-rate forbears. To be able to present a specific illustration of the force of inheritance in the genesis of functional nervous affection, he had tabulated from his office records 100 consecutive cases which might be included under the general term nervousness, and he found that in 70 per cent. of them a neurotic heredity had been in evidence. While a bad heredity was the most frequent and most potent factor in the production of nervousness knowledge of this fact should not lead the profession into apathetic resignation, but rather make it face the difficulty with wise determination.

Next to the omnipresent, inevitable laws of inheritance, came the never ceasing formative power of environment. Reaction to extraneous influences began at birth, and ceased only with the extinction of life, but childhood and youth were the plastic stages.

For preventing nervousness in the child, or removing that already present. Patrick thought that there was nothing so effective as the toughening of the body and mind. A child who was made to have tough muscles, strong lungs, and a vigorous digestion, who could stand changes of temperature and endure pain, was already a long way from nervousness. More important still was toughness of psychic fiber. The child who could support disappointment, who could be crossed without a tantrum, and who habitually obeyed, was building a bulwark against nerves, and the one who was not easily frightened, had self-control and a budding courage, had nipped half a dozen neuroses in the bud. But to procure this toughness a certain exposure to bodily discomfort and mental hardship was necessary.

The author discussed at length the prophylaxis of the neuroses in children, and then passed on to the consideration of adult life. He said a deal of nervousness was caused or helped along misdirected energy, misplaced worry, longing for baubles, the fighting of phantoms, etc. To recognize the important things in life was one of the most difficult tasks of judgment that came to the individual.

To sum it all up, the author said: "If you wish never to be nervous, live with reason; have a purpose in life and work for it; play joyously; strive for the unattainable, never regret the unalterable; be not annoyed by trifles; aim to attain neither great knowledge nor great riches, but unlimited common sense; be not self-centered, but love the good, and thy neighbor as thyself."

Neurasthenia.—Dr. George F. Butler of Alma, Mich., read a paper on this subject. Neurasthenia was the expression of nerve tire of the central nervous system and its consequences. Nerve tire of the central nervous system implied acceleration of the action of the excitomotor ganglia of the organ, with first, increased functionating of these organs, and, second, exhaustion with its consequences. In this way central nerve tire, finding expression along the line of least resistance, produced local organ expressions which were claimed as the cause of the constitutional condition. From these local expressions a viscious circle often resulted, which aggravated the original condition. As over-action of the organs implied under-elimination, auto-toxæmia, of necessity, followed nerve tire of a very poisonous type, like all products of nerve waste. From this, renal and hepatic disturbance was added to the clinical picture, and intensified its blackness. Neurasthenia might occur alone, or might be an expression and complication of any constitutional disorder. In such case both the nerve tire and the constitutional disorder required treatment. The neurasthenia resultant on phthisis, nephritis, diabetes and syphilis, was a true neurasthenia, which, if not treated, intensified the disorder which gave it birth.

The treatment of neurasthenia consisted in the relief of the nerve tire and conditions underlying it through proper diet, hydrotherapy, balneotherapy, relief of insomnia, and removal from an etiologic environment. Neurasthenia untreated might produce degenerate offspring, especially if the patient be a woman.

Dr. John J. Taylor of Streator, Ill., detailed a case of rheumatic neuritis, complicated by neurasthenia and other affections.

The Criminal Responsibility of the Epileptic.—Dr. John Punton of Kansas City, Mo., read a paper on this subject, which will appear in a future issue.

Sudden Atrophic Influence of Craniospinal Nerves.—Dr. F. E. Coulter of Omaha, Neb., read this paper. He reported a case and described the areas involved. He also presented a report of normal and abnormal productions, mentioned the possible etiological factors in the case, cited other cases, and then summarized as follows: Under certain conditions craniospinal nerves may exercise a sudden atrophic influence on the skin and the appendages thereof; that the results in the case reported were due to a disturbance of this nature, he thought he was warranted in concluding, because of the following reasons: (1) All the hair was normal before the attack, but within three days after the attack all disappeared from the areas described. (2) The character of the new hair was such as would be the natural product of a faulty nutrition; if due to the production of a toxin or the sudden diminution of the normal elements, was difficult to decide. It was known, however, that the abnormal hair was smaller in size, length, and diameter, and markedly deficient in pigment substance. (3) The fact that this was a bilateral lesion would naturally indicate that one was dealing with a blood condition, possibly a toxin formed by the very sudden and severe convulsive state, which manifested itself on this particular nerve trunk because of some histological character in its decomposition that we, as yet, were unable to detect. (4) That in this particular case we did not have an example of that strange, yet interesting, condition of change in color, a decolorization of the hair seen after a very great fright or severe mental anguish.

which, in a short time, changes the color of the hair completely, but rather a definite nutritive alteration acute in character.

Hebephrenia or Childhood Insanities.—Dr. W. B. Fletcher of Indianapolis, Ind., in a paper with this title, spoke of the causes, character, prevention, and treatment of the various forms of insanity incident to children prior to and during the period of puberty. The writer had observed 300 cases of hebephrenia in the city in which he lived. He cited some interesting cases.

Sympathetic Eye Diseases.—Dr. James Moores Ball of St. Louis, Mo., in a paper on this subject, made a clinical division into sympathetic irritation and sympathetic ophthalmitis. He discussed the diagnosis, symptoms, etiology, prognosis, and treatment of sympathetic irritation. Speaking of sympathetic ophthalmitis, he said it was one of the most formidable and obscure of ocular affections. Only uveal inflammation, which was caused by bacterial infection, could produce this disease. He mentioned the date of appearance, frequency, symptoms, and divided the affection into uveitis serosa and sympathetic fibrinous uveitis, saying that the former was relatively mild, while the latter was a malignant affection. Sympathetic papillo-retinitis, which rarely was the sole manifestation of sympathetic ophthalmitis, was likewise discussed. Other sympathetic affections had been described, without gaining recognition from ophthalmic authorities. He spoke at length on the prognosis of sympathetic affections, and then passed on to a consideration of the pathology and pathogenesis of sympathetic ophthalmitis, discussing the prophylaxis and treatment of these diseases.

Toxic Amblyopia.—Dr. J. W. Sherer of Kansas City, Mo., followed with a paper on this subject. He presented a clinical report of five cases of toxic amblyopia from methyl alcohol that had been seen by him. In all a degree of blindness rapidly followed drinking the poison. The eyes appeared normal externally, with pupils slightly dilated. The media were clear. There were no hemorrhages. Early there were no fundal signs, but later atrophy was visible. The fields were contracted and showed absolute central scotomata. One case was complicated by some involvement of the peripheral nerves of the lower limbs. The pupillary reaction corresponded to the description of Lauder-Brunton, who found it to be the reverse of the Argyll-Robertson reaction. Pathologically, the condition was that of peripheral neuritis affecting the optic nerves or retrobulbar optic neuritis. Much work had been done by different observers to demonstrate experimentally the minute changes. Degeneration of the ganglion cells and macular layers of the retina occurred. This was partly due to vasoconstriction and diminished blood supply, and partly to the action of the poison. Consecutively, the nerve fibers degenerated. In the experiments with quinine there was, synchronously with the onset of the amblyopia chromolysis of the retinal cells, œdema of the pericellular spaces and wasting of the ganglion cells.

Bilateral Glaucoma.—A paper on this subject was presented by Dr. Flavel B. Tiffany of Kansas City, Mo., in which he reported the case of a patient upon whom he had performed double iridectomy.

Diseases Preceding and Following the Use of Alcohol and Opium.—Dr. T. D. Crothers of Hartford, Conn., read this paper. The use of alcohol was regarded by the writer as one of the most subtle and serious causes of disease. Clinical study pointed out many distinct lines of disease which preceded inebriety, of which syphilis, trauma, dementia, and toxic states were most common. Neurasthenic conditions and tubercular diatheses preceded the use of spirits. Atrophic and hypertrophic sclerosis always followed the use of spirits. An early recognition of the organic changes which preceded and emerged into inebriety would enable one to practically prevent the disease.

Treatment of Typhoid Fever with Castor Oil.—Dr. C. C. Bass of Columbia, Miss., in a paper on this subject, reported thirty-two cases of this disease treated with castor oil, and, except in a very few of these cases in which he gave some other medicine to meet some special symptom, he gave nothing else. Thirteen cases were treated with one dose every twenty-four hours, and nineteen cases with a dose every twelve hours. The results following the treatment were very gratifying. He commended this treatment as worthy of further investigation.

Culture of Infusoria.—Dr. Henry G. Graham of Chicago, Ill., followed with a paper on this subject. He discussed the subject under the following heads: (1) Preserving the identity of the individual organism while growing it (*a*) in running water; (*b*) in stagnant water. (2) Isolation of the organism (*a*) by means of the petri dish; (*b*) by feeding to laboratory animals. (3) Transfer of elementary form to fluid culture media. (4) Second transfer of organism to fluid culture media more accessible to the atmospheric air. (5) Favoring growth of skeletal structure of protozoon at the expense of the liquid protoplasm. His deductions were that culture of infusoria will show that (1) Müller's dust corpuscles are elementary infusoria. (2) The exceedingly minute and actively motile forms are derived from the protozoa.

Croupous Pneumonia.—Dr. Wm. T. English of Pittsburg, Pa., discussed some of the signs and symptoms of this affection. He also dwelt at length upon the easiest and best methods of speedily and certainly determining them. He mentioned the application of remedies suitable to the case and stage of the malady, the advantage of grouping some phenomena in securing a speedy diagnosis, and the necessity for observing all signs and symptoms in differentiating diseases with similar manifestations.

Pneumonia.—Dr. Wm. F. Barclay of Pittsburg, Pa., contributed a paper on this subject. He considered the clinical history of pneumonitis; the close relationship between pneumonia and la grippe; the similarity in pathology, initial stages, clinical history, mortality, and treatment. The exciting causes of pneumonia and la grippe were identical. The history, duration, and progress of these diseases differed but little. The two diseases frequently coexisted in the same individual. The affections differed in the structures of the organs affected. He believed a rational treatment was based on a study of the immediate causes of death in pneumonia, as concluded in a large number of death reports in the city of Pittsburg. Heart failure and exhaustion stood out as the immediate cause of death in 98 per cent. of all reported deaths in a circumscribed area of almost one million people. Rest in bed in well-ventilated rooms, apart from atmospheric conditions, was of paramount importance. He had learned from experience that a most decided course of medication was indicated in the treatment of pneumonia, and that a like course of treatment, in cases of la grippe, robbed the disease of its terrors. First, rest in bed with requisite protection from atmospheric influences; second, a thorough cathartic of calomel was essential in bringing about a decisive derivative action of the secretions of the body. Five to ten grains of calomel with thirty to sixty grains of milk sugar, was a formula that had never disappointed him in its beneficial effect. The action of nux vomica, when properly administered, never failed in its power to alleviate the symptoms and afford relief. Tincture of nux vomica should be given in large and frequent doses, well diluted in water.

Treatment of Chronic Dysentery.—This paper was read by Dr. John L. Jelks of Memphis, Tenn. The disease was considered of microbic origin, although a specific organism had not received general acceptance as the sole causal factor. This was the basis of all treatment. No matter what the classification of the disease, the same general idea as to treatment must obtain—namely, the destruction of the microorganism, drainage, cleanliness, rest, and restoration of the tissues. An erroneous idea had prevailed that the disease was beyond reach of any possible topical medication, further than, perhaps, the use of the Wales metal bougie, which was not always a safe procedure. The sigmoidoscope and long rubber tube had a field in the treatment of this affection, and it was necessary to educate the profession as to the possibilities of this method. The patients should be placed in sanitary surroundings, free from unnecessary heat and moisture. The diet should be carefully selected. The stomach should receive careful attention. The portal engorgement should be relieved, and the intestinal tract thoroughly cleansed. Hemorrhage from the bowel, when profuse, could be controlled by styptic enemata given through the double tube. In using the sigmoidoscope, the author recommended the knee-chest position. The bowel should be thoroughly cleansed through this instrument with antiseptic washes, applied very hot. If there was much excoriation or ulceration, nitrate of silver might be applied to bleeding and eroded surfaces with a cotton probang, or in the form of a spray. Higher treatment may be administered through one or two tubes of soft rubber, which can be passed further into the colon, and the antiseptic solution administered by enema through these. If necessary, boracic acid, iodoform, or aristol may be insufflated through the sigmoidoscope, and the bowel thus thoroughly covered.

In the chronic state he had found most benefit from iodoform and ichthyol made into suppositories, and passed through the sigmoidoscope into the sigmoid. This was especially indicated in tuberculous conditions, but had its use in any form of procto-sigmoiditis or colitis. All toxic drugs must be used with caution.

SURGICAL SECTION.

Operations for Cancer of the Mouth and Neck was selected by Dr Geo. W. Crile of Cleveland, Ohio, as his subject for the address in surgery. The author's summary is as follows: In the past three decades there has been a continuous decrease in the operative mortality, and, with a single exception, of the brachiogenic cancers, even a more notable increase in the percentage of cures has been accomplished. Especially in the last decade, there has been evidence of more confidence in operations, as indicated by an increased number of cases submitted early. The supreme importance of early diagnosis, and early and radical operation, is becoming widely recognized. The same may be said of the so-called precancer stage, especially of the tongue. Except in cancer of the upper jaw, the disease is now regarded as involving the regional lymphatic system. The disease may be found in the lymphatic vessels and lymphatic glands. It rarely extends to other parts of the body. Physiological and clinical evidences show that severing the thoracic duct causes but little disturbance, owing to its free anastomosis. That the effect of resection of the internal jugular vein is practically *nil*; that unilateral resection of the vagus does not alter the heart's action, the respiration, nor the digestion, but produces a permanent hoarseness only; that division of the superior laryngeal causes anæsthesia of a part of the larynx, but pneumonia is improbable; that division of the inferior laryngeal causes paralysis of the corresponding vocal cord, but interference with respiration is not marked; that the division of the spinal accessory has but slight effect, on account of the double nerve supply to the sternomastoid and the synergistic action of other muscles; that the division of the hypoglossal causes temporary interference with speech and swallowing, but compensation occurs, that the submaxillary and salivary glands may be removed without symptoms; that the removal of the sternomastoid muscle is not followed by torticollis, etc., on account of the synergistic action of other muscles. The complete removal of the lymphatic system of one side does not produce pseudo-elephantiasis of the face and head. Permanent closure of the external carotid has an operative mortality of 1 to 2 per cent., due to thrombosis and embolism. Permanent closure of the common carotid or internal carotid is attended by an operative mortality of about 3 per cent., but in the cancer period of life from 20 to 30 per cent of cerebral complications follow, about 50 per cent of which prove fatal. Temporary closure of the carotid by means of a special clamp, as shown in the writer's forty-three cases, in which neither death nor cerebral complications occurred, is both efficient and safe. These physiological and clinical data lead to but two objective points in unilateral operations for cancer of the mouth or neck, namely, complete removal of the disease and preservation of the blood supply to the brain. If necessary, sacrifice every other structure between the skin and the place of the deep muscles of the neck. Loss of blood is the greatest operative difficulty and danger. If hemorrhage is likely to be considerable, the common carotid should be closed during the operation. In the mouth cases an anæsthetic may be administered through rubber tubes, passed through the nostrils to the level of the epiglottis, with the tongue well drawn forward. The pharynx may then be packed with gauze, so as to form an air-chamber in the lower larynx effectively, and prevent blood from entering the pulmonary tract. The dissection should be made on the same plan and as thoroughly as in the radical operation for cancer of the breast. The greater ease and certainty with which diagnosis may be early made in this region, and the rarity of extension of the disease beyond the glands of the neck, should enable the surgeon to obtain even better results here than in cancer of the breast. The hope of the patient lies in early diagnosis, early operation, and a logical technique.

Cancer of the Rectum.—Dr. Emerson M. Sutton of Peoria, Ill., read a paper on this subject. He reported cases of cancer of the posterior vaginal wall, penetrating to the submucosa of the rectum, with fibrous but nonmalignant infiltration around the rectum, producing stricture. He operated by the sacral route, resorting to the von Volkmann-Rose incision. He resected the vagina, rectum, and one-half of the cervix, anchoring the healthy end of the sigmoid to the gluteal incision side of the wound. He mentioned other cases from the literature, and then gave reasons for attempting operations for extensive cancerous growths situated in the pelvis.

Treatment of Extensive Rectal Strictures.—Dr. Emil Ries of Chicago pointed out the difficulties in treating these strictures. He referred to septic conditions, anatomical changes, and the danger of recurrence. He discussed anastomosis after resection; end-to-end anastomosis; anastomosis without resection; side-to-side anastomosis after exclusion, and end-to-side anastomosis He detailed his first case, operated upon by the latter method, saying that the patient was well over five years after operation.

Ureteral Catheterism: Its Value in Male and Female.—Dr. Bransford Lewis of St. Louis, Mo., said the purposes of ureteral catheterism in connection with the cystoscope were for diagnosis and for treatment. Cases reported showed that ureteral catheterism, in both male and female, had been reduced to a practical procedure. With the author's cystoscope, the operator was enabled to look directly on the field. Air was used for inflating the bladder. One or both ureters may be catheterized at the same sitting. The operation was performed under local anæsthesia. Case 1 showed the falsity of an *x*-ray diagnosis of stone in the ureter. Case 2 showed chronic unilateral pyelitis and cystitis. Irrigations of the pelvis resulted in a cure. Case 3 was one of tuberculous inflammation of the bladder and kidneys, which improved under irrigations. Case 4, hemorrhagic cystitis and bilateral pyelonephritis; under irrigations of renal pelvis was much improved.

Dr Eastman of Indianapolis thought a removable roof to facilitate withdrawal of the cystoscope leaving the catheter in the ureter would be an improvement

Dr Martin of Missouri found the introduction of the catheter easier than it would seem, and there was no trouble in withdrawing the cystoscope while the catheter was in the ureter

The Mechanics of Intubation.—Dr. B. F. Gillmor of Creston Ia., discussed the mechanical problem of intubation and exhibited drawings and *x*-ray plates. He emphasized the importance of acquiring manual familiarity with instruments; the means by which this may be acquired and then alluded to the problems of intubation and the difficulties of extubation.

Laminectomy for Fracture-Dislocation of the Fourth and Fifth Cervical Vertebræ.—In the case reported, the author, Dr. Joseph Rilus Eastman of Indianapolis, Ind., stated that laminectomy was followed by improvement of motor and sensory conditions, but was unsuccessful so far as saving the life of the patient was concerned. Death occurred on the nineteenth day. After going at length into the literature of the subject the author said that laminectomy for fracture or dislocation should be made early The earlier the better. The longer pressure had existed, the more extensive the degeneration of the cord. Still hope need not be entirely abandoned in old cases, for laminectomy had relieved many such even after months had elapsed since the injury was received. Laminectomy *per se* was not dangerous. It represented the surest method of diagnosis of fracture-dislocation, and the most rational and efficient means of relief.

Dr Stewart of Chicago agreed with the essayist in advocating early operation.

Dr Black of Jacksonville, Ill., advised early operation or exploratory incision. Two hundred and fifty cases operated on, out of a total of 555 cases in the literature, showed 25 per cent. better results than the unreported cases

Extrinsic Traumatisms of the Spine; Their Diagnosis, Pathology, and Treatment.—Dr. Thomas H. Manley of New York read a paper with this title. In this study, all lesions of a traumatic character sustained by the rachidian structures or the medulla spinalis, not followed by clinical manifestations of central complication, were included under the term extrinsic. These were designated (1) contusions; (2) sprains; (3) hemorrhage; (4) fractures; (5) diastasis and luxation; (6) structural and visceral complications. The most frequent injuries, according to the author, were external to the spinal cord. They were rarely of such a character as to seriously impair function, although deformity and impairment of strength occasionally followed. No serious effort had yet been made by an American author to classify the pathology to elucidate symptoms, or to establish the differential diagnosis in this important group of traumatisms.

Spinal Concussion.—Dr. Carl E. Black of Jacksonville, Ill., in a paper on this subject, called attention to the loose way in which the term concussion of the spine was used, and to the unclassified condition of such cases. The best dictionaries were quoted to show that the word concussion is misused, and should only apply to the manner in which the injury was received. A great deal of misunderstanding had arisen from the attempt of various authors to use the word to describe a distinct disorder. The various authors on surgery were quoted to show that there was a misunderstanding among writers as to the scope of the term concussion. The work of Wm. Thorburn of Manchester, England, was quoted as being the only rational effort which had been made to classify these disorders. In conclusion, the author took the position that minute or capillary hemorrhage was the basis of most, if not all, of these cases, and gave the following classification of injuries produced by concussion of the spine: Primary effects—(1) sprains; (2) contusion of the spinal cord; (3) minute hemorrhage into or around the cord. Secondary effects or complications—(1) shock or collapse; (2) acute hysteria; (3) neurasthenia; (4) chronic hysteria The essayist concluded with the following sentence "It is certainly the duty of every surgeon to protect himself, as well as any corporation he may represent and the best interests of his patient, by distinguishing, if possible, between the purely psychical, secondarily psychical, and the truly pathological condition, and treatment should be directed accordingly."

Spinal-cord Injury—So-called Spinal Concussion of the Cord.—In this paper Dr. Frank Parsons Norbury of Jacksonville, Ill., stated that a scientific interpretation of concussion of the cord, so-called, had not yet been attained The term had become established by long usage, and was largely used because of the want of a better term to cover the clinical picture which it aimed to present. The lesion was doubtless a disturbance of the circulation, due to injury to the blood vessels and lymphatics. Intramedullary hemorrhage was thought by the author to be the immediate lesion. This conclusion was supported by the observations of Kocher, Thorburn, and Horsley on the surgical side of the controversy. Neurologists had varied views, some of which were decidedly hypothetic. However, most of them were inclined to the view that structural changes were probable, and that the degenerative and vascular changes, following injury to the cord, were indicated in the symptomatology of the disease. Facts were accumulating which made this view both tenable and reasonable. While many injuries to the cord showed no external evidences, the symptoms which followed indicated structural changes occurring within the substance of the cord, and irritation of the cord roots by meningeal involvement. The symptoms in pronounced cases of hemorrhage were compared to the more obscure conditions called concussion, showing that hemorrhage was common in traumatism of the cord; that similarity of sensory and vasomotor changes existed.

The author said, regarding the psychical element in cord injuries, that it was impossible to eliminate it. It was, therefore, important to recognize the definite and demonstrable symptoms—the symptoms which came on gradually, which, in their entirety, proclaimed the hemorrhagic origin of the disease.

The neuropathology of to-day was leaning toward the organic origin of many diseases heretofore regarded as functional. Concussion of the cord was, in the judgment of the author, one of the most marked of these diseases, and he believed the research work of the future would establish this belief.

The X-Ray in the Treatment of Malignant Growths was the subject of a paper by Dr. Edwin Walker of Evansville, Ind. The *x*-ray had given favorable results thus far. Its exact status must be determined by clinical observation. He reported a case of alveolar melanotic sarcoma of the face, which was removed. The growth returned in two weeks, and had extended to the neck. A secondary operation was performed a month later. There was rapid extension from that time, so that, within a few days, almost the entire neck was involved. The wound had not healed There was immediate improvement after the use of the *x*-ray The wound had cicatrized in two weeks, and all indurations had disappeared at the end of three months. The patient at this time seemed entirely cured. He spoke of the extent of the effects of the *x*-ray on pyogenic germs A test was made both in test tubes and Petri plates, the exposure to the ray being from ten to thirty minutes The results were negative While the *x*-ray was of undoubted value in malignant growths, it should not be adopted to the exclusion of other known methods Excision should be done, if possible, before the *x*-ray treatment was begun

The Physiological Action and Therapeutic Uses of the X-Ray.—Dr C. M. Mutz of Douglass, Kan., followed with a paper on this subject in which he dissented from the opinions of those who believed that the physiological and therapeutic uses of the *x*-ray may be intelligently studied without reference to its nature or genesis. It was not a "giant in chains," which physicians needed to approach in fear when they would unchain it, but no physician, in his opinion, should be content to use a therapeutic agent without inquiry as to its exact nature and the elements of its entity.

The Relation of the So-called X-Ray Burn to Treatment of Malignant Growths was the title of a paper by Dr. J. Rudis-Jicinsky of Cedar Rapids, Ia. The action of the *x*-rays on the tissues was of marked electrochemical character. Irritation followed, and a regeneration of tissues was the result. Three factors determined the special effect on the cell: (1) Condition of the body, *i. e.* the amount of resistance the rays encounter; (2) The amount and intensity of the rays; (3) The character of the rays. When the irritation was moderate, the cells might be stimulated, but if prolonged, or given in excess, the change might be progressive in the tissues, leading to the so-called burn, regeneration, absorption, reabsorption, or to a total destruction of the cell. The author emphasized the protection of healthy tissues in radiotherapy, and other precautions in each case. He spoke of the selective power of the rays, attacking diseased tissues first. He reported cases, failures, and apparent cures. He discussed the technique and selection of vacuum tubes, according to their burning time; soft tubes or soft medium tubes for superficial growths, and high vacuum tubes for internal growths.

The X-Ray Treatment of Cancer, with Report of Cases Cured.—This was the title of a paper by Dr. Everett J. Brown of Decatur, Ill. The author discussed the subject under the following heads: (1) Technique; comparison of apparatus used; protection of the patient; protection of the operator; the distance of the tube; the time of exposure; the frequency of exposure; and the selection and management of tubes. (2) Description of *x*-ray dermatitis as compared with ordinary burns. (3) The remarkable influence of the *x*-ray on all low-grade tissue was superficial in location. (4) The uncertainty of results in treatment of deep-seated malignant growths. (5) Advantages of the *x*-ray treatment over surgery in many cases: (*a*) painless; (*b*) non-use of anæsthetics; (*c*) less destruction of tissue; (*d*) astonishing results in many cases regarded as incurable surgically. (6) Report of cases cured.

Renal Calculi or Hepatic Calculi: Differential Diagnosis.—Dr. Charles E. Barnett of Fort Wayne, Ind., read this paper. The *x*-ray in differential diagnosis was not as valuable here as in other regions. The author contended that it was impossible to make a differential diagnosis, and suggested cutting down and exposing the kidney, then being governed by the findings.

Cyst of Mesentery.—Dr. Herman E. Pearse of Kansas City, Mo., reported a case of cyst of the mesentery that recovered after operation. He stated that cysts of the mesentery were exceedingly rare.

Through-and-Through Intestinal Suture.—Dr. F. Gregory Connell of Leadville, Col., in a paper on this subject, said that a through-and-through suture should be employed in preference to one that attempted to perforate but a portion of the entire intestinal wall, because of (1) less danger of yielding; (2) less danger of leakage; (3) smaller diaphragm; (4) adhesions were diminished; (5) there was less danger of necrosis; (6) there was no foreign body, and (7) there was a decrease in time. The most appropriate place for the knot of perforating stitches was in the lumen, and as many intentional nonperforating stitches were in reality unintentional perforating stitches, owing to the relative sizes of the needle and the submucosa, it might be stated that the ideal location for the knot in practically all intestinal sutures was outside of the peritoneal cavity in the lumen of the gut. The diaphragm, by its valvelike action, prevented leakage. The square or double stitch was superior to the circular stitch, with its top knot. It was of practical import to have the last stitch, as well as the others, through all of the coats and knotted in the lumen. As the perforating stitch had been substituted for the Lembert by many, it might be said that if twelve Lemberts were bad and ten perforating and two Lemberts were better, then twelve perforating were best. The author closed his paper with a description of the technique, and a report of fifty-four cases.

Gastrojejunostomy with the McGraw Elastic Ligature for the Relief of Gastroptosis.—Dr. H. O. Walker of Detroit, Mich., read a paper with this title. He said that little had been done surgically for the relief of this condition. He reported three cases operated on successfully, and closed by saying that of all methods that had been suggested for the performance of lateral intestinal anastomosis, none, to his mind, possessed the advantages of the McGraw elastic ligature: (1) Its simplicity was far greater than any other method yet presented; (2) The ease and rapidity with which it could be done; (3) Less liability to sepsis than by any other method; (4) There was no danger of a foreign body; (5) A larger opening could be made without liability to cicatricial contraction. Dr. Walker exhibited beautiful charts showing the steps of the operation.

Section Following Vaginal Puncture.—Dr. John Young Brown of St. Louis, Mo., read this paper, in which he spoke of the value of vaginal section in selected cases of pus in the pelvis. He called attention to vaginal section in contradistinction to so-called vaginal puncture. He alluded to the post-operative complications following vaginal section, as shown by a series of cases in which abdominal section was subsequently done.

Cancer of the Uterus in the Mississippi Valley was the title of a paper read by Dr. Emory Lanphear of St. Louis, Mo. The author said that Eastern surgeons did not operate on cancer of the uterus, while Western surgeons did. What was the result? The census statistics of 1900 showed cancer of the breast, on which all operated, East and West; cancer of the stomach, on which no one operated, and cancer of the uterus, as follows: East, cancer of the breast, 613 cases; cancer of the stomach, 1,785 cases; cancer of the uterus, 1,101 cases. Mississippi Valley, cancer of the breast, 874 cases; cancer of the stomach, 3,776 cases, and cancer of the uterus, 679 cases. The difference showed larger proportions of carcinoma uteri operated upon in the West, with either a cure or return of the disease in other organs; hence death was not included in the deaths from cancer of the uterus. Reports from seventy-four operators in the Mississippi Valley showed 274 cases which had lived more than five years. The diagnosis was confirmed by the microscope in most cases, a result encouraging for earlier diagnosis and prompter hysterectomy.

A Plea for the Abandonment of the Abdominal Belt After Cœliotomy.—Dr. Maurice Kahn of Leadville, Col., read a paper on this subject. It was the writer's belief that if, in consequence of his plea, sufficient interest was aroused in the subject, it would be but a short time when the post-operative abdominal belt would be obsolete. Attention was called to the direction of the muscular fibers, which intersected each other at angles varying from about 25 to 90 degrees. By reason of a common nerve supply, the abdominal muscles acted synchronously. The excellent cancellated arrangement of the abdominal muscle fibers made the gridiron operation the one of choice, for then the contraction of the muscles tended in itself to safeguard against hernia. He believed the straight through technique to be the most effective factor in subverting an ideal result in most cases, not so much because the muscles were cut transversely, but because of inaccurate suturing. The application of an abdominal belt, which, if tight enough to exert any influence, must relieve the muscles of their usual labor, resulting in the atrophy of non-use, whereas it would be desirable to have the hypertrophy of over-use. If it were possible to apply a belt internal to the abdominal wall, it might, perhaps, be of service in giving the cut edges an opportunity to firmly unite before any strain was imposed upon them. Such arguments could not be advanced in favor of the external abdominal belt, which would not prevent the exertion of pressure on structures internal to itself. It had been his practice for over three years, after removing the first dressing, which was applied snugly for comfort, and removed at the end of a fortnight, to allow patients to go without any support.

Early Diagnosis and Conservative Treatment of Fibromyomatous Tumors of the Uterus.—Dr. L. G. Bowers of Richmond, Ind., called special attention to the importance of the early diagnosis of fibroids, thus leading to conservative methods of treatment. He enumerated some of the symptoms of fibroids that were many times attributed to other trivial causes by a superficial examination, and insisted that the patient be examined under an anæsthetic and curetted at the same time, if necessary. He pointed out that most of the literature dealt exclusively with the operative views, and nothing was said about preventive measures. The early practice of such treatment often obviated the necessity for hysterectomy later on.

Treatment of Fractures of the Patella.—Dr. David C. Peyton of Jeffersonville, Ind., discussed the relative frequency of these fractures, the contractions of the quadriceps as an efficient agent in the etiology; the displacement of the fragments, and the associated injuries to the soft parts; the diagnosis, and then outlined the advantages of treatment by open arthrotomy as compared with non-operative procedures.

Dr. Truman W. Brophy of Chicago gave a lantern demonstration of his method of operating on cases of cleft palate. He also exhibited patients upon whom he had operated, showing excellent results. The patients were able to articulate remarkably well.

Dr. C. E. Ruth of Keokuk, Ia., discussed the subject of anti-streptococcic serum in septic conditions.

A resolution was adopted making the Mississippi Valley Medical Association a district branch of the American Medical Association. The constitution and by-laws of the former will be revised to conform to this change.

The following officers were elected: *President*, Dr. Edwin Walker, Evansville, Ind.; *Vice-Presidents*, Dr. Hugh T. Patrick, Chicago, Ill., and Dr. Wm. Britt Burns, Memphis, Tenn.; *Secretary*, Dr. Henry E. Tuley, Louisville, Ky.; *Treasurer*, Dr. Thomas Hunt Stucky, Louisville, Ky.

Memphis, Tenn., was selected as the place for holding the next meeting, in 1903.

The Differentiation of Diphtheria and Pseudodiphtheria Bacilli.—Bronstein and Grünblatt have endeavored to simplify the complicated method of Neisser for determining the reactions of the culture medium in differentiating the true and false diphtheria bacillus. Neisser's method requires a series of titrations which consume time and are too troublesome for routine work, and the authors propose to use Mankowski's fluid as a substitute. This is prepared as follows: A. 2.0 g. of indigo-carmine are dissolved in 100.0 c.c. of distilled water, and B. 10.0 g. of acid fuchsin in 100.0 c.c. of 1 per cent KOH solution. The solution for use is prepared by taking 2 parts of solution A, 1 part of solution B, and 22 parts of distilled water. This fluid is very sensitive to changes of reaction, and becomes red in the presence of acid and green in the presence of alkali. The broth to be used must be rendered neutral by using the fluid itself as indicator, and should, furthermore, be as fresh as possible. The test is made by sowing the pure cultures in question in tubes containing about 5 c.c. of bouillon, prepared as indicated, and kept in the thermostat for twenty-four hours, together with a control tube of clear broth. At the end of this time three drops of the reagent are added to each tube. Normal broth immediately becomes blue, cultures of the Loeffler bacillus ruby red, and pseudodiphtheria cultures green, the latter color appearing only after several minutes.—*Centralblatt fur Bakteriologie, Parasitenkunde, und Infektionskrankheiten.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 1, 1902.

	Cases.	Deaths.
Measles	60	1
Diphtheria and croup	326	26
Scarlet fever	129	7
Smallpox	1	1
Varicella	31	
Tuberculosis	229	136
Typhoid fever	126	31
Cerebrospinal meningitis	..	7

Increase of Insanity in London.—I learn from the annual report of the Asylums Committee of the London County Council that the increase of lunacy in London last year was greater than it has been in any year since 1896. On January 1 last the number of London lunatics under the cognizance of the Asylums Committee had reached the appalling total of 22,155. A new asylum was opened in March last for the accommodation of 2,000 patients, and already the committee has under consideration the necessity of proceeding with the construction of another building, in order to provide for the estimated increase of 500 cases per annum. At this rate the burden of providing for over half a million lunatics will be imposed, by the end of the century, upon the unfortunate inhabitants of London who manage to retain their sanity.

Among the causes of insanity in patients admitted hereditary predisposition is held accountable for 27 per cent. of the cases and alcoholic intemperence for 17 per cent. If it were possible, however, to investigate fully the family history of every patient, it is quite likely that alcohol might be proved to play an even more prominent part in the causation of insanity than these figures indicate.

Bearing on this question, a most interesting history of a family of inebriates appeared recently in the *Quarterly Journal of Inebriety*, accompanied by a genealogical table for four generations. The first generation comprised a married couple of good social position, who apparently did nothing to forfeit their reputation. They had two daughters, one of whom died a raving maniac at forty after a life of the wildest excess. The second married and had eight children. Of this third generation, two males are drunkards and alive, five daughters died of phthisis, the sixth married, and after bringing seventeen children into the world became a drunkard and opium eater. Ten of these seventeen, comprising the fourth generation, have died from phthisis, one has drifted into a life of immorality, one suffers from phthisis, one died from an overdose of morphia taken when drunk, one committed suicide and three suffer from suicidal mania in varying degrees. No wonder that asylums are full and the death rate from phthisis steadily increases.—*London Truth.*

The Second Report of the British Royal Commission on Sewage.—This volume consists entirely of a valuable series of reports dealing with various points, such as the methods best adapted for use in the examination of sewage and effluents, the standards which should be adopted, and the result on pathogenic organisms of various methods of treatment. These researches have been undertaken by Professor Boyce, Drs Houston, MacConkey, McGowan, Grunbaum, and Hill and Mr. C. Frye. Dr. Houston requires that before an effluent be discharged into a stream, the water of which is used for drinking purposes, there should be an absence of putrescible matter as judged by chemical tests, and freedom from the germs of epidemic disease, as judged by the absence of the B coli from 1 c.c. of the sample. From these researches it appears possible for pathogenic organisms to resist destruction by other organisms. The B. typhi abdominalis was unable to multiply in crude sewage or sewage effluents, and disappeared within seventeen days at the most, but the B. anthracis was found five months after the sewage installation had ceased working. Effluents from bacteria beds attain a high standard of chemical purity, but these observers state that bacteriological examination will reveal the presence of countless numbers of B. coli and other saprophytic inhabitants of the intestinal canal. If this is to be regarded as the source of such organisms, then it is evident that more is necessary for the purification of such effluents, but, in the nature of things, these researches, valuable as they are, must not be regarded as in any way final, but rather as "strivings for the light."—*Public Health.*

Botryomycosis in Man.—This disease, described by Poncet and Dor, in the human subject, has been believed to be occasioned by a special parasite, regarded also as the cause of the fungating growths which succeed castration in the horse. Clinically, it appears in the form of a bud or berry—like masses, more or less ulcerated, attached to the skin by a small pedicle. The growths themselves are soft, indolent, and elastic, with a rough and villous surface, and a red color. They are met with particularly on the hands of farm laborers and grooms. As their nature and causation has been disputed, Bodin—Ann. de dermat. et de syph., Paris, April, 1902—has investigated into two typical examples. The pedicle is composed of strands of connective tissue, enclosed within an epidermic wall. The body of the neoplasm consists of small, young, connective tissue, rich in blood vessels, with delicate boundary. In the center are a few mast cells and leucocytes with polymorphous nuclei, as the surface is approached, embryonic cells infiltrate the tissue to a greater extent, while the periphery is found of necrosed cells, aggregated into a crust. From both sides identical microbes were isolated and cultivated side by side, with a yellow staphylococcus taken from a pustule of impetigo, and another from an osteomyelitis. A comparative study brought out the same characters, objective and biological, as the staphylococcus aureus. He concludes that the so-called muriform masses of botryomyces are but yellow staphylococci, and botryomycosis of man is only a rank granulation, due to this microbe, and taking the peculiar form from exigencies of situation.—*Edinburgh Medical Journal.*

French Infant Mortality—M. Gaston Leroux publishes in the *Matin*, says the *Scientific American* supplement, an article on the infant mortality caused by bad and adulterated milk. He quotes statistics of a most painful nature which would seem to demonstrate beyond doubt that an enormous percentage of the children who die annually in France are literally poisoned by bad milk. This article is illustrated by a map of France, on which the greater or lesser mortality from that cause is indicated by a small or large black spot. A glance at it shows that France may be divided into two regions, one on the north of the Loire, where more than half the children that die succumb to gastritis, whereas to the south of the Loire not more than one-third die from that disease. At Troyes the percentage of the infants carried off by gastric diseases is 69; at Mans, 63; at Rennes, 64; at Boulogne-sur-Mer, 49; at Amiens, 62; at Lille, 56; at Paris, 36. In the south of France the comparatively few deaths of infants from that disease is most striking. At Toulouse it is 31 per cent. of the total infantile mortality, at Beziers, 12 per cent., and at Clermont only 6 per cent. Explaining the phenomenon of the high rate of infant mortality from gastritis to the north of the Loire compared to that in the south of France, M. Gaston Leroux says it is due to the adulteration in the north of the country, where the making of butter is a great industry, whereas very little butter is made in the south. He considers that it is, moreover, now completely established that to feed certain children even on unadulterated milk which has been skimmed of all the cream is a dangerous and guilty practice.

Monetary Cost of Consumption.—It is calculated, says the *Medical Press*, that there is spent in the United Kingdom upward of £1,000,000 sterling ($5,000,000) every year, through the poor rates alone, on the victims of pulmonary tuberculosis. Moreover, of the 42,000 who die annually of this disease, the majority are between twenty and forty years of age—that is to say, they are lost to society just when they are in a position to make good the cost of their maintenance and education. The mere loss in wage-earning power is estimated at from ten to twelve million pounds ($50,000,000 to $60,000,000) annually. It follows that any means, however costly to begin with, which will have for effect to reduce materially this prodigious waste of life and working energy, ought, in the end, to prove a remunerative outlay to the community.

A Cave Sanatorium.—The *Scientific American* says: "It has been discovered that the air from limestone caves has all the characteristics of the mountains. This discovery has just been made use of in the location of a sanatorium near one of these caves, and the air for the institution is supplied from the underground caverns. This establishment is at Luray, Va., and the system of ventilation is arranged so that each room gets its own supply direct from the cave. The air of these caverns is of a uniform temperature, and remarkably pure and free from all germs and dust particles. In the warmest weather the doors and windows of this institution are kept closed, and a comfortable temperature of 75° is maintained in spite of one of 90° or more encountered outside.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending November 1, 1902:

SMALLPOX	UNITED STATES	CASES	DEATHS
California, San Francisco	Oct. 12-19	3	.
Illinois, Chicago	Oct. 18-25	7	..
Indiana, South Bend	Oct. 18-25	1	..
Maine, Biddeford	Oct. 18-25	2	
Massachusetts, Cambridge	Oct. 18-25	2	.
Malden	Oct. 18-25	1	.
Marlboro	Oct. 18-25	1	.
New Hampshire, Manchester	Oct. 18-25	1	
Nashua	Oct. 18-25	18	
New York, New York	Oct. 18-25	3	
Ohio, Cincinnati	Oct. 18-24	4	.
Cleveland	Oct. 18-25	24	7
Youngstown	Oct. 18-25	4	..
Pennsylvania, Erie	Oct. 18-25	7	.
Johnstown	Oct. 18-25	6	..
McKeesport	Oct. 18-25	7	..
Pittsburg	Oct. 18-25	43	4
Utah, Salt Lake City	Oct. 18-25	6	.
Wisconsin, Milwaukee	Oct. 18-25	22	.
SMALLPOX—FOREIGN.			
Barbados	Sept. 28-Oct. 13	200	11
Canada, Quebec	Oct. 11-18	2	..
Ecuador, Guayaquil	Oct. 4-11	..	4
France, Rheims	Oct. 5-12	1	.
Gibraltar	Oct. 5-12	1	.
Great Britain, Bristol	Oct. 4-11	1	
Edinburgh	Sept. 27-Oct. 4	2	.
Liverpool	Oct. 4-11	5	1
London	Oct. 4-11	2	..
Manchester	Sept. 27-Oct. 4	1	.
India, Bombay	Sept. 23-30		1
Madras	Sept. 13-19		1
Italy, Naples	Oct. 6-13	4	..
Palermo	Sept. 27-Oct. 11	9	3
Russia, Moscow	Sept. 27-Oct. 4	1	1
St. Petersburg	Sept. 27-Oct. 4	5	3
YELLOW FEVER.			
Colombia, Panama	Oct. 13-20	7	1
Costa Rica, Port Limon	Oct. 16-23	1	
Ecuador, Guayaquil	Oct. 4-11	.	2
Mexico, Mexico	Oct. 12-19		1
Tuxpam	Oct. 14-21		1
Vera Cruz	Oct. 18-25	10	3
CHOLERA			
China, New Chwang	Aug. 31-Sept. 13	68	64
Egypt	Oct. 12-18	705	636
Alexandria	Sept. 27-Oct. 4	120	120
India, Bombay	Sept. 23-30		1
Calcutta	Sept. 20-27		11
Madras	Sept. 13-19		1
PLAGUE—UNITED STATES.			
California, San Francisco	Oct. 11-16	2	2
PLAGUE—INSULAR.			
Hawaii, Honolulu	Oct. 16	..	1
PLAGUE—FOREIGN.			
India, Bombay	Sept. 23-30	..	76
Calcutta	Sept. 20-27	.	15
Karachi	Sept. 21-28	21	18

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Original Articles.

THE PRIMARY NEW GROWTHS OF THE PLEURA.

By FRANCIS DELAFIELD, M.D.,
NEW YORK.

THE bibliography of endothelioma of the pleura is given by Gloekner, *Zeitschrift der Heilkunde*, XVIII, p. 209. The number of cases of primary tumor of the pleura so far reported is small, so that I think it is worth while to report four cases which have been under my own observation.

It is generally agreed that these tumors are endothelial growths, which originate in the lymphatics of the pleura. There is a new growth of cells from the endothelium of the lymphatics, and an increase in the size and number of the lymphatics. At the same time the pleura itself is split up by an extensive new growth of cells, and there is a large transudation of blood serum rich in fibrinoplastic substances. In the earlier stages of the growth there are no tumors, only a diffuse thickening of the pleura, and, imbedded in this, tubules lined or filled with endothelial cells. Later, tumors are formed of different sizes, projecting inward, composed of a basement substance containing tubules, or irregular cavities filled with polygonal cells. The pleura is coated with fibrin, and large quantities of serum collect in the pleural cavity. The inflammatory changes in the pleura are so marked that they may easily mask the new growth. In its earlier stages the real character of the lesion may be overlooked. The new growth and the inflammatory changes may be confined to one pleura, they may involve both pleuræ, or the peritoneum also may be affected in the same way. The history is that of a pleurisy with effusion, which is unusually severe, and which terminates fatally.

During the first weeks it is hardly possible to distinguish these cases from ordinary cases of pleurisy with effusion. The story of the invasion, the behavior of the patient, and the physical signs, are all the same. Only the bloody serum and the low temperatures are suspicious. But, as the weeks follow each other, the loss of flesh and strength, and the appearance of the patient make one think more and more of malignant disease.

CASE I.—Primary endothelioma of the pleura. Female, fifty-three years old, September 15, 1880. Four weeks ago she caught cold. Since that time she has had a cough with scanty expectoration, has been chilly and feverish with dyspnœa, pain and oppression on the right side, and loss of flesh and strength. She is now feeble and emaciated, with a little cough, dyspnœa and pain and oppression over the right chest, pulse 100, breathing 24, temperature 98° F., urine 1024, no albumen or casts. The physical signs are those of fluid in the left pleural cavity.

September 18. Fifty-five ounces of clear serum were aspirated from the left pleural cavity, temperature 99° F.

October 12. The woman feels better and is out of bed.

November 19. A quantity of dark-brown, slightly purulent fluid was aspirated from the left chest.

December 14. The chest was again aspirated and the same dark-brown fluid drawn off.

December 21. She died rather suddenly.

Autopsy.—The brain was not examined. The heart was normal; it was displaced to the right of the sternum. The right lung was normal. The left pleural cavity was nearly full of bloody, purulent serum. The lung was compressed against the vertebral column. The pleura was thickly coated with fibrin. Vertical sections of the costal pleura showed on the inner side, a layer of fibrin and pus. Beneath this was a layer of reticulated connective tissue. In this were tubules filled with large, polygonal nucleated cells. Beneath this layer was the pleura itself its cells increased in size and number. In flat sections the tubules looked like lymphatics. The liver and spleen were normal. The kidneys were of medium size, their capsules adherent, and their surfaces finely nodular.

CASE II.—Primary endothelioma of the pleura. Male, sixty-three years old, June 12, 1883. Two weeks ago he caught cold, and had cough and pain in the right side of the chest. He came into the hospital with these symptoms, and with a friction sound over the lower lobe of the right lung. He remained in the hospital until June 16, and was then discharged improved. He was readmitted July 25. The pain in the right side has continued, and he has had to stop work. There is flatness on percussion, with absence of voice and breathing, on the right side of the chest from the angle of the scapula down.

September 15. A little bloody serum was aspirated from the right chest.

October 3. Thirty-seven ounces of bloody serum were aspirated from the right chest. After this the man steadily lost flesh and strength until October 8, when he died.

Autopsy.—The brain was not examined. The heart was normal. The left lung was emphysematous. The right lung was confined by old adhesions to the upper third of the thorax, the lower lobe was compressed. The lower part of the pleural cavity was full of bloody serum. The costal, pulmonary, and diaphragmatic pleura were coated with fibrin, thickened and studded with small and large white nodules. The nodules are composed of a connective tissue stroma, enclosing irregular cavities filled with flat nucleated cells. The liver was fatty. The stomach, intestines, and spleen were normal. The kidneys showed the changes of chronic nephritis with commencing atrophy.

CASE III.—Primary endothelioma of the pleura. Male, sixty years old. November 27, 1884. The man says that he was at work until six weeks ago. Then he began to have pain on both sides of the chest; dyspnœa on exertion, cough with mucopurulent and bloody sputum, and occasional vomiting. Now he is feeble, emaciated, stupid; pulse 94, breathing 18, temperature 98°. There is flatness and absence of breathing over the whole right lung behind. The man lay quietly in bed, growing more feeble and emaciated every day, until December 11, when he died.

Autopsy.—The left pleural cavity contained a little serum. The left lung was coated with old adhesions, and there were small, white, flat nodules in the pulmonary pleura. The right pleural cavity was distended with bloody serum. The lung was compressed against the vertebral column. The costal and diaphragmatic pleura were thickly studded with large and small white nodules. The growth in the pleura was composed of polygonal cells, arranged in tubules. The pleura was split up and filled with connective tissue cells. There were very marked changes in the endothelium of the costal pleura. The cells looked like cylindrical cells, and were in masses. The heart was small; the aortic and mitral valves were calcified. The liver had old adhesions over its entire surface. It contained several large white nodules, some of them continuous with nodules in the diaphragm. The spleen was large and firm; it contained a large white nodule. The peritoneal cavity contained bloody serum. There were nodules of new growth in the omentum and the mesentery. The stomach was small and congested. The intestines were normal. The kidneys were normal.

Case IV.—Primary endothelioma of the pleura. Male, forty-five years old, June 6, 1884. Three weeks ago he began to lose appetite and feel weak. One week later he had dyspnœa on exertion, slight cough, with mucous expectoration and pain in the chest.

June 6. There is flatness on percussion, and absence of voice and breathing over nearly the whole of the right chest.

June 15. Nineteen ounces of bloody serum were drawn off from the right pleural cavity. His temperature has ranged from 98° to 100° F.

June 17. He died suddenly.

Autopsy.—The brain was not examined. The heart was normal. The right lung was compressed against the vertebral column. The pleural cavity was distended with bloody serum. The costal and diaphragmatic pleura was irregularly thickened, and there were small white nodules in the costal and pulmonary pleura. The left pleural cavity was half full of bloody serum. The costal pleura was thickened and congested, there were small white nodules in the pulmonary pleura. The costal pleura of the right side was thickened and converted into granulation tissue with numerous blood vessels. In the deep layers of the pleura were small cavities filled with nucleated polygonal cells, in other places the cavities were larger, and occupied most of the thickness of the pleura. The liver, spleen, and kidneys were normal. The peritoneal cavity contained turbid serum, and the peritoneum was thickly studded with small white nodules. The intestines were normal.

Union Mission Hospital of Philadelphia.—The contract has been awarded for the erection of a large addition to this hospital, to consist of a three-story and basement building of fireproof construction, with exterior walls of brick and stone. The dimensions will be 60.9 by 93 feet. In the basement will be located the laboratory, the *x*-ray room, a fan-room, steward's quarters, a mortuary, toilet, and laundry, trunk and store rooms. The first floor will be given up to the general offices, the pharmacy and clinics. On the second floor will be private rooms and wards. The third floor will have rooms for private patients and wards, a dining room, a kitchen and nurses' quarters. The cost of the new structure, exclusive of equipment, will be $50,000.

THE PRESENT STATUS OF RADIOTHERAPY IN CUTANEOUS DISEASES AND CANCER.

By CHARLES WARRENNE ALLEN, M.D.,

PROFESSOR OF DERMATOLOGY IN THE NEW YORK POST-GRADUATE SCHOOL.

A sufficient time to permit of certain positive deductions has now elapsed since the possibility of curing hitherto almost incurable affections by means of the Röntgen ray came to us as a surprise and a pleasing hope. In a paper which I have just read before the New York State Medical Association, I have reported fifty personal cases of cancer treated during the year, with results which are, to say the least, encouraging. In age, the patients ranged from fifteen to eighty years, thirty being over fifty years of age. Twenty-two were male and twenty-eight female. As to the nature of the cancerous process, the majority, or thirty-three, were epithelioma of the rodent ulcer type, or occurred as firm nodular or warty growths, or as cutaneous carcinoma. There were ten instances of mammary cancer, seven being recurrent and three primary; one was a primary rectal cancer; one was a tumor of the jaw supposed to be sarcoma; one was cancer of the tissues of the neck, following cancer of the tongue; three were sarcoma, and one was recurrent uterine cancer. Although in this series of cases certain adjuvant treatment was employed in some, though not in all, the results were such, in regard to duration of treatment, final outcome, nature of resulting cicatrix, etc., as to leave no doubt that the ray had been of unquestionable benefit. The results may be briefly stated as follows:

	CASES	PER CENT.
Ending fatally	5	10
Discharged as unimproved, or ceased treatment unimproved	3	6
Referred for surgical operation	2	4
Ceased treatment improved	4	8
Improved and still under treatment	10	20
Discharged as clinically cured	26	52
	50	100

Although there were five deaths, it is only fair to mention that eleven of the cases were as hopeless from the beginning of treatment as all who have had experience know that recurrent breast and uterine cases, cancer of rectum, recurrent cancer after cancer of tongue, and pigmented disseminated sarcoma may be. Although there has been included in this series a case of pigmented sarcoma which practically had no *x*-ray treatment, but, against the writer's advice, underwent a surgical operation, still it has been included, since the series is a consecutive one, showing results, good, bad, or indifferent, for all cases coming under treatment. As to the nature of this new therapeutic force, it is pretty clear that the action of the ray is a reducing one, and that the resistance of tissues to its effect is inversely proportionate to their degree of vitality. Thus certain portions of the hair, nails, and most neoplasms of a mucoid or embryonic-like structure, will be caused to disintegrate much more readily than will adjacent healthy structures, or those more highly vitalized.

It is generally accepted that the rays from a low tube—that is, rays which are absorbed by the surface tissues—produce more reaction effect, or result in the so-called burn, or dermatitis, than those from a high, or penetrating, tube, whose rays pass more readily through the tissues. Aside from this, I have noticed a distinct tendency in tubes at times to produce these effects, it has seemed to me, irrespective of their condition of vacuum, or of any idiosyncrasy on the part of the patient. There is no doubt a difference in susceptibility of different individuals, but this is by no means the only factor. The effect of the ray treatment in deep-seated. extensive cancers is at times to cause so great and rapid a disintegration of tissue that the system is overloaded with waste products, and great stress must be laid upon the necessity of constantly watching and controlling the hygienic and general constitutional condition of such patient, and for this reason the treatment should be applied or constantly supervised by the skilled physician, and not entrusted to the electrician.

Several theories are at present extant as to the nature of the ray, the most probable being that, at the point of impact of the cathode stream, there is sent into space in every direction a multitude of molecules, negatively electrified, traveling in straight lines, and at an enormous velocity.

The statement has been made that primary breast cancer should not be subjected to the ray treatment, but that first a surgical operation should be done. The gentlemen who uphold this view lose sight of the important fact that a very large class of patients rejected surgical measures before the ray treatment was thought of. There exist to-day thousands of primary cancers, well advanced, which will never come under the surgeon's knife—ray or no ray. To this large class the new treatment offers much hope. Perhaps the most gratifying case of my series is one of this nature, in which cutting had been absolutely rejected by a most intelligent lady, who had studied the subject for herself before radiotherapy was suggested. Although the growth was very extensive, and the patient's condition critical when the treatment was begun, in January last, there has been steady, though naturally slow, improvement. An open, flat, ulcerating surface, and gradually decreasing in extent, presenting day by day less evidence of malignancy, has taken the place of an extensive cancerous mass, the offensive and abundant secretions of which were draining the patient's vitality, and the occasional hemorrhage from which was jeopardizing life. Here the ray has without doubt proven a boon, for which we have to-day no known substitute.

In several other breast cases there has been local improvement which was, for a time, most encouraging, and one patient was cured of the recurrence in the skin tissues involving and adjacent to the scar of operation, as well as of lesions more widely disseminated over the trunk. Here, however, there was suspicion of subsequent internal metastasis, and I believe the patient succumbed to intercurrent pneumonia.

I have applied the ray during the past year to a great variety of skin affections, including a number of cases of lupus, lupus erythematosus, inveterate psoriasis, obstinate eczema, acne, sycosis, leprosy, xeroderma pigmentosum, favus, ringworm, lichen planus, etc. On the whole, I can report in a general way that the ray is of decided aid in combating these rebellious affections, and although I do not rely upon it solely, any more than I do in external cancer, I have secured in many cases better and quicker results than by the older methods alone. In such affections as Hodgkin's disease, internal sarcoma, and cancer of the liver, which I have treated at the kind suggestion of some of my colleagues, I have naturally relied upon the rays alone, and, although I have no cure to report, I can announce some gratifying improvements.

30 East Thirty-third Street.

BIOGENESIS AND HEREDITY.*

A DISCUSSION OF THEORIES AND THE ADVANCEMENT OF A MODIFICATION OF THE CHEMICAL THEORY WITH APPLICATIONS.

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The presentation of a subject along the line of pure science, and verging, perhaps, upon the philosophical, may be justified by the continual broadening of the medical horizon, which leads us from the narrow confines of symptoms and treatment to a more detailed consideration of etiology and prophylaxis along the lines of sociologic and biologic investigation.

Recent work has aroused considerable enthusiasm and interest in the cause and nature of the vital phenomenon and its relation, biologically, to the problem of heredity. With the enunciation of the cell-theory in 1838–39 by Schleiden and Schwann, with the development of embryology upon that theory as worked out by Kölliker and Remak, and with the correlation of these facts to the functions of the body as involved in health and disease, at the hands of Max Schultze and Virchow, the problems of biogenesis and heredity have been brought to light, and recent years have yielded considerable advancement through the investigations of Hertwig, His, Van Beneden, Strassburger, Loeb, and a host of others.

It is a theory which was proposed by Ehrlich in connection with his work on Immunity, and which was last year set forth more definitely in a paper by Professor Adami of McGill University, that I desire to discuss here, and, perhaps, I may advance a further modification of that theory.

Since earliest times there have been hypotheses, more or less fantastic, to account for the origin of life, and for the resemblances and variations manifested in successive generations of the same species. But the fantastic has now almost completely given way to the physical and metaphysical, the materialistic and the spiritualistic. The theories, however, are still largely speculative, and no one of them can claim to be preeminently accepted by the workers on the subject.

Positivistic monism was the dominant note of nineteenth-century speculations. It erred, however, in that it tried to make science purely utilitarian depriving the human mind of all metaphysical capacity; but experience, joined with speculation, has undoubtedly been the indispensable basis of all positive knowledge, and almost the entire scope of scientific research has been compelled to pass through the vale of metaphysics. Though the problems of heredity and biogenesis can hardly hope to pass completely out of this realm, any more than has the absolute establishment of the atomic theory, yet a theory of biogenesis may be evolved which shall lay surer foundations for a comprehensive science that will yield more of value and significance to the world than either chemistry or physics. Speculation, then, in its ultimate results can yield nothing but good.

Materialistic monism, as fathered by Darwin, denies all purposiveness—all finality. Idealistic monism recognized in Nature, if not the designs of a Creator, at least an immanent finality. The primary principle preceding physical organization, philosophers for ages have discussed, and in recent decades, biologists have theorized and experimented upon. Thus Hegel's "Creative Idea" was not conscious intelligence, but a principle which, when provided with a cerebrum, becomes conscious. Materialism reenforced by the descendants of Hegelianism placed the transformistic theory of Lamarck and Darwin against the miracle of creation; it advanced chemical synthesis against the fantasy of a "vital principle," the theory of the equivalence and transformation of forces and electricity against the hypothesis of a separate force to explain thought.

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*Read before the Tri-State Medical Society of Alabama, Georgia, and Tennessee, October 7, 1902.

The purpose of this paper is to point out in detail some of the biological and cytological evidence for the necessary assumption of an idealistic monism with its immanency or primitive principle which preceded physical organization, and to determine what of positive and what of theoretical bearing can be elicited, sympathizing with Weissmann's apology that "Hypotheses, even when not absolutely right, may be of value in advancing our knowledge, if only they are relatively right; that is, when they correspond with the states of existing knowledge."

Various theories, more or less speculative, have been advanced, and a very brief review may at this point be of some advantage.

The theory of preformation postulated that the germ-cell contains a veritable miniature of the future organism, the development of which consists in a process of unfolding and evolution.

In the idioplasm theory Naegli theorizes that heredity is not transmitted by the cell as a whole, but by a particular part, the idioplasm of the nucleus, and that the trophoplasm is an indifferent substance. Thus he suggests that hereditary traits are the outcome of a definite molecular organization of the idioplasm, and subsequent work has identified this idioplasm with the chromatin of the nucleus.

Spencer suggested that the germplasm consists of a collection of "minute elementary vital particles"—a theory somewhat analogous to Darwin's theory of pangenesis, in which he assumes that the somatic cells throw off minute granules, which are dispersed throughout the system, and that they are collected and constitute the sexual elements, which, when supplied with proper nourishment, multiply by cell-division, and are ultimately developed into units like those from which they were originally derived.

The theory of germinal localization, as advanced by His, conjectures not that the embyro is performed, but that it is predetermined, as a function of the geometrical location of the various molecular groups.

The most interesting of these theories is the one advanced by Ehrlich and recently accentuated by Adami of McGill University. They venture a chemical theory which makes living organisms naught but chemical machines, all growth and differentiation being determined by definite chemical change. It is postulated that the idioplasm of the nucleus consists of a mass of material, each molecule of which is composed of a central indestructible carbon or cyanogen ring, which, perhaps, determines the nature or function of that particular cell, to which various molecular or atomic side-chains can become attached or detached without impairing the integrity of the central ring. Thus the molecule is conceived as consisting of an immutable central ring, with numerous unsatisfied valences, which becomes satisfied and depleted in the accomplishment of the various life processes.

Adami further states that only cells which are undifferentiated, or cells which have lost their differentiation, are found to undergo division. Primitive idioplasm must, then, be essentially a simple molecular substance, and becomes differentiated only as a reaction to certain stimuli by the taking on of side chains. Thus reducing undifferentiated cell life to such a molecular simplicity, it is reasoned that the life phenomenon itself is naught but a chemical state of the constituent molecules of the cell.

Pflüger (*Archiv für die gesammte Physiologie*, 1875, Bd. 10, p. 251) calls attention to the great instability of living matter, and postulates that living matter is composed of very complex and unstable molecules which are continually being disassociated into more stable compounds, such as H_2O, CO_2, and urea; that is, the intramolecular movement of the cell is its life.

Loeb theorizes along the same line, that the difference between living and dead matter is that in the former we have a very unstable or labile molecule in which the atoms are in active motion, which instability he explains as due to certain groupings of the atoms. Dr. George Adam, at a recent meeting in San Francisco, has presented a most fascinating article on the relation of ether to the physiologic unit. It corresponds somewhat to the work of A. T. Matthews, as described in the *Century* of March, 1902.

Dr. Adam concludes that the physiological actions of nerve, muscle, gland, etc., are initiated by chemical potentials, that the stimulus is electrical only in so much as chemical and electrical potentials are fundamentally identical. The chemical stimulus, he says, does not involve an interchange between the stimulating and stimulated molecules or cells, but a polar attraction without reciprocal dissociation. He concludes that a "molecule, whether belonging to an organic or inorganic substance, in a condition of rest, or in solution, or in an unpolarized solid condition, is in the electric state, without poles, and having a uniform magnetic field, and when functionating, or in a polarized condition, is in the magnetic state, with differentiated induced fields. Thus induced electrification, magnetization, crystallization, coagulation, contractility, conductivity, gland-cell action, and numerous other physical and physiologic phenomena have a common fundamental principle."

Now, so far as has ever been demonstrated, the molecular composition of a living cell and of that same cell dead is the same—although the living cell possesses numerous qualities of assimilation, secretion, growth, and reproduction that the dead cell does not. There is then, manifestly, something in the molecular mass, the idioplasm of the cell nucleus, which is peculiar to it and which differentiates it from all non-living matter. There may be a change from a lability to a stability of the molecules in the death process, there may be a de-ionization, or there may be a disappearance of polarity. Apply a theory of causation here. Assume with Adami the presence of immutable rings with numerous transient side chains. This is, however, equally true of what we call inanimate matter, such as wood, stone, and the like. We assume a molecular and atomic structure of these inorganic substances, and these molecules are held together by a force which we designate as cohesion or affinity. There are certain intramolecular activities or forces, the results of which we see in processes such as crystallization, coagulation, magnetization, etc. Some investigators make the statement that, having the processes of assimilation and contractility, it is possible for the act of cell-division to be traced to purely physical and chemical laws.

But molecules composing organic cellular matter have a power of self-division and multiplication—in fine, the property of life—which all other matter has not. These cells multiply. Whence the stimulus which causes this phenomena. If life is not an inherent property, why does not inorganic matter, subjected to every conceivable force of nature, spring to life on every hand? It is explained by Loeb and others by the lability or stability of the constituent molecules. But what gives origin to this lability that is life? Or if life be a phase of electrical phenomena, what occasions the polarization—the magnetic state, with differentiated poles and differentiated induced fields?

It would seem that a primitive force or principle must first place the molecules in a vital constituency, and then, held there by that force, the various chemical and electrical activities may accomplish the processes of the living organism.

The effort to identify this force with other known forces must eventually prove futile, for it is a distinct entity. Certain properties, such as irritability and contractility, which are common to both organic and inorganic matter, have been produced artificially, but the essential attribute of living matter, reproduction, has not been assailed, and for the reason that it involves a primitive principle, a force which is in itself immanent—inherent in living matter. Having once established the vital constituency, under its influence the other forces of chemistry and physics then play their part.

Certain salt solutions may cause unicellular organisms to undergo cell-division; misplaced germinal cells may undergo a seemingly spontaneous development, and thereby give rise to a teratoma; normal tissues of the body may, through the influences of germs, toxins, or irritation become malignant, but the hope of bringing certain chemical compounds into a definite relationship—and flash! and there is life—would seem, from our present sound knowledge, to be wildly extravagant. *Omne vivum ex vivo.*

The idea of biogenesis having been discussed, let us now briefly consider the nature of *cell-growth* and *cell-division.*

Having a mass of molecules, which have been grouped into a vital constituency by this primitive force, and held there by it until the death phenomenon, the cell assumes numerous functions, most of which can be interpreted under known forces, from the realms of chemistry and physics: thus reverting to Adami's chemical theory—the processes of assimilation, nutrition, and, consequently, growth, secretion, motility, irritability, and conductivity are happily and rather simply explained. Indeed, the stimuli to cell-division and the process itself may be entirely mechanical, but the force which holds the mechanical elements in the vital constituency is primitive and immanent.

Such a theory does not stifle inquiry, as one might at first suppose, by inferring that the "primitive force" is ultimate, and, therefore, experiment is vain. On the contrary, this theory simply separates the force which establishes the vital constituency from the realm of chemistry or physics, and, calling it an entity, welcomes investigations and inquiry as to its nature.

This force may be analogous to chemical affinity or other known forces, or, in turn, it may be phases of it, but it must appear, from present knowledge, that it is a complete entity, the nature of which we still seek to know.

The field which it was originally intended this paper should cover has so gradually widened, as various phases of the general subject have come into thought, that the minute consideration has, perhaps, become a little more superficial and less detailed. However, the subject of biogenesis, involving as it does the basic problems of biology and philosophy, which have been argued since the ages began, can admit, from the present attitude of science, of but a transitory and almost entirely theoretical treatment.

Yet if, by the rehearsal of well-known facts and the re-statement of old theories, any new ray of light has been flashed into the great chasm of darkness which still holds the basic problems of life, this thesis shall not have been in vain. And it cannot be denied that the purpose of this paper has been primarily an endeavor to redeem the problems of the life phenomenon from the attempted complete explanation in the realm of pure chemistry and physics, by adducing definite cytological and biological evidence that, antecedent to the appearance of chemical activities in living protoplasm, there must exist a primitive principle which places matter in a life constituency, interpreting that principle as you will.

It is to me most significant that Wilson in his great work on "The Cell in Development and Inheritance" concludes with the admission "that the study of the cell has, on the whole, seemed to widen rather than narrow the enormous gap that separates even the lowest forms of life from the inorganic world," and Darwin, at the close of his great masterpiece, "The Origin or Species," bursts out with this pregnant declaration: "There is a grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, while this planet has gone circling on, according to the fixed law of gravity, from so simple a beginning endless forms, most beautiful and most wonderful, have been, and are being, evolved."

THE CRIMINAL RESPONSIBILITY OF THE EPILEPTIC.*

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The intricate problems associated with epilepsy appeal at times to both law and medicine for their intelligent solution. By virtue of its extreme antiquity and vital importance to the well-being of all classes of society, epilepsy also challenges the interest and attention of every loyal citizen. Long before the Christian era it was recognized as the Herculean disease, not simply because Hercules was subject to epileptic attacks, but on account, as Galen says, of its extreme severity and magnitude. Notwithstanding the fact that Hippocrates described its purely objective physical phenomena with characteristic accuracy, yet the knowledge that the ancients possessed of the actual nature of epilepsy reveals a sad mixture of ignorance and superstition combined, bordering on barbarism. Since the days of Hippocrates every century has borne in its medical literature conspicuous accounts of its mysterious manifestations, hence for over twenty centuries epilepsy has passed among men as a something too intangible to explain by any known law or process, and far beyond the scope and power of any therapeutic measure so far devised to arrest its pernicious effects upon the brain and other organs of the body in but very few of its numerous victims.

In the past twenty years, however, more actual progress has taken place in our definite knowledge concerning its true nature and character than in all the preceding centuries, and it is to this particular period that we are indebted for much of the information that supplies our text and that which we desire more particularly to emphasize. In order to fully realize what has been accomplished in this epoch-making period it is necessary, at the outset, that we study carefully the historical data associated with the gradual evolution from a series of extravagant and absurd hypothetical conclusions and superstitious beliefs to that of a regular succession of well-established scientific facts relating to the true nature and character of epilepsy.

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*Read before the Mississippi Valley Medical Association on October 15, 1902.

Time forbids even a brief reference to the former, nor is it necessary, as the literature upon the subject is well known to all of you, but this paper would be manifestly incomplete if it failed to mention the leading features that rescued epilepsy from the domain of purely theoretical speculation and placed its study upon a more secure and accurate scientific foundation.

Prior to the celebrated dissections of Gall, at the beginning of the nineteenth century, the principal idea that obtained in regard to the brain by anatomists, and other scientists, was that of a semi-structureless mass, exhibiting certain ganglia, such as the striated bodies, the optic thalmi, the quadrigeminal bodies, and the pineal gland, but on the whole as a single organ or unit rather than as a group of organs. By an elaborate series of experiments and observations, Gall formulated a theory of his own concerning the brain and its functions, which was recognized as a decided departure from any then extant. Its essence consisted in a recognition of the brain as a multiform organ, that is composed of a number of nervous centers or organs, each endowed with special functions. This remarkable theory had the effect of startling the entire medical world, and the facts to which it appealed were severely criticized and wholly rejected by the then recognized scientific men. For instance, no less a personage than Sir Charles Bell termed it "The most extravagant departure from all the most legitimate modes of reasoning." Flourens, the French physiologist, also bitterly opposed it and was the first to undertake to prove its fallacy from a scientific standpoint. In 1822 he made the announcement before the French Academy of Medicine that Gall's theory was greatly misleading, and, by a brilliant series of experiments, undertook to prove to his audience that the brain was not a multiform organ, but that it acted as a whole, hence was single in its constitution, its several parts not possessing distinct functions. It is unnecessary to burden you with later investigations—suffice it to say that when Hood and Bouilland, a few years later, demontrated that disturbances of speech were always accompanied by disease of the frontal lobes of the brain. When Broca, in 1861, undertook definitely to locate the speech area, and when, in 1863, Hughlings Jackson of London, and Meyert of Germany, simultaneously announced to their respective medical societies that the anterior portion of the brain was concerned chiefly in motor acts, the former reaching his conclusions from the study of localized spasms and the latter from the observations of the lesions of general paralysis, it was very clear to all that Flourens's teaching needed further confirmation, and, in 1869, Fritch and Hitzig of Berlin undertook to verify it. Their conclusions proved beyond doubt the fallacy of Flourens's monistic theory of the brain, which were again verified by Ferrier in 1873, who also demonstrated that not only were the anterior lobes of the brain chiefly concerned in motor acts, but that the posterior portion was largely sensory in character, besides defining each special sense to a definite region of the brain. Thus the doctrine so vigorously taught by Flourens, and believed by the great mass of medical men, became wholly untenable, and the original views advanced by Gall and so ably supported by Broca, Hughlings Jackson, Fritch, Hitzig, Ferrier, Horsley, Gowers, Schaffer, and, within the last decade, by our own Dana, Starr, Sachs, Dercum, Mills, Berkley, Collins, Hammond, Mitchell, and a host of others, was fully proven, and to-day reigns supreme, constituting the science of cerebral localization.

Now, upon the recognition of this science and the facts to which it appeals hinges our modern medical conception of epilepsy. Your attention has, therefore, been purposely directed to this brief summary of historical data, because when Hughlings Jackson, in 1873, advanced the theory to the effect that in epileptic attacks the cells of the cerebral cortex undergo explosive discharges, he unconsciously defined the line of demarcation between empirism on the one hand and scientific truth on the other in the study of epilepsy. Late investigation, both clinical and pathological, proves conclusively that epilepsy is essentially a symptom of brain disease, confined chiefly, if not altogether, to the cortical cells of the cerebrum. In order, therefore, to comprehend fully what the term epilepsy implies presupposes a thorough knowledge of the structure and functions of the brain, as well as the nature and character of the lesions causing their derangement. As a primary proposition, therefore, and that to which all others refer (more especially when crime has been committed by an epileptic) is the extent to which the brain and its functions are impaired by the pernicious influence of the prevailing epilepsy, or how far this interferes with the individual's power of self-control. This at once raises the question of the mental responsibility of the accused epileptic. Now, the correct solution of this problem involves questions of the highest medicolegal importance, and, at times, transcends in complexity all other questions with which expert testimony has to deal.

From a purely medical standpoint, however, the expert must, of necessity, pay especial attention in every case to its pathogenesis, beside recognize the true significance of certain etiologic as well as pathologic factors associated with the various manifestations of epilepsy. Recognizing epilepsy as a symptom of some brain disease, we also know that it may occur from various causes, both congenital and acquired, but its chief etiological factor, and that which is now universally held, is that its presence is largely due to hereditary defects or some family inheritance. Theorize, criticize, or philosophize as we may concerning it, nevertheless the law of heredity is as potent to-day in the moulding of human character and the shaping of destiny as it was in the days of the patriarchs, and its close relation to epilepsy cannot consistently be ignored. Time forbids further enlargement upon the great significance which this one element alone furnishes us in explanation of the pathogenesis of epilepsy—suffice it to say that faulty inheritance is the responsible agent for many of the strange vagaries seen in epilepsy, and which at times culminate in actual mental alienation. From the foregoing it is clear that epilepsy presents itself in various forms that render it subject to classification. Hence idiopathic or ordinary epilepsy is seen, clinically, in three rather distinct types of attacks: (1) The less severe or minor attacks constitute petit mal, (2) the more severe ones, grand mal, (3) while the larvated form or psychical epilepsy is characterized by various mental and physical automatic states. In addition to these, Jacksonian epilepsy is recognized by the periodic character of the convulsions, which are of a primary local nature and often unattended with loss of consciousness. Symptomatic epilepsy is a form due to gross organic changes in the brain, producing convulsive attacks. In addition to those cases due to trauma, epilepsy also occurs in connection with other diseases, such as hystero-epilepsy, syphilis, and alcohol, besides the acute infections, but there are no special forms other than those mentioned arising from these complications. As already remarked, the most frequent results of epilepsy is mental deterioration, which, sometimes, amounts to true insanity. All authorities agree that epileptic convulsions when long continued, in some degree at least, impair the mental faculties, and that this mental weakness presents all degrees from a mere dulling of the emotions, sensibilities, and will-power to an absolute loss of all these, amounting to true dementia. The amount of mental failure, however, varies greatly in different individuals, and is not always dependent upon the duration of the epilepsy. It is even claimed that epilepsy and great mental strength, amounting to intellectual genius, are not incompatible, and while this in part may be true, yet in such cases it must be confessed that this is rare and exceptional, and the attacks are usually of a mild or transitory character. Hence the validity of universal medical experience, viz., that well-established epilepsy is a sure sign of biological inferiority still remains intact. By virtue of its complicated nature, however, epilepsy becomes a common and convenient plea of defense for crime, hence the mental responsibility of an epileptic has become one of the most momentous medico-legal questions of the day, and we, as the exponents of medical science, are called upon to assist the authority of law in meting out justice when epilepsy becomes associated with crime, and, more especially, in case of murder. In assuming this dignified and lofty function, we are called upon to consider not only the mental condition of the accused epileptic, but also to pass upon his responsibility for the crime, it is, therefore, at the outset, important to remember that it would be manifestly improper to exonerate a criminal simply because he was subject to convulsions, equally culpable also to condemn because convincing symptoms of epileptic insanity had not been observed or proven. In thus considering the mental condition of the epileptic, and especially his responsibility for criminal acts, we must, therefore, recognize the extent to which mind control has been impaired by the epilepsy as well as the existence of epileptic insanity. In case, for instance, where an epileptic has committed murder, the problem to be solved is usually whether the accused was insane, and if he knew the difference between right and wrong at the time he committed the deed. If he did, he is then, says the law of Missouri, mentally responsible for his crime, sane or insane, and his punishment is fixed by statute, to be death on the gallows. Now the legal aspect of insanity, whether it be epileptic or any other form, differs radically from the medical aspect, and, because of this, gross injustice is sometimes allowed to pass for justice even by those who would otherwise be just. Thus the insane criminal is sometimes convicted legally, but not medically, because he happened to know the deed he committed was wrong, besides being competent to relate all the details of the crime. Now it would seem a useless expenditure, and even waste of time, for me to attempt to show the fallacy of this legal view of insanity, the essence of which recognizes no degree of the loss of the power of self-control. It is simply surprising, however, to find how few medical men (much less lawyers and jurymen) believe an insane man may premeditate and plan to murder, and, after a varying length of time, execute it with a marked degree of intelligence and cunning, and when arrested be able to explain all the particulars in detail, besides acknowledging that he knew it to be wrong and in violation of the law, as well as recognizing the stipulated penalty for such a crime, and yet in spite of this be mentally irresponsible for his deed. Medical science and experience, however, teach us that all the details referred to can be done by an insane man. Hence I contend that the legal test of mental responsibility when alone applied often miscarries the true specific purpose of meting out justice to the criminal. As it stands to-day, the test of criminal responsibility before our courts lies in the proof of possession of reason and free will; when both these are present the party is held responsible, when either is absent he is not held responsible. Professor Ordronaux of the Columbia College of Law, New York, says, according to this legal definition, "By reason is meant an intelligent comprehension of the circumstances in the midst of which one is placed, and by free will is meant the power of doing or abstaining from doing a particular act or thing." Now the opinions of competent medical men to-day are agreed the world over that many an insane criminal knows right from wrong, and can often relate intelligently all the details of his crime, beside plan and premeditate it, as well as seek to evade arrest, and yet, at the same time, be irresponsible for his actions. Those of you, however, who desire to study this phase of my subject more closely can do so by consulting Taylor's "Medical Jurisprudence," page 678, fourth edition, in which several such cases are cited, many of whom, however, were acquitted by the court, although they knew full well the quality and nature of their criminal act, thus recognizing right from wrong.

In dealing with the question of criminal responsibility, it would seem that much of its complexity would be removed if the criminal code proposed by Mr. Justice Stephens of London could be universally adopted in our courts of law. This appears to the writer not only fair but just, and with its ruling every medical man can agree for its substance, proposes to make the individual's power of controlling his actions the real test of mental responsibility. It is as follows (see Clouston on "Mental Diseases," page 428): "No act is a crime if the person who does it at the time when it is done is prevented either by defective mental power or by any disease affecting his mind from controlling his own conduct, unless the absence of the power to control has been produced by his own default. The justice of such a rule as this is clear, although its application requires extreme care and judicious discrimination. More especially is this true when it pertains to the latter clause in which provision is made for punishment in cases where the individual is responsible for his mental derangement. Your attention has already been called to the fact that epilepsy may be congenital or acquired, hence the importance of its etiology and the relation it bears at times to the crime is self-evident. No one doubts, for instance, that syphilis and alcohol sometimes become potent factors in not only the causation of epilepsy, but also promotes the homicidal acts of the epileptic. Hence the relation of these to criminal responsibility would seem to be plain, as these are matters of free choice and hence subject to individual will power. In the majority of cases, however, of epileptic insanity the loss of power of self-control is so clear that it requires no special study to recognize its true relation, but occasionally there is a departure from the recognized principles which govern its diagnosis, and it is more especially in those cases in which medical testimony is liable to conflict, and proves of no special value in solving the problem of criminal responsibility, in all such cases, however, even when the murder is known to have been committed by an irresponsible epileptic the law should be amended to allow its holding them under rigid medical surveillance for the rest of their lives. In this connection careful discrimination must be made between punishment on the one hand and medical treatment on the other. No insane criminal epileptic should be punished (as this term is commonly understood) unless his epilepsy was brought about by his own fault, and even then his pitiable condition appeals to medicine more than to law. Private opinion should not be subject to public sentiment unless the facts in the case are strictly in accord with the consensus of medical teaching and experience concerning the true nature of epilepsy. All authorities agree that irritability, impulsiveness, and aversion to control are the marked characteristics of the epileptic psychosis, but even these unfortunate traits are subject to discipline by proper and appropriate medical treatment. In true epileptic mania the criminal act is usually unpremeditated, motiveless, and accompanied by impairment of consciousness and temporary loss of memory—conscious anger in an epileptic should, therefore, be distinguished from true epilepticmania. Time forbids further enlargement upon the special characteristics of epileptic insanity—suffice it to say that all authorities recognize that homicide is its legitimate product, and much leniency should be allowed in every case in which murder is committed by one who is known to be subject to true epileptic paroxysms.

As a remedy for the present unsatisfactory method of securing expert medical testimony, the question of the mental responsibility of the epileptic should be decided by an impartial medical commission, appointed by the court, which again may be referred to the local medical societies to name its member, and then examination should be made and report returned to the court prior to the trial, and wholly independent of the lawyers engaged in the trial, and suitable compensation for such service should be allowed by a fixed statutory law. In conclusion, it would seem that the following deductions are admissible: (1) That epilepsy is a symptom of some brain disease; (2) That its continual presence tends toward mental deterioration; (3) That the mental responsibility of the epileptic depends upon the extent to which mind or self-control has been impaired by the epilepsy; (4) That the legal test of insanity is not sufficient, as mental irresponsibility is not incompatible with a knowledge of right from wrong; (5) That epileptics are, to some degree at least, responsible for criminal acts, more especially when the epilepsy is produced by their own fault; (6) That criminal acts of epileptics appeal to medicine rather than to law for their proper adjudication; (7) That in all cases of murder in which epilepsy is proven the law should be amended to allow of like commitment to an insane hospital rather than to the penitentiary; (8) That the mental responsibility of the epileptic in case of murder should be referred to a medical commission, appointed by the court, which again may be referred to local or county medical societies to name its members:

ALTMAN BUILDING.

The Prophylaxis of Ophthalmoblenorrhœa Neonatorum with Reference to the Use of Silver Acetate.—Elmer Scipiades reviews the statistics of this affection, which, previous to the introduction of Credé's method, show a morbidity of 13.5 per cent., which since then has been reduced to 0.6 per cent. As is well known, the procedure rests upon two cardinal points: (1) The repeated antepartum disinfection of the maternal vagina with irrigations of bichloride; and (2) The instillation of one drop of a 2-per-cent. solution of silver nitrate into the conjunctival sac of the child before cutting the cord. In spite of the overwhelming evidence in favor of the method, the doubt still remains as to whether or not it is the ideal one, and the author has attempted to discover whether any of the countless modifications proposed accomplish as much as the silver nitrate without producing the disagreeable reaction that so often follows the use of this agent. Of all of the substitutes for the Credé disinfectant, such as bichloride, carbolic acid, salicylic acid, sulphocarbonate of zinc, B-naphthol, chlorine water, permanganate of potassium, resorcin, thymol, icthyol, oxycyanate of mercury (1-2,000 Axenfeld), concentrated solution of boric acid, formalin (1-1,000 Castillo), sterile water and iodoform, the one that has come nearest to it in point of efficiency is protargol. In view of the fact that, although other organisms, such as the diphtheria bacillus, the micrococcus the pneumococcus, the coli bacillus, the Week's bacillus, the staphylococcus albus, and aureus, and even the pseudo-influenza bacillus, may produce the condition, still, the vast majority of the cases of infantile ophthalmia are gonorrhœal in origin, this preparation of silver which has shown itself so hostile to the gonococcus in other regions, might be expected to be equally serviceable in the eye. As a matter of fact, its efficacy is about equal to that of the silver nitrate, but the intensity of the reaction produced by solutions of sufficient germicidal power is also nearly on a par with that attending the use of the older antiseptic. A preparation possessing undoubted theoretical advantages is silver acetate, which has the property of not forming solutions of greater concentration than 1 per cent. at room temperature. Zweifel's statistics, and those of the author, both indicate that in it the substitute for the caustic salt of the Credé method has been found, since it keeps the morbidity down to 0.23–0.24 per cent. and produces a reaction which is nearly always entirely negligible. The method of use is as follows: The eyes, if possible, even before they are opened, are wiped with a dry cloth in the direction of the inner canthus. The cloth should be dry, in order that the conjunctional secretion shall not be diluted and its reducing power decreased. The 1 per cent. solution of silver acetate is then dropped in at the inner canthus, and the lids are opened and closed several times to insure thorough distribution. A little weak sodium chloride solution is then put in to completely neutralize any excess of the disinfectant.—*Volkmann's klinische Vorträge*, No. 340, 1902.

Crusade against Consumption.—Dr. T. N. Kelynack, writing in the *London Hospital*, October 4, says that in the conduct of a comprehensive campaign against consumption, the following measures are requisite: (1) The recognition and protection of all persons predisposed to tuberculous infection; (2) The detection of the earliest manifestations of consumption; (3) Notification of all consumptives; (4) Private Sanatoria or effective home treatment for the affluent; (5) Public dispensaries or outpatient's departments; (6) Public hospitals, situated on the borders of towns and cities, for observation of patients and treatment of acute cases; (7) Public sanatoria, situated in the country, but, if possible, readily accessible; (8) Seaside sanatoria for children; (9) Convalescent homes for consumptives; (10) Homes for advanced cases; (11) Country colonies for "arrested" cases; (12) State hospitals, sanatoria, and homes for the dying, and for all destitute cases.

MEDICAL RECORD:

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EPIDEMIC INFATUATION—THE DOUKHOBOR PILGRIMAGE.

A RECRUDESCENCE of medievalism, strange in modern eyes, is the movement now taking place among the Doukhobors in the Northwest Territory of Canada. Some sixteen hundred of these people turn loose their stock, and, headed by "John the Baptist," with his long arms threshing the air, and crying that he sees the Messiah in the distance, cast away hats, coats, shoes, and march with their women and children (of whom some are born and some die on the way) "seeking Jesus," and saying, "The Lord will care for his people; if we die it is for Jesus's sake and we are satisfied." This state of affairs would, indeed, be strange were it to break out suddenly among a happy and contented people. But no more in human affairs than in the natural sciences does something come from nothing. From the day when Moses led his downtrodden host forth from the land of Egypt, such movements have usually marked the stress of hard conditions upon peculiar mental temperaments. In other words, they are the outcome of reaction against calamities, such as epidemics, famines, and persecutions, and seem to be born of the idea that, as the condition of this world is too bad, it is to another that man's gaze must be turned. Such conditions always bring fanatics to the front and secure for them a hearing; and from amid the innumerable mental variations present at any given moment in the human species, by a process of accretion, like becomes assimilated to like, and an aggregate is formed such as the one now in question.

The history of the Doukhobors shows that they form no exception to the rule. The sect crystallized itself from among the peasantry of Russia somewhere about the middle of the eighteenth century. It can best be described as a combination of the pure morality and simplicity of the Quaker with the community principle of the "Perfectionists." In Russia it was now tolerated, now persecuted on account of its repudiation of the ritualism of the Orthodox Church. Some five years ago the Doukhobors began to emigrate to Canada, but only to find that there, too, they must conform to certain laws. June 22, 1901, they demanded of the Canadian Government that: (1) Individual property constituting "an evident violation of the will of God," land be ceded to them communally, as to the Indians; (2) Marriage being legal "only in virtue of a pure sentiment of moral ttachment between man and woman," registration on books of state is a violation of the laws of God," and they demanded to be subjected "to no human institution concerning nuptial unions which are the domain of God and the conscience"; and (3) The inscription of births and deaths upon the registers of the civil state is not less unacceptable, because "the Heavenly Father knows whom he sends to the world and whom he withdraws from it, and the will of God is alone necessary and important for man." To the refusal of the Government the Doukhobors replied: "We understand that the Government has much difficulty in satisfying our demands, and consequently in limiting the intrusion of laws into our life. . . . Now we are obliged to pray you to be sufficiently good to permit us to remain in Canada until we find another country to fix ourselves, or until we shall be convinced that men who wish to establish their life upon a Christian basis have no longer a place upon the earth." Informed by the Government, July 28, 1901, that they ought to receive their land without delay, as otherwise it would be impossible to keep it for them and others would come and install themselves upon it, the Doukhobors refused, saying that if one holds absolutely to inscribing the homestead in the name of some one, "let it be done, but for us it is necessary that the land should be indivisible. . . . We live as a single farm." Strannik, from whom we have taken the foregoing facts, reports (*Revue de Paris*) that the majority of the Doukhobors appear to understand that nowhere else could they find better terms. But when he wrote, a few ardent and unquiet spirits had already issued an "Appeal to Humanity" asking that they be told whether there exists anywhere a place where they can be supported, or where they can establish themselves and live without being obliged to infringe the laws of their conscience and of truth. Strannik well remarks of the authors of the "Appeal," that they are spirits always more taken with an impossible ideal; and spirits for whom all compromise with their conscience would be more painful than persecution. ' Perhaps the realization of their dream is for them less dear than the perpetual effort of that pursuit, and perhaps they believe, as it is said in the doctrine of Christ, that those are blessed who hunger and thirst for truth." Presumably the present migration is an outcome of the dispute over the land, in individuals whose stubbornness where principle is concerned has been repeatedly shown. Strannik's statement that the majority have accepted the situation seems to be borne out by the number on the march, viz., 1,600 out of more than 7,000. The practical working out of the problem will probably involve the death of many from exposure, and, very likely, the incarceration of the leader in an asylum. To judge from the ease with which our immigrant population becomes acclimatized by the second generation, there is, however, ground for the hope that these simplehearted Russian peasants will gradually yield to the influences of a better environment.

Marked Increase in Contagious Diseases in Philadelphia.—For the week ended October 25 there were reported to the Philadelphia Board of Health twelve new cases of smallpox, forty-seven of diphtheria, sixty-five of scarlet fever, and ninety of typhoid fever, a considerable increase of each over the number during the preceding week.

THE SUBCUTANEOUS USE OF PARAFFIN.

The restoration of facial deformities to normal conditions by the operative methods at our disposal has always had some drawbacks and elements of dissatisfaction. Our best efforts have frequently failed to correct the disfigurement, and sometimes, in spite of everything, the last condition of the patient has been worse than the first. The fundamental reason for this is the uncertain behavior of cicatricial tissue, and the accidents which may happen to transplanted flaps, upon which almost all plastic operations depend. The efforts of surgeons to find some foreign substance which could be safely introduced under the skin, and which would remain there, show that the use of the tissues of the patient's body must, in a large proportion of cases, be supplemented by some substance which will fill space and give form in order to eradicate the deformity completely. Many such materials have been used, and they are so well known that it is not necessary to enumerate them.

Comparatively recently surgeons have had their attention drawn to what seems, in many respects, to be nearly an ideal substance for subcutaneous use—that is, a paraffin with a melting point somewhat above the ordinary temperature of the body—and, since the suggested use of this material, a number of cases, chiefly facial deformities, have been reported in which it has been used. A communication by von Angerer of Munich in *Beiträge zur klinische Chirurgie, Band* 53, *Heft* 3, gives a minute account of three cases of "saddle-nose" in which the paraffin method was employed, and an examination of this record discloses much of interest. All the cases were typical of the peculiar deformity, and all were treated in the same way by the injection of about two and one-half cubic centimeters of warm paraffin, the melting point of which had been found previously to be such as would permit solidification at the body temperature. The anæsthetic was 1 per cent. cocaine solution, and an ordinary hypodermic needle was used for introducing the paraffin. After the injection any moulding could be done that seemed desirable, and a cold, moist dressing was applied for twenty-four hours. In two of the cases there was no special wound reaction, and after a few months the injected mass felt firm and hard, apparently more or less surrounded by fibrous tissue. In the third case an area of skin over the injected mass sloughed, and the paraffin came away. It was necessary later to repair the defect thus caused by bringing down a flap from the forehead, and the operator was considering, at the time of the report, whether it would be advisable to attempt a new injection or not.

Corning, Gersuny, and others have suggested and tried paraffin injections in conditions other than facial deformities, and a number of favorable results have been reported. Paraffin has been injected into the uvula after staphylorrhaphy, in order to increase the size of the part and so to facilitate closing of the nasopharynx during articulation; it has been injected around the margin of a vesicovaginal fistula which did not prove amenable to operation; it has been tried in cases of hernia of various kinds; and, in fact, its use has been suggested in a variety of conditions in which firmness and mass are required to get an approximate return to normal conditions.

Reports so far indicate that the procedure under consideration is safe and unattended by unpleasant accompaniments, but there are occasional occurrences which require elucidation and explanation; and, furthermore, it is desirable to know, if possible, what conditions are most favorable for the method in any given case. A certain number of cases have exhibited a violent wound reaction, though cutaneous sloughing, as in von Anderer's case, must be very infrequent, and a contributing cause, at least, of this may have been the injection of paraffin into the skin, or the use of too great a quantity. It is also well to note that in case the skin is adherent to or very close to bone, there is considerable danger of causing too much tension by the injection.

In one reported case the injection was followed by sudden and serious collapse and the rapid development of unilateral amaurosis. The former was recovered from, but the blindness remained. The explanation of this was that some of the paraffin entered a vein, probably the dorsalis nasi, and thence was carried into the ophthalmic vein, probably causing thrombosis. This occurrence emphasizes the necessity of avoiding veins with the needle, and it has been suggested, apparently with good reason, that the injection should be made when the paraffin is at the point of solidifying, so that it will remain in one place in the tissues. Many thousand injections of mercury, in unguent form, have been given in the treatment of syphilis, and accidents are almost unheard of, so that where provision is made as suggested above, the danger is infinitesimal. Of course the veins in the face are very large in proportion to those in the regions selected for the mercurial injections, and, consequently, additional care must be exercised. Cases in which the skin is adherent to bone or other firm tissue, or in which the cicatrix in the region of the deformity is very dense, are the least favorable for this sort of operation; and it is somewhat doubtful whether it is a good plan to attempt to free the skin in such cases by the subcutaneous use of a narrow knife, which will certainly, to some extent, interfere with the blood supply of the skin. However, this must be done occasionally, or the tension caused by the injected paraffin will be too great. How the paraffin is taken care of in the tissues is still somewhat uncertain. It has not yet been proved whether the substance acts like an innocuous foreign body and remains embedded in an accretion of fibrous tissue, or whether there is a gradual chemical process going on which eventually removes the foreign material, leaving a mass of new tissue. As far as the patient is concerned, this is not an important question however. It would seem that by a careful use of this method of paraffin injection, we have at our command means for relieving patients of disfigurements which often cause great distress and mortification, and further reports of experiences will be welcome. Operations on the face will naturally constitute the great majority, for obvious reasons.

Free Hospital for Epileptics.—The State Convention of the Directors of the Poor at Somerset, Pa., has recommended the purchase of Highland Inn and one hundred acres of ground for the purpose of establishing a State hospital for epileptics.

THE ETIOLOGY OF BERIBERI.

Dr. Patrick Manson read before the meeting of the British Medical Association of this year a paper on the above subject. Little is accurately known concerning beriberi, and there is much difference of opinion as to its diagnosis. Dr. Manson says it is known for a fact that the term has been applied to ankylostomiasis, to epidemic dropsy, to sleeping-sickness, and to a variety of other diseases. Sometimes experienced tropical practitioners include several specifically distinct forms of neuritis under this one term—beriberi. Clinically beriberi—according to Dr. Manson—is a multiple peripheral neuritis, and is distinct from arsenical neuritis, much as it may resemble this condition in its symptoms. Again, beriberi is often mistaken for malarial neuritis; the distinguishing features, however, between the two are that, in the former condition, there are marked proneness to cardiac implication; in the latter, an impairment of memory. The following features are suggested as a basis on which to found our recognition of beriberi as a distinct form of multiple peripheral neuritis, and as more or less distinguishing it from other pathological groups, with neuritis as their leading clinical phenomenon: (1) Our ignorance of its cause; (2) Its occurrence as an endemic and epidemic disease; (3) Its proneness to produce cardiac disability and dropsy; (4) Non-implication of the cranial nerves, with the exception of the pneumogastric; (5) Non-implication of the intellectual and emotional centers; (6) Rarity or complete absence of trophic skin lesions; (7) High rate of mortality under certain conditions.

It is further contended in this paper that: (1) The immediate cause of beriberi is a toxin; (2) The toxin of beriberi is produced by a living germ; (3) The toxin-producing germ operates in some culture medium; (4) That culture medium is located outside the human body; (5) The toxin of beriberi does not enter the human body in food; (6) It is not conveyed in drinking water. Proofs are numerous in support of this assertion.

In conclusion, Dr. Manson says that, allowing these propositions, it must be concluded that the virus of the disease is conveyed to man by the air, or through the skin by contact, or by means of some insect which inserts itself under the skin, or by a combination of some of these ways.

Dr. Manson's views with regard to the etiology of beriberi are original, but this is the case with most of his hypotheses. The commonly accepted opinion as to the cause of the somewhat mysterious Asiatic disease has been that the consumption of rice had much to do with it. This belief has been weakened by a paper read by Dr. Travers at the meeting of the British Medical Association, in which he gave the results of experiments carried out by him going to show that food has no effect upon the causation of the disease.

Dr. L. W. Sambon, in a paper read at the same meeting, disagreed with the conclusions reached by Drs. Manson and Travers, and said that "he failed to see how they can sweep away the enormous amount of evidence brought forward against rice not only by Baron Saneyoski, in his admirable report on the experience of the army and navy of Japan, but by the great majority of physicians of all times who studied the disease in China, Japan, the Dutch Indies, and Brazil."

The evidence in favor of rice—at any rate as a contributing cause of beriberi—is weighty, voluminous, and of long standing. The disease is a prevalent and especially deadly one in the far East, and it would be of great service to the inhabitants of that part of the tropics if its etiology could be clearly defined. If the true cause of beriberi were known, its treatment would be conducted with greater hope of success than is at present the case.

The Undesired and Unexpected Actions of Drugs.

Sir Lauder Brunton read a paper dealing with this matter at the recent meeting of the British Medical Association. Belief in the efficacy of drugs is not nearly so strong with the medical profession now as it was even twenty years ago, and our forefathers' faith in the remedial and curative properties of medicine would be looked upon at the present time as absurd. Nevertheless, the general public appears to retain unabated confidence in the beneficial action of internal remedies, and takes its patent medicine with more zest than ever before.

Sir Lauder Brunton, referring to the subject-matter of his paper, said: "Drugs may exert an unexpected action either by (1) failing to produce their usual effect; (2) having an excessive effect, or (3) having an unusual effect. In discussing the action of drugs we must always remember that it is really the reaction between the drug and the organism which we are considering, and an alteration in the effect may be due either to the drug or to the organism."

Drugs may deteriorate by being kept too long, or alterations in the effect of drugs may depend very much upon changes in them after they have been actually swallowed. "Again," says Sir Lauder Brunton, "the relationship of medicine to meals is very important, and, perhaps, of this no better example can be given than arsenic, which, if taken in full doses before a meal, will almost certainly cause gastrointestinal irritation, whereas the same dose will produce no disagreeable symptoms if taken immediately after a meal, so that the medicine becomes diluted by admixture with the food in the stomach."

With regard to the action of narcotics, the writer says: "Excitement of the circulation tends to counteract the effect of a narcotic upon the brain, as is well known in cases of opium poisoning, where the circulation is kept active by keeping the patient walking and by applying a painful stimulus, such as a strong faradic current, to prevent coma."

That drugs somewhat frequently do not have the desired effect is the experience of all physicians. It would, perhaps, be well to follow the advice of the writer of the paper just quoted, to procure medicine pure and good, to administer it judiciously and at the proper times, and, finally, to use it with due regard to the idiosyncrasies of the patient.

Is Water a Food?

In a paper read before the American Pharmaceutical Association in September, 1902, Mr. John Uri Lloyd makes a plea for the recognition of water as something more than a mere solvent—in fact, as an integral and necessary constituent of the tissue elements, and of foods: "The question is, has the water that is used in the making of a soup, by the action of heat, simply dissolved certain salts and tissues, or has it combined with organic constituents in a way that will make a nourishing liquid or a series of water combinations, in which water exists, it is true, but with altered qualities?" In other words, has the foodstuff been partially hydrated *en route*—been partially predigested, so to speak? Water being a "saturated" molecule, no one would, of course, maintain that by and in itself it is a food. But Mr. Lloyd's contention that foods are foods only by reason of *chemically-combined* water has considerable plausibility. Two questions are present, that of availability, and that of food value proper—that is, the amount of energy contained. The latter is evidently not affected by the present question. But availability may be dependent upon the fact and degree of hydration. For example, if grape sugar, $C_6H_{12}O_6$, be treated with strong sulphuric acid, it gives up all its hydrogen and oxygen in the form of six molecules of water, and there remains a spongy mass of carbon, valueless as food. Similarly, it may be that many of the organic compounds are not the same, either chemically or physiologically, after more or less water has been subtracted from them. On the whole, therefore, Mr. Lloyd's paper is an interesting and suggestive one from the standpoint of dietetics.

THE INCREASE OF TUBERCULOSIS AMONG NEGROES.

The negro race in this country is in a high degree susceptible to tuberculosis. The truth of this statement has been emphasized of late years by the decided increase of the disease in Louisiana and in other States, in which there is a large negro population. An article in *The Sun*, November 2, says that there is alarm in the medical profession of Louisiana, owing to the rapid spread of consumption among the negroes of that State. According to the writer of this article, "There has been improvement as regards the disease among the whites, owing to better sanitary precautions, but the physicians at all the recent meetings of the Louisiana State Medical Society warningly pointed out that this improvement could not long continue if the infection remained so prevalent among the negroes, who constitute practically all the domestic servants. The mortality from tuberculosis among the negroes in New Orleans is four times as great as among the whites; in the country parishes it is from six to ten times as great. What is worse is that, while the disease is growing less prevalent among the whites, tuberculosis is spreading among the negroes, and is nearly twice as prevalent as it was twenty years ago. The physicians all agree that the most serious negro problem confronting the whites to-day is the sanitary condition of the negro race."

The manner in which negroes live, their utter lack of hygienic surroundings, their carelessness in eating, drinking, and in clothing themselves, are all potential factors in originating and spreading the disease. But at the same time the negro would appear to have a racial predisposition to tuberculosis. Its course, too, in the colored individual is far more rapid than in the white man. The disease kills a negro with surprising celerity. It is stated that among the whites in Louisiana 25 per cent. of the cases recover and 60 per cent. improve under good treatment. Dr. J. M. Barrier of Richland Parish declared that he had in his long practice seen improvement in only two negroes suffering from consumption, and both of these were mulattoes. He had never seen a full-blooded negro survive consumption more than twelve months. Reports from eighty physicians showed that 60 per cent. of negroes treated by them for consumption died within the year, and only an infinitesimal fraction showed any improvement.

Not only for the sake of the negroes themselves, but in defense of the entire community, it is imperative that steps should be taken to check the spread of tuberculosis among the negro population. The negroes in the South are allowed to live under conditions which would not be permitted to a white man. Such indifference to the physical well-being of the negro race is a great mistake, and a menace to the health of the white inhabitants.

The recommendations adopted at the recent meeting of the Louisiana State Medical Society were: First, to teach the negro, by a missionary movement, the danger of consumption and how to treat it; and, secondly, to require the boards of health to devote more attention to the sanitary conditions of the negro quarters of the Southern towns.

BACTERIA OF THE MOUTH AND DISORDERS OF DIGESTION.

The state of the mouth and condition of the teeth have much to do with the action of the digestive organs. If a person has carious teeth it may, as a rule, be taken for granted that his digestion is not as it should be. The proper care of the teeth and mouth is an important factor in the preservation of health.

Mr. E. W. Roughton has published in recent issues of *The Lancet* a series of lectures delivered by him on "Bacteria of the Mouth and Disorders of Digestion." He said in part:

"The influence of an unclean mouth on the disorders of digestion has doubtless been hitherto much underrated. As Miller remarks, we frequently meet with persons who carry such filth in their mouths as they would never tolerate on the skin. The physician who must insert his finger into such a mouth is sometimes well-nigh overcome with disgust, the *fetor ex ore* is insufferable, the teeth are covered with a thick deposit in a state of active fermentation, the gums are intensely reddened, inflamed, and suppurating, and where decayed roots are present, which is usually the case, chronic abscesses produced by them continually discharge suppurative and putrefactive products into the oral cavity; and with all this individuals expect to enjoy good health.

"For years it has been recognized that many disorders of the stomach and intestines owe their origin to local fermentative and putrefactive processes. There can be no doubt that the mouth acts as a breeding place or starting point for a certain proportion of the bacteria which set up fermentation in the stomach. The view formerly held that germs which had been swallowed perish in the stomach has been shown to be incorrect. Sucksdorf estimated that out of every 100 bacteria found in the fæces ninety-seven are derived from the food and drink, and three only from the mouth itself when the latter is clean and well-cared for. In neglected mouths, however, as many as 30 per cent. of the bacteria present in the fæces may be regarded as derived from the mouth. It may be readily inferred, therefore, that the condition of the mouth may very seriously influence the functions of the alimentary canal. Even more serious results may follow neglect of the teeth. There is more than one case on record where the bacteria of the mouth have set up a gastritis of the wall of the stomach itself."

The warning of Mr. Roughton with regard to the extreme importance of caring for the mouth and teeth is well-timed. The disregard evinced by many persons for these points is remarkable. Early decay of the teeth is decidedly on the increase, and doubtless may be attributed to the consumption of large quantities of meat, rich food, and, among women, sweetmeats. The inhabitants of the

United States are, nevertheless, more heedful of their teeth, on the whole, than the people of Europe. While a stranger to this country must be struck by the large number of persons who carry in their teeth the marks of the dentist's handiwork, yet at the same time he cannot but observe that, so far as whiteness is concerned, the teeth of the majority of the population of the United States compare most favorably with those of the European people. Some English journals occasionally comment in caustic terms on the tendency of American journals—including those devoted to medicine to indulge in spread-eagleism, and to unduly extol everything in connection with their own country. This feature is undoubtedly somewhat of an amiable weakness on the part of our journalists; but with regard to American dentists, the fact is undeniable that they are absolutely in the lead in the practise of their profession, and, furthermore, are unsurpassed in the mechanical branch.

Nevertheless, here as elsewhere, a very large number of individuals exhibit an extraordinary negligence in the care of their mouths and teeth, and it cannot be too strongly insisted upon that such neglect, if long continued, will infallibly lead to unpleasant, and sometimes to grave, results.

The Prevalence of Morphinism.

Dr. Crothers is one of the foremost advocates of temperance in the world, and his writings on inebriety and the drug-habit have won for him a well-deserved reputation as an authority on the matter.

His latest book deals with morphinism in all its phases, and he has collected therein a quantity of interesting facts with respect to this habit. He points out that the possibility of concealing, for a considerable time, the morphine habit has rendered it a most seductive vice, and declares that its practisers may be found by the thousands in France and Germany, where entire villages even are said to be filled with morphine takers.

It is gathered from the sale of morphine in some of the large cities of the United States that not half of the amount sold is traceable to the legitimate demands of physicians and hospitals, and the just inference is that there must be a large secret consumption of the drug. Statistics of the sales of the drug stores tend still further to confirm this belief by showing that a very large part of the total is bought by laymen.

As regards morphinism in relation to the medical profession, an editorial was published in the Medical Record, November 4, 1899, treating of the matter. Dr. Crothers had at that time just stated that about 21 per cent. out of a total of 3,244 physicians residing in the Eastern and Middle and some of the cities of the Western States were found using spirits or narcotics to excess. Morphine is the drug most commonly used by all classes. "On the frontiers and in centers of great business excitement and nervous strain it is used more and more."

The assertion is made that a "hypodermic-needle mania" exists, and that in some parts of the States itinerant pedlers carry with them syringes, and will inject morphine into those persons who are willing to pay for the temporary relief from nerve strain or from pain afforded thereby.

The surrender of the victim to the habit is insidious. With some it is comparatively slow, with others rapid—according to constitution and temperament—but the end, if the vice is continued, is always the same—mental, moral, and physical ruin.

Crothers says that the morphine habit exhibits three stages of development. The first stage is that in which the drug is taken to relieve pain or bodily suffering, such as colic, neuralgia, rheumatism, spasmodic asthma, dysmenorrhœa, or insomnia. The effect of the injection is usually satisfactory, as relief is speedily obtained. Later, when recurrences of pain take place, the remedy is again resorted to. In insomnia and in conditions of worry and anxiety, attended with nervous exhaustion, the effects produced by morphine are often very pleasant, as it not only relieves pain, but produces a feeling of general exhilaration. The thought of becoming a victim addicted to the use of the drug and powerless to shake it off is not at this stage entertained by the patient, who takes it in strictly medicinal doses and only when needed. The second stage begins when the patient employs morphine for imaginary pains, and when he merely seeks pleasurable exhilaration for its own sake. After this the abandonment of the drug becomes difficult, and is followed by much discomfort and distress. Generally attempts are made from time to time to discontinue the habit, but in the majority of cases such attempts are unsuccessful. The person is now accustomed to use the drug at shorter and shorter intervals, and the craving which hitherto was only intermittent now becomes almost continuous. The third stage is marked by a continuous craving for the drug, and the quantities consumed are large.

The treatment of morphinism, even when its victims are confirmed in the habit, is by no means devoid of hope. The removal of the drug and the restoration of the functional derangements are, according to Dr. Crothers, practically simple, when the physician has full control of the patient and his surroundings. The treatment and after-care require far more skill and tax on our therapeutic resources. The abandonment of the needle at the start, and the change to some other form of opium or other narcotic to lessen the acuteness of the withdrawal symptoms, then the slow or rapid withdrawal of the drug, are the most practical means. The hot-air bath, with massage daily, or more frequently if necessary, is the most valuable procedure. Several drugs are also useful in treatment of morphinism. Suggestion and emotions of a vivid kind, such as religion, have been found in many instances to be most effective modes of treating morphinism.

When one considers the increase of morphinism, the impression cannot be avoided that the facilities offered to the public of procuring morphine and other narcotics are too easy. Again, as has been pointed out frequently, physicians are in fault when they prescribe morphine to allay pain or to compose nerve strain, without taking fully into consideration the possible ultimate result of such treatment. Unfortunately, in the case of morphine, the remedy in the long run often proves to be worse than the disease.

The Unreliability of the Microscope in the Diagnosis of Malignant Disease. G. Hamilton Whiteford says that he has seen the value of the microscope repeatedly and extensively tested in the diagnosis of all the more common varieties of malignant tumor. The result has been a series of shocks to his previously firmly-rooted belief, and he now holds that the microscope for purposes of differential diagnosis is perfectly unreliable. Hamilton of Aberdeen has shown microscopic sections of the tongue of persons over fifty-five years of age which present an appearance identical with that seen in epithelioma. He placed side by side with them sections of clinical epithelioma, and the most expert pathologists were unable to distinguish between the two. The author considers the naked-eye appearances and the clinical history of a case to be much more reliable than the microscopic appearances.—*The Bristol Medico-Chirurgical Journal.*

News of the Week

The Plague in San Francisco.—The menace to the country from the increasing number of plague cases in San Francisco, consequent upon the foolish denials by the Mayor and other officials of the existence of the disease, is beginning to excite alarm. The disease broke out there over two years ago, but the State and municipal authorities sought to conceal the fact for fear of injuring the business and commercial interests of the State and city. The officers of the Marine Hospital service, and back of them the Secretary of the Treasury, insisted that the full seriousness of the situation must be recognized, but the Governor declared that the State and municipal authorities were competent to deal with the situation such as it was. Californians generally denied that there was any plague in San Francisco, and the newspapers would not even mention the subject. Active measures were taken, however, and the conditions were improved for a time. Within the last few months the plague has gained new headway in San Francisco, and has even spread to Oakland, Berkley, and Davisville, and perhaps to other towns. Attention has been directed anew to this state of affairs by certain resolutions adopted at the meeting, two weeks ago, of the State and provincial Boards of Health in New Haven, Conn. Those resolutions denounce the San Francisco authorities for failing to stamp out the disease, and especially for seeking to suppress the full facts regarding the situation.

Post-Office Physicians Discharged.—The Postmaster-General has issued an order abolishing the position of post-office physician in all cities of less than 500,000 inhabitants. There were ten of these smaller cities having post-office physicians employed at an average annual salary of $1,050, so that the saving to the Government and the loss to the profession will amount to $10,500. This action was taken after consultation with the postmasters in the cities affected, who advised the Department that the office of post-office physician was not necessary.

Rush Medical College and the University of Chicago.—Conditioned upon the raising of $1,000,000 by the trustees of Rush Medical College not later than July 1, 1903 the trustees of the University of Chicago, it was announced to-day, have agreed to receive the medical school as an organic part of the university. The college and the university became affiliated four years ago.

Another Scarlet-Fever Serum.—Dr. G. A. Charlton of McGill University, Montreal, announces the discovery of a specific serum for the treatment of scarlatina. Of fifteen cases in which the new remedy was tried at the Montreal Civic Hospital, speedy recovery without complications is reported to have occurred in thirteen

Arrest of Hospital Physicians.—Six internes at one of the city hospitals were arrested on election day, and taken to the Yorkville court on a charge of illegal registration. The point raised in court was that they were "inmates of a public charitable institution," who, under the law, may not vote. The magistrate thought that the physicians had no right to register from the hospital as their residence, and held them in $500 each for trial. Three of them had already voted.

Negro Cocaine Fiends.—It is reported that the cocaine habit prevails to an alarming extent among the negroes in various sections of Mississippi, the use of the drug having almost supplanted the dipping of snuff among the women. In 1900 the Legislature passed an act forbidding the sale of the drug except upon a physician's prescription, but the law is ignored by nine-tenths of the druggists in the State. It is now suggested that a law should be passed making it a crime for any person to use cocaine except on a physician's certificate.

Koch Said to Be Changing Again.—A despatch to *The Sun* states that Professor Brouardel, who returned to Paris last week from attendance at the International Congress on Tuberculosis in Berlin, says that Koch no longer denies the possibility of the communication of bovine tuberculosis to human beings. Koch also admitted, he says, that milk infected with the disease might be injurious. Some time ago Professor Koch began to recede from the position taken at the London Congress, and resigned the claim of being the only discoverer and originator of the theory of the plurality of tuberculosis. To a reporter of the Paris *Figaro* he said: "The opinion which I defended at the congress in London I still adhere to. I would like to call attention to the fact, however, that I limited myself to the expression of a theory which had previously been advanced by American men of science. The public has voluntarily accorded me the privilege of parentage. But let us get down to facts: I never said that infection was impossible; all I contended was, that it could hardly have serious consequences." When he announced this theory, however, he carefully refrained from saying that it "had previously been advanced by American men of science," and it was not until Adami and others accused him of plagiarism, and he found himself opposed by nearly all scientific men, that he haltingly acknowledged that he was not the author of the theory.

An Honorary Degree for Professor Lorenz.—It is announced that the Northwestern University will confer the degree of LL.D. upon Professor Adolf Lorenz when he returns to Chicago from the West. According to the newspaper accounts, Dr. Lorenz was urged by the newly-installed president of the Northwestern University, Dr. James, to treat his daughter, suffering from congenital dislocation of the hip, but Dr. Lorenz refused on the ground that the child was too old to warrant the hope of a cure.

American Public Health Association—The thirtieth annual meeting of this association will be held at New Orleans, La., beginning December 8 and continuing five days. The Executive Committee has selected the following topics for consideration, but papers will be received upon other sanitary subjects: (1) The Pollution of Public Water Supplies; (2) The Disposal of Refuse Material; (3) Animal Diseases and Animal Food; (4) Car, Steamship, and Steamboat Sanitation; (5) Etiology of Yellow Fever; (6) Demography and Statistics in Their Sanitary Relation; (7) Cause, Prevention, Period of Incubation, and Duration of Infectious Diseases; (8) Public Health Legislation; (9) Cause and Prevention of Infant Mortality; (10) Disinfectants and Disinfection; (11) National Leper Homes; (12) Dangers to the Public Health from Illuminating and Fuel Gas; (13) Transportation of Diseased Tissue by Mail; (14) The Teaching of Hygiene and Granting of Diploma of Doctor of Public Health; (15) Sanitary Aid Societies; (16) The Relative Immunizing Value of Human and Bovine Vaccine Virus; (17) The Investigation of the Canteen System of the United States Army. The following are the officers of the association for this meeting: *President*, Dr. Henry D. Holton, Brattleboro, Vt.; *First Vice-President*, Dr. Walter Reed, Washington, D. C.; *Second Vice-President*, Dr. Jesus Chico, Guanajuato, Mex.; *Secretary*, Dr. Charles O. Probst, Columbus, O.; *Treasurer*, Dr. Frank W. Wright, New Haven, Conn.

New York State Association of Railway Surgeons.—The twelfth annual meeting of this association will be held in the hall of the New York Academy of Medicine on Thursday and Friday, November 20 and 21, at 10 A.M. and 2.30 P.M. The president of the association is Dr. H. P. Jack of Canisteo, and the secretary, Dr. George Chaffee of Brooklyn.

Reconstructing the Old Bellevue College Building.—Plans have been filed and work has begun for remodelling the interior of the old medical college building on the Bellevue Hospital grounds. The outside walls will not be touched, but the inside will be greatly changed. The two upper floors are to be made into dormitories for the employees of the hospital and will be fitted up in the most approved manner. The second floor will be taken up as a lecture hall. The first floor will contain, as in the past, a dispensary, but this also will be newly fitted out and reconstructed. On the same floor will be the hospital's offices, which are now in the main building. A special feature of the alterations will be the providing of a reception room for visitors on this floor, with an entrance on Twenty-sixth street.

The National Association for the Study of Epilepsy and Treatment and Care of Epileptics held its annual meeting on Wednesday of last week in the lecture hall of the Academy of Medicine. Two sessions were held, one in the afternoon and another in the evening. Dr. Frederick Peterson, the President of the association, in his opening address referred to the increasing interest now being taken in the welfare of the epileptic. A few years ago the 140,000 epileptics in the United States were practically outcasts, a burden to society, to their families, and to themselves. Now, in nineteen States of the Union there were provisions made for their care and treatment, and in some cases cures had been effected. In Europe also there were many homes and colonies established for the care of these unfortunates, and the movement had even extended to Asia and South America. He spoke of the work of the association, the aims of which, he said, were to promote the general welfare of sufferers from epilepsy, to stimulate the study of the causes and the methods of cure of the disease; to advocate the care of epileptics in institutions, so that they might receive an education, acquire trades, and have good medical treatment, and to assist the various States in America to make proper provision for sufferers from this malady. He appealed for financial aid and moral support of the association by both physicians and the general public. Dr. Edgar J. Spratling read a paper on "The Legal and Social Standing of the Epileptic." He held that an epileptic who commits a crime should be deprived of liberty while the disease continued, but he should not have the stamp of the convict put upon him. Dr. Abraham Jacobi presented a communication on "The Causes and Remedies of Epilepsy," and Dr. Roswell Park one on "The Surgical Treatment of Epilepsy." The latter speaker said surgical measures were sometimes of undoubted service, but he deprecated an indiscriminate resort to operative procedures. Dr. Wm. P. Spratling reported upon the work of the Craig Colony for Epileptics at Sonyea, N. Y., and several other papers were read. The election of officers for the coming year resulted in the choice of the following: *President*, Dr. Wharton Sinkler of Philadelphia; *Vice-President*, Dr. William Osler of Baltimore; *Treasurer*, Dr. William P. Spratling.

Throat Department of the New York Eye and Ear Infirmary.—The statement was made recently by Mr. John Harsen Rhoades, one of the directors of the New York Eye and Ear Infirmary, that the board was seriously considering the advisability of abolishing the throat department in the infirmary. The reason given for this contemplated action was that the great increase of the number of eye patients during the past year had taxed the resources of the institution to the utmost and it would be necessary to retrench by cutting off a branch of work which was regarded as somewhat outside the actual purpose for which the infirmary was established. This statement has called forth a vigorous protest from the friends of the throat department, who contend that the work there done is as extensive and as fruitful in good results as that in either the eye or the ear department. The number of throat patients treated annually is about ten thousand.

Gerhardt's Successor.—Dr. F. Kraus, professor of special pathology and therapeutics and director of the clinic for internal diseases at the University of Graz, has been called to the chair of clinical medicine at the University of Berlin, made vacant by the recent death of Prof. Gerhardt. Prof. Kraus was born March 31, 1858, and has been professor at Graz for eight years, having been called there from Vienna in 1894.

Contagious Diseases Barred from Colorado Railroads.—A rule has been adopted by railroad officials in Colorado that, after December 1, invalids boarding a train anywhere in the State must be able to show a physician's certificate that they are not suffering from any contagious disease.

In Favor of the Army Canteen.—Forecasts of the annual report of the Secretary of War state that he will urge upon Congress the reestablishment of the army canteen. We hope, in the interests of temperance and morality, that his recommendations to this effect will be favorably acted upon.

Dr. Pearce Bailey has been appointed consulting neurologist to Roosevelt Hospital.

Dr. George Taylor Stewart, Superintendent of Bellevue Hospital, has tendered his resignatin, the same to take effect January 1. Dr. Stewart has been connected with the hospital thirteen years.

Fourteenth International Medical Congress.—As it is expected that Madrid will be crowded during the congress week, those who are to attend the congress are advised to apply for rooms as soon as possible to the Bureau des Logements, Faculté de Médecine, Madrid. Blank forms for these applications may be obtained on request from the Secretary of the American Committee, Dr. J. H. Huddleston, 126 W. Eighty-fifth street, New York City. The Spanish Committee of Entertainment announces that the daily charge per person for lodging, service, light, and three meals is in hotels from thirteen to thirty-five pesetas and in private houses from nine to twenty-two pesetas. These sums include transportation from the station to the lodging and from the lodging to the station. The French and Spanish railroads have granted delegates a general reduction of 50 per cent. on the fares. In the United States the Trans-Continental Passenger Association advises delegates to use the regular nine months' rate from Pacific points to Missouri River points. The Spanish Transatlantic Line from New York to Cadiz and Barcelona grants a reduction of 33 per cent. on the ordinary rates for members of the congress. Subscriptions (thirty pesetas) must be paid before the opening of the congress to the General Secretary, and members should state the section or sections to which they wish to belong. The subscription for the wives of members is fixed at twelve pesetas.

An excursion for members of the congress and their families is being arranged. The trip from New York and return will require about one month. Physicians and members of their families who join this party will be entitled to the special rate of $263.00 for the round trip, including first-class passage on the steamer and railway, hotel accommodations for fourteen days in Spain, including room, meals, all handling of baggage, special interpreter, and fees. The trip will be via Gibraltar, Cordova, to Madrid. Side trips to interesting parts of Spain can be arranged, and also returns by other routes, so as to enable those who so desire to visit other parts of the continent. Physicians living in the Eastern and Middle States, seeking information concerning this party with a view of joining it, can communicate with Dr. Ramon Guitéras, 75 West Fifty-fifth street, New York City. Those in the west can obtain information from Dr. Charles Wood Fasset, St. Joseph, Mo.

Jefferson Medical College.—Dr. Addinell Hewson, for many years demonstrator, has been elected Assistant Professor of Anatomy. Dr. S. Solis-Cohen, for many years lecturer, has been elected Senior Assistant Professor of Medicine, and Drs. Thos. G. Ashton and Julius L. Salinger, for many years demonstrators, have been elected Assistant Professors of Medicine.

Dinner to Drs. Keen and Wood.—A dinner to Drs. W. W. Keen and Horatio C. Wood was given at Philadelphia on November 6 to celebrate the safe return of both gentlemen from a tour of the world covering more than a year. There were nearly 140 guests, including visitors from New York, Baltimore and Boston. Dr. John H. Musser acted as toastmaster, and toasts were responded to as follows: "Medicine," by Dr. Wm. H. Welch of Baltimore; "Surgery," by Dr. Wm. B. Coley of New York; "The Pupil in Surgery," by Dr. J. Chalmers DaCosta, who made the presentation of a silver loving cup to Dr. Keen; and "The Pupil in Medicine," by Dr. Hobart A. Hare, who made the presentation of a silver loving cup to Dr. Wood. Appropriate responses were made by Drs. Keen and Wood, and remarks were made further by Drs. S. Weir Mitchell and J. Collins Warren.

Typhoid Fever is again unduly prevalent in Philadelphia, 124 cases having been reported to the Bureau of Health for the week ended November 8 and 107 for the preceding week. There were reported also for the two weeks 83 and 74 cases respectively of scarlet fever and 36 and 57 cases respectively of diphtheria.

Medical Society of the Missouri Valley—This society held an interesting meeting at Sioux City on September 18. A number of good papers were presented, and at the close of the session the members were given a banquet at the Garrettson by the local profession. The officers elected for the ensuing year are as follows: *President*, Dr. J. M. Barstow, Council Bluffs; *First Vice-President*, Dr. Mary Strong, Omaha; *Second Vice-President*, Dr. R. E. Conniff, Sioux City; *Treasurer*, Dr. Donald Macrae, Council Bluffs; *Secretary* Dr. Chas. Wood Fassett, St. Joseph. The selection of the next place of meeting was left to the President and Secretary, and will be announced later.

Obituary Notes.—Dr. E. G. CARLETON died suddenly at Morenci, Ariz., on October 20, at the age of thirty-seven years. He was born in India, and was graduated in arts from Amherst College in 1889. He received the degree of M. D. at the College of Physicians and Surgeons in this city in 1892, and served on the house staff at Gouverneur Hospital and later at the Lying-in Hospital. He settled first in Bisbee, removing subsequently to Morenci.

Dr. G. L. COOK, formerly of Cleveland, died on November 2 in the New York Hospital from morphine poisoning. He was seventy-eight years of age, and had retired from practice.

Dr. ROBERT C. KEDZIE, professor emeritus of chemistry at the Michigan Agricultural College, died November 6, at the age of seventy-nine years. Prof. Kedzie was a native of New York State. He was graduated from Oberlin College in 1846, and was a member of the first graduating class of the medical department of the University of Michigan at Ann Arbor in 1851. During the civil war he was surgeon of the Twelfth Michigan Infantry. He filled the chair of chemistry at the Agricultural College for forty years and was retired from active service last June.

Dr. HENRY M. COX died at his home in Washington, Warren Co., N. J., on November 7, at the age of sixty-five years. The cause of his death was cancer of the stomach. He was a graduate of the medical department of the University of Michigan in the class of 1868.

DR. WILMOT AYRES died at Harrisburg, Pa., on November 7, at the age of fifty-four years. He was a member of the 127th Pennsylvania Volunteers during the Civil War. Some time after the close of the war he began the study of medicine and was graduated from the Baltimore Medical College in the class of 1883.

DR. RANSOM R. CROTHERS died at his home near Colora, Cecil Co., Md., on November 8, at the age of fifty-seven years. He was a graduate of the University of Maryland School of Medicine in 1873, and subsequently also of the Bellevue Hospital Medical College.

Diagnostic and Therapeutic Measures Overlooked by the General Practitioner in Diseases of the Stomach.—W. P. Harbin says that every general practitioner can make a diagnosis of gastroptosis by the splashing sounds. By palpation he can recognize a nephroptosis, and greatly relieve both conditions by an abdominal belt. One-half of all the digestive disturbances are attended with hyperacidity. We cannot diagnose hyperacidity with certainty, except by a test breakfast. Lavage in mornings before breakfast with calcined magnesia relieves the pain and discomfort of hyperacidity. The intragastric application of the farradic current gives strength to the involuntary muscles of the digestive tract and the voluntary muscles of the abdominal wall. The physician and the gynecologist too often consider gastric symptoms as a reflex disturbance of diseased female generative organs.—*The Alabama Medical Journal.*

A Case of Early and Continued Menstruation.—George Wells reports the case of a little girl, now seven years of age, who has menstruated regularly (nearly every twenty-eight days) since she was eighteen months old. When her mother first consulted him, he made a careful and thorough examination, and although the discharge had the characteristic periodicity of the menstrual flow, the tender age of the child at first led him to believe that it was due to other causes high up in the vagina. But, failing to discover the cause, he has held her under close observation from that time to the present, and as the bloody discharge has occurred monthly throughout this period of six years, and as the child, although not robust, shows indisputable evidence of having reached puberty—the mons veneris and the labia majora being thinly covered with long hairs, the mammæ as well developed as in the majority of adult women, the areola being well defined, and the facial expression thoughtful and matured—he has reached the irresistible conclusion that it is a case of precocious menstruation.—*Maryland Medical Journal.*

Correspondence.

CHOLERA IN THE PHILIPPINES.

(From Our Special Correspondent in Manila.)

MANILA, P. I., September 30, 1902.

THE great sanitary problem in the Philippines at the present time, of course, relates to the prevalence of cholera, and it is one which is giving much anxiety to the sanitary authorities. Persons in the United States can have no idea of the death and devastation caused by this disease; and even in Manila, outside of a few officials, the extent of its ravages through the interior districts is not fully appreciated. While up to this date more than 30,000 deaths have been officially reported to the health authorities as having been due to cholera, this number probably does not represent much more than half the deaths resulting from this disease. In many instances, the nature of the earlier cases of cholera, as it spread from town to town, was not recognized, and a proper diagnosis was not made until the disease had established itself in epidemic form. Such earlier cases were regarded by the natives as acute diarrhœas, dysentery, or gastritis of an unusually fatal type, and do not figure in the cholera returns. In many instances, cases sickened and died without medical attention, or before coming under the notice of those qualified to make a proper diagnosis. Physicians in the Philippines are few and far between, and the professional qualifications of many of the native practitioners are of a very low order. Even in the larger towns the number of physicians is totally inadequate to render proper medical care to the population under ordinary conditions, while the smaller country towns or barrios are almost universally unprovided with physicians. Districts containing a population of several hundred thousand might have only three or four medical men within their limits, and those located in the larger towns. In one city of some considerable importance, with a population of about 25,000, there was only one civilian doctor, and he was also the only one in the entire province. With deaths from cholera occurring in the above-mentioned town at the rate of fifty or sixty a day for some weeks, it is obvious that the sick and dying of the country districts round about could scarcely receive any of his attention. The army surgeons at the various military stations gave every assistance at the outbreak of the disease, but they were handicapped from the outset by not knowing the native languages and by being regarded with more or less distrust by the natives. The stringent measures which they proposed, by which alone the spread of the disease could have, perhaps, been checked, also aroused the antagonism of the easy-going, fatalistic Filipinos, who were being taught by the friars that the epidemic was a visitation of God, not to be averted by mortal means, and that the sanitary precautions of the Americans were not only unnecessary, but were made needlessly severe for the purpose of oppressing a conquered people. Because of the complaint and antagonism thus resulting, the matter was soon after taken, by the civil authorities, entirely out of the hands of the military, and the army surgeons were practically confined in their efforts to keeping the disease out of the commands with which they were serving. The latter, it may be remarked, was not an easy task, with a generally infected native population living in immediate proximity to the barracks, and often in necessarily close relations with the troops. A third reason why many cases of cholera do not figure in the returns for that disease is due to the fact that the cause of death was deliberately misrepresented by the natives, and that many cases died and were secretly buried, because of the discomfort, annoyance, restriction, and possible destruction of property, which, at least in the earlier period of the outbreak, would have resulted from the true facts becoming known to the authorities. Many cases of the disease ending in recovery were undoubtedly never reported, and these, and particularly the mild ambulant cases of choleraic diarrhœa, were probably the most potent factors in the spread of the disease. For these reasons, not only are the statistics misleading as to the severity of the epidemic, but the percentage of mortality given by them is unquestionably much too high. Throughout the epidemic in the northern islands, the official returns placed the deaths at about 85 per cent. of the reported cases. It was a general rule, however, that only the more severe cases came to official notice. The mortality in hospitals was extremely high, but the class of cases admitted was of the most severe type, the patients were weakened by transportation, and many of them were moribund at the time of admission. It is fair to consider, however, that more than one-half of the cases presenting well-marked cholera resulted fatally. Although the type of the disease, while the epidemic was at its height, was about the same over the entire islands, its prevalence varied greatly with the community. Manila, with its piped water supply of comparative purity, had a relatively small number of cases in proportion to its population. In the little country villages, where the water supply was drawn from a few wells or stagnant pools, which early became infected the mortality was very great, and the terrorized survivors, scattered in all directions, carrying the disease to other communities. In the northern districts whole villages were thus decimated and deserted, and the resulting suffering was very great. The putting in of the crops, particularly the rice-planting, was greatly interfered with, and this cutting down of the food supply, with a population living from hand to mouth and unprovided with proper means of communication and transportation, can scarcely fail to have an appreciable effect in increasing the death rate in the future, after cholera itself shall have disappeared. During the height of the epidemic, the combination of sickness and death, suffering and sorrow, seen on all sides, was very depressing. In some entire villages scarcely a family escaped, and all day the hearses and bullock carts were carrying out the dead for burial, in coffins, or wrapped in mats and banana leaves.

In some instances, the number of dead was too great for proper burial, and the stench from many shallow graves, washed by tropical rainstorms, was perceptible at long distances. Such graves attracted and furnished breeding places for swarms of flies, which undoubtedly played an important part in the further dissemination of the cholera bacilli. So severe was the epidemic in some instances, and so paralyzed were the energies of some communities, that the proper disposal of the dead was at times impossible. Efforts were at first generally made to cremate the dead, but dry wood was scarce and petroleum either could not be obtained or funds were not available for its purchase. Burial in lime was enjoined, but a sufficient supply to meet the needs of such a wholesale mortality could not be had. Even deep burial, during the rainy season of the tropics, could not be accomplished, except with great difficulty. In some cases corpses were simply tumbled over the cemetery walls, in order that they might at least lie on consecrated ground; in some of the worst-scourged communities many were thrown out into the yards and roads, and were devoured by vagrant dogs and the omnipresent swine. While family ties are very close among the Filipinos, demoralization and overtaxation of their powers rendered them callous to the presence of death and gruesome sights.

To one unacquainted with social and racial conditions as they exist in the Philippines, the question naturally arises as to why the present cholera epidemic was not prevented, or at least controlled and deprived of much of its terrors. In the great Philippine cholera epidemic of 1882 the nature of the disease was unknown, and sanitary defence had to be conducted blindly along empirical lines. Since that time, however, sanitary science had attained exact knowledge as to the specific cause of the disease, and the best methods of preventing its development and spread. In view of these facts, is there any valid excuse for the present epidemic having entirely escaped from control and having become even more severe than its predecessor under the more lax and less intelligent Spanish administration of two decades ago? Is there any reason why the American administration in the Philippines could not have stamped out cholera in the islands, as the American administration in Cuba destroyed the yellow-fever infection from its large cities? The sanitarian should not decide in the negative as to these questions, without considering the special conditions involved, and concerning which no person who is not personally acquainted with matters in the Philippines is qualified to give a decisive answer. Beyond a doubt, the sanitary authorities in the islands have made mistakes, but there is also no doubt but that the general plan of campaign against cholera was excellent, and that its failure to succeed—for it unquestionably has failed—was due largely to circumstances beyond its control, and to such conditions as do not arise to hamper the efforts of health officers in more civilized and intelligent communities. What these special difficulties were will be subsequently considered.

There is no doubt but that there was a certain time in the history of the outbreak when the infection could have been utterly destroyed and the epidemic prevented. This opportunity occurred at the time the first few cases appeared in the Farola district of Manila, a district inhabitated by low-class natives, living amid surroundings which were, exceptionally insanitary, even for Filipinos. Immediately on the diagnosis of the first cases being confirmed bacteriologically, this district should have been placed under martial law, troops should have surrounded it, and a sanitary cordon should have been established, nobody being permitted to pass in or out, before the fact of the existence of cholera in Manila was published.

The inhabitants of this district should have been removed *en masse* to the isolation camp, already prepared in connection with the outbreak of plague, and the entire district should have been burned over and disinfected. If the extension of the disease from the first foci of infection could have been prevented at all, it could have been prevented in this manner, for the first cases were but few, and the infection was undoubtedly not water-borne, but derived from the use of vegetables, thrown overboard from a vessel arrived from an infected Chinese port, and subsequently picked up and used by a few fishermen and boatmen. Unfortunately, such sanitary measures, as outlined above, if considered at all, were regarded as too drastic, and the favorable moment was lost. The news of the existence of the disease was published, and the inhabitants of the Farola, dreading curtailment of their liberty, scattered in all directions, carrying the infection with them. The sanitary guards over the infected houses were largely native policemen, ignorant of the gravity of the situation, and not proof against cajolery and bribery. It was no wonder that numerous foci of the disease were, in consequence, soon developed in other parts of Manila and in the surrounding country. When the authorities finally burned the Farola district, a week later, the harm was done, and it was another instance of locking the stable after the horse was stolen.

With the appearance of the disease in mild epidemic form, excellent sanitary rules were formulated by the sanitary authorities, and evaded as much as possible by the natives, which they were designed to benefit. Regarding the epidemic as divine retribution for sins, in which belief they were encouraged by the friars, the Filipinos considered human efforts at control, as practised by the Americans, as both useless and impious. Totally ignorant of the nature and methods of spread of the disease, they resented any restriction of their liberties and privileges. As far as they were themselves concerned, they preferred to trust to the efficacy of religious processions, much praying, the painting of crosses on their doors, and the hanging of paper crosses in their windows. The low-class natives also tied strings around their ankles and knees, with the idea that in this way they prevented the cholera virus from rising from the ground into the system. In the small country towns, during the height of the epidemic, the whole population apparently spent the time from sunset to sunrise in pounding on tin cans or bamboo, in the belief that in this way the evil spirits causing the epidemic could be driven away. Nearly all wore charms and amulets. For a while the family of every cholera patient in Manila, and others who had come into contact with the disease, were promptly placed in a detention camp for five days, while the houses were being disinfected. The patients themselves were treated in the Santiago hospital, used exclusively for cholera cases. It is said that of the 10,000 people confined in the detention camp, during its existence, cholera developed in only four or five cases—thus illustrating the value of strict segregation under sanitary conditions, and furnishing evidence of the fact that in Manila, at least for the first part of the epidemic, the disease was not water-borne. In fact, while the detention camp was in operation, the natives so isolated were much less liable to be attacked by the disease than those living their ordinary lives in the native districts of Manila. The Filipinos, however, strenuously objected to isolation of this sort, and later on, in many instances, prominent natives, in whose families the disease occurred, were allowed to be quarantined in their own houses under native—and unquestionably venial—guards. After some five or six weeks the detention camp was abolished, and there were not wanting critics who said that the civil government was more or less swayed by political motives, and was more anxious to promote good feeling among the natives than to control the disease through rigorous repressive measures. Quarantine, both local and municipal, was, of course, proclaimed, but could not be properly enforced. The guards were insufficient and untrustworthy, and after the fact of the existence of the disease was well established, the natives slipped away at night, in large numbers, through the rice paddies and plantations around Manila, and scattered the germs of the disease broadcast through the surrounding country, whence Manila was again reinfected through the medium of the food supply, upon which it depended from day to day. The absolute worthlessness of any system of land quarantine, when attempted through the agency of the Filipinos, was thoroughly demonstrated. It would probably not have been practicable to use United States troops for this purpose, except in the case of the original outbreak in the Farola, both from the insufficiency of their numbers and the fact that such action would probably have been distorted in the native mind into one of hostility and oppression. The political and military situation had also to be considered. The city was districted, and house-to-house inspection, by native inspectors, was practised—but these natives were unreliable, and the white supervising inspectors were not of a high class. The relatives of those attacked were very fearful of losing their liberty, and often the sanitary authorities would learn of the existence of a case of cholera and send their inspectors to the house, only to find the patient dead or abandoned to the care of some old woman, while the other members of the household had fled to parts unknown. Questioning invariably failed to gain any information as to their whereabouts from the neighbors—the ignorance of the Filipino is sublime when he does not desire to impart information—and the authorities could only accept the situation and await the development of new cases in some unexpected quarter. Boiled water was distributed gratuitously, and all were urged to boil any supply used for drinking purposes, but many natives continued to use the raw water of surface ponds and filthy esteros, and there was no way of preventing them from doing this if they chose to do so. It was urged that all food be cooked before being eaten, but fuel was costly, and the native and his ancestors had for generations eaten much of his food uncooked, and preferred it in that manner; particularly fruits, fish, and vegetables, the class of foods especially dangerous in an uncooked state during the prevalence of cholera.

The use of cooked foods might be advised, but it obviously could not be forced upon an unwilling population. Orders were given to exclude the dangerous class of vegetables from the markets, but this dangerous class formed a large part of the usual native dietary, and its exclusion from sale at once caused an increase in price of the other articles of food permitted to be sold. This increase in price, when the wages of a laborer are but ten or fifteen cents a day in American money, was severely felt, and these restrictions concerning the sale of food provoked much dissatisfaction among the natives, and caused many complaints to the authorities. The Filipinos preferred to take their chances of dying with cholera to having their food supply interfered with, and later, especially when funds began to run low and foci of the disease seemed to be everywhere, food inspections were to a considerable extent discontinued, and the regulation of its sale became largely a dead letter. A general cleaning up of the city was ordered and carried out, but no permanent improvement could be expected in the native districts, totally unsewered, and situated on low-lying ground, converted into a filthy bog during the rainy season. The native houses, raised on piles, stood over pools of filthy and putrid water, which in many cases could not be drained away because of the flat nature of the ground, except as a heavy rain caused them to overflow their contents into the nearest estero; in these family clothing was washed, and, in many instances, from them the supply for drinking purposes was drawn. In the mud and water underneath the house, the hogs and chickens had their abode, and into this place the garbage and refuse was thrown. Few native nipa houses had any provision for the disposal of excreta, the ordinary method being to void the excrement through a hole in the floor onto the ground below, where a hog could always be found waiting expectantly for the privilege of acting as scavenger. The bucket system of disposal of excreta was introduced in the unsewered districts of Manila, the rainy season rendering the use of dry-earth closets impossible, but its use could not always be enforced—and many of the natives preferred not to depart from the time-honored customs of their fathers, and deprive the family hog of its perquisites. Sanitary derelictions of this kind were hard to detect and still harder to punish, for the average Filipino prefers lying to telling the truth, even under normal conditions, and a cloud of witnesses could always be found to swear to anything that would be to the advantage of a friend or neighbor. They might very likely want him to perjure himself in their behalf some day—and at any rate it was always the proper thing to consistently oppose anything the Americans were trying to do. For a while such excreta buckets as were used were collected and their contents towed out to sea and dumped. With the shortage of funds, however, it became impossible to pay the excessive charges made for towage, from lack of sea transportation, and the contents of the buckets were piled up on the shore, to become a nuisance and a menace to the neighborhood. This deficiency of funds was so serious as to cripple the sanitary administration and to render many well-planned efforts of no value. Of course, when cholera appeared in Manila, much shipping and trade were diverted to the southern ports, which remained uninfected until September, and the customs' receipts in Manila were proportionately cut down, just at the time when extraordinary expenditures were required. This shortage of funds hampered every sanitary effort, and as it existed in Manila, the chief port of entry for the islands, so it existed in even much greater degree in the country villages, with little or no produce beyond that required by the daily wants of the poverty-stricken inhabitants, and no customs receipts to depend upon. If it was found impossible to control the cholera situation in Manila, with its well-organized sanitary board, after the dissemination of the infection outside the Farola district, it was obviously not to be expected that any satisfactory results could be obtained, in a sanitary way, from the smaller towns and country villages, many without a physician or even a white person within their limits. Here the sanitary administration was entirely in the control of the native presidentes, who either attempted no sanitary regulation and reforms, or else carried them out in such an indifferent, unintelligent, or ill-advised way as to defeat their purpose and provoke resentment from those for whose benefit they were intended.

The time-honored insanitary habits of the natives could not be broken up except by the constant exercise of superior force, and the imposition of just punishment for all sanitary delinquencies. Such punishment was not given; some offenders escaped entirely, others received totally inadequate punishment for severe infractions, while others were given, at the hands of the native judges, sentences which were far too severe for the minor sanitary delinquencies involved. Such punishments, instead of awakening the people to a clearer sense of the necessity of carrying out thorough sanitary measures, served to breed feelings of discontent and irritation, particularly since the cholera situation became steadily worse and worse, in spite of the regulations of the Americans. Orders and manifestoes the Filipinos were accustomed to under Spanish rule, but under Spanish rule it was never expected that such orders were to be obeyed in detail and in the spirit in which they were promulgated. Malay nature and centuries of oppression required that regulations emanating from the dominant authority should be met by secret evasion, neglect, and passive opposition. There is no question but that this attitude received the tacit encouragement of many of the poorly-educated, native physicians, and that it was supported by the friars, always antagonistic to anything American, and constantly inculcating their doctrines of the supernatural origin of epidemic disease. Even in Manila, at a mass meeting of the native physicians, resolutions were adopted condemning quarantine, isolation, and many of the sanitary regulations proposed by the Board of Health; the proposed method of treatment of the disease, along modern rational and scientific lines, was objected to with vehemence, and the meeting endorsed and urged the use of a proprietary "cure" for the disease devised by one of their number. What little the American authorities have been able to do was thus practically accomplished, despite insufficient funds, the non-support of the natives, and in the face of the political necessity that the latter should not be too greatly antagonized. Under such conditions it was inevitable that the measures taken to control the epidemic, after it was once started, would prove inefficient.

With regard to the means by which the infective agent was spread, it would seem that infected food and water, transmission by flies and by personal contact, all played their parts. Cases of cholera occurred on vessels in which the infection was directly traceable to the use of fruits and vegetables purchased from native boatmen. In Manila large numbers of cases were apparently due to infected food, and a number of whites attacked had previously patronized Filipino and Chinese restaurants. Among the whites who contracted the disease, nearly all were of the low class which consorted with the natives, and had adopted their diet and insanitary habits of living. The water supply was at fault in probably the great majority of cases, particularly in the smaller villages where the common supply was derived from a few wells or pools, which early became infected. In Manila, on the contrary, the disease did not appear to be water-borne to any extent, although some 20,000 natives lived in their insanitary way on the watershed of the Mariquina river, from which the municipal supply is drawn and piped into the city. Undoubted cases of cholera occurred among the inhabitants of this watershed, but they were relatively few, and the cases never even approximately approached in numbers to the dignity of an epidemic. A few cases occurred also among the United States troops detailed to patrol the river and prevent its infection, but there was no general epidemic outbreak in Manila, such as occurred in Hamburg, as a result of the infection of its water supply in 1892. After heavy rains, which washed much surface material into the Mariquina river, a slight increase in the number of cases in Manila, was, indeed, noted, but this increase was small, and not at all what might have been anticipated if the water supply had become virulently infected. Except at the beginning of the rainy season, no very great difference in the daily number of cases occurring in the city was noted. There is no great amount of water stored in connection with the Manila [illegible] it is practically taken from the swift current of the [illegible] and carried rapidly down to the city. It [illegible] the lack of storage, with its quiet water, interfered [illegible] not only the multiplication but also the vitality of the cholera bacillus. Flies in all probability served as carriers of the infection in many instances, particularly in [illegible], and in the later infection of other members of families when the discharges of the members first attacked were thrown out on the ground without disinfection. Personal contact between the sick and the well also played [illegible] part in the transmission of the infection, particularly since the one-room nipa shack of the Filipino [illegible] native permits of no isolation of the affected from the rest of the family, and nearly all those who attended to the needs of the sick were ignorant of the necessity for and the methods of accomplishing disinfection. Where disinfection was intelligently and systematically carried out, as at the cholera hospital in Manila, its value was most clearly demonstrated. With over 1,500 cases of cholera treated, not a single case of the disease occurred among the attendants, except in the instance of one Chinaman. As this man had only been in the hospital about [illegible] hours before seizure, it was believed that his infection was contracted outside the institution. Where disinfection was attempted by the average native, it was largely carried out in such an inefficient way as to preclude the attainment of the object desired, even where an abundance of disinfecting agents could be obtained. Later in the epidemic these disinfectants became exhausted, and further supplies unattainable, in many of the towns. A little lime, usually air-slacked and inert, might be sprinkled on the corpse and coffin, but even this attempt at disinfection was not often practicable. Bodies were buried when land was obtainable, but this method of disposal was repugnant to the natives from personal and religious motives. At the outset of the epidemic, many nipa houses in which the disease had occurred were destroyed by fire, but the distress and complaints of the people thus deprived of their homes and property soon brought about a discontinuance of this practice, under orders from the civil government, particularly as funds were not available to make good the loss for property thus destroyed. To disinfect a house with bamboo floors and walls and nipa thatch roof, by ordinary chemical means, even if the means and purpose were at hand for its accomplishment, would necessarily be a most difficult task. Fortunately, this was probably accomplished in no great length of time by the sun's rays and drying air currents. The problem was simplified by the fact that the average Filipino possesses almost no furniture, certainly none that would for long retain the cholera infection, and that he usually has his entire wardrobe on his back. Infected ponds and watercourses were mechanically cleansed by daily flushing from the torrential tropical rains, and infectious material was washed away from the vicinity of houses, through the same agency.

An interesting feature of the epidemic had to do with racial susceptibility to cholera, Filipinos being much more liable to the disease than Americans, and the latter being proportionately more affected than the Chinese. The last, in spite of their filthy personal habits, were safeguarded against cholera to a large extent, through their use of boiled water as a beverage in tea, and their preference for cooked over uncooked foods. The disease occurred among Americans almost wholly in that low class which had adopted Malay standards of living. Few of the better class of Americans, who lived up to proper sanitary standards, contracted cholera. When they were attacked by the disease, it was usually due not so much to carelessness on their own part as to circumstances over which they had no control, or to unfaithfulness of those in whose integrity they trusted. As an instance of the latter may be mentioned the case of an officer, personally most careful in matters of hygiene, who sent his native boy out to fill his canteen with boiled water. The supply of the latter was at some distance, and, as was afterward learned, the boy filled the canteen from an infected river. [illegible] drank from the canteen, and was dead from cholera the same day. Against such faults on the part of untrustworthy native servants there could of course be no absolute protection. With respect to the cases occurring among troops, these could, in almost every instance, be traced to wilful disregard of sanitary orders, [illegible] the principles of common sense. They occurred almost entirely among men who associated with the natives, [illegible] their food and drank water from forbidden sources. Disobedience of orders and indiscretions of this sort could be shown to have existed in nearly all the cases in which the disease occurred among troops.

As was to be expected, the disease spread from Manila along the most frequented lines of travel, usually extending gradually from one village to the next. Occasionally a town or district would appear to be passed over for a time, but sooner or later the disease would return and work its ravages. In its progress it almost resembled a prairie fire, at first burning furiously, then dying down, and ultimately becoming extinguished. Even in villages in which there was practically no effort to check its spread, the disease became less prevalent, and ultimately disappeared. The decrease and disappearance may have been due to several causes. Meteorological conditions undoubtedly played a prominent part, the relative importance of which has not been and cannot be determined. It is certain, however, that with the establishment of the rains the disease decreased in prevalence; perhaps by a mechanical washing away of the bacteria, but more probably by creating an environment which either resulted in their destruction or an attenuation of their pathogenicity. The rains also furnished an abundant supply of pure drinking water, which the natives used, since it was easier to put an earthenware jar under the eaves of the house than to carry that same jar to a greater or lesser distance to be filled from some permanent source of supply of doubtful purity. Another reason for the decrease of the disease was the decrease of susceptible individuals with the progress of the epidemic, for the present outbreak has at least thoroughly demonstrated that in the Philippines only a certain proportion of the population of any community are capable of contracting cholera at any given time. Many instances could be given in which a large number of people used an infected water supply and only a relatively small proportion contracted the disease, though all were equally exposed to the infection. All these factors combined to produce self-limitation of the present cholera epidemic, which has died out, in many places purely from natural causes, not in any way aided by artificial means of restriction and control. As it has died out in one place it has made its appearance in another, and thus, at the present time, we have the spectacle of the epidemic practically at an end in the northern islands, and just beginning its ravages in the southern islands, into which the disease has only lately forced an entrance.

Previous epidemics of cholera in the Philippines have ceased with the rainy season and never lasted from one dry season to another. The epidemic of 1882 is said to have been brought to an abrupt ending by two severe typhoons, almost as if the infection were washed away by the deluges of water which accompanied these storms. Judging from the past, it is therefore fair to expect that the present epidemic will have run its course by about the end of the present year, and that the islands at that time will have been again freed from the cholera infection. As already said, in the bringing about of this result, human efforts have played so small a part as to be scarcely worth considering.

As to treatment, about every drug or combination of drugs has probably been tried. Cases range from the mild ambulant cases, presenting only trivial diarrhœal symptoms, in the relatively insusceptible, to the fulminant type, which kills its victims in three or four hours. For the one class no cure is required, as the patients recover either with or without treatment; for the last class no treatment is of the least avail, as those attacked are overwhelmed by the toxæmia in such a brief space of time that any medication would have no fair opportunity to demonstrate its virtues. Any case seen, treated, and put to bed in the early diarrhœal stages, before the actual choleraic symptoms develop, stands an excellent chance to recover. *Per contra*, the chances are much against the individual who keeps his feet until the characteristic symptoms of the disease develop. The vital resistance of the individual, as modified by physical exhaustion or by conservation of energy, has a most important influence upon the result—a fact which has been most prominent during the present epidemic. A certain class of cases, which do not progress too rapidly to a fatal termination are undoubtedly benefited by judicious treatment. Unfortunately the class which can be reached in this way is not as large as could be wished, and a very large majority of the cases among natives which came under the care of a physician were in practically a dying condition when seen. In the San tiago Cholera Hospital the mortality was said to have been reduced by improved treatment from 89 per cent. at the beginning of the epidemic in Manila to 49 per cent. toward the end of the epidemic in September. It may fairly be questioned, however, if this reduction in mortality was not more or less dependent upon a decreased virulence of the cholera infection accompanying a general subsidence in the prevalence of the disease. Certainly, many physicians through the islands were of the opinion that in the later periods of the epidemic the disease did not progress so rapidly or so uniformly toward a fatal termination as when the epidemic was first established. While an almost infinite number of remedies were proposed and used, the best authorities seem to agree that a treatment combining stimulation, efforts at intestinal antisepsis, and restoration of systemic fluids gave the best results.

As cardiac stimulants strychnine, and sometimes camphor, were used early and pushed to the physiological limit. For intestinal disinfection, salol, beta-naphthol, etc., were tried and found wanting. Guaiacol carbonate and calomel, in large and frequently repeated doses, on somewhat the lines of Woodbridge's treatment of typhoid fever, seemed to give good results in many cases. The best treatment, however, and one which was given a thorough trial, was the use of acetozone, the intestinal antiseptic lately discovered by Novy and Freer of the University of Michigan. This substance is a hyperoxide, which is said to possess forty times the germicidal power of bichloride of mercury. It is absolutely harmless, and may be taken internally in doses of 3 grains every two or three hours. Sometimes a burning sensation in the gastric region follows its use, but there is no other effect on the economy. A number of observers have found that by its use by mouth the intestinal tract can be rendered sterile, which should certainly commend it in the treatment of such a disease as cholera. It is also used in 1-1,000 solution for intestinal disinfection by high irrigation. Unfortunately for the complete success of this treatment, however, death usually occurs in severe cases of cholera as a result of profound toxæmia. Destruction of the toxin-producing bacillus is excellent, but sufficient toxin may have already been produced, and more or less absorbed, before treatment to cause ultimately the death of the patient. If some suitable chemical and physiological antidote could be discovered with which to combat the unabsorbed toxin in the intestine and that already taken into the blood, the treatment with acetozone could be made theoretically ideal. In addition to the stimulant and antiseptic treatment, it has been found of much value to attempt to keep the blood in a proper condition of fluidity, replace the losses due to evacuations from the intestinal tract and to assist the kidneys in the elimination of the toxin. This is done by large hypodermoclyses of saline solution, repeated at frequent intervals. For vomiting, ice, champagne, or carbonated water is employed. Food is withheld. The patient is, of course, kept absolutely quiet, and made to conserve his energies in every way. It must be confessed, however, that treatment is at present far from satisfactory, as must always be the case with a disease in which the transition from apparently perfect health to death may be a matter of only three or four hours. No more harrowing scenes can be imagined than those which accompany a cholera epidemic, especially as the disease is characterized by so much suffering and so little can be done for relief and recovery. To watch a score of patients carried into the wards of a cholera hospital during the day, and to see four-fifths of them carried out for burial before nightfall is an experience which will not soon be forgotten, and which most forcibly impresses the physician with the present limitations of medical science, and his helplessness in the presence of one of the greatest scourges of humanity.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HARVEIAN ORATION—THE SANITARY MEDAL—CANCER, MAMMARY AND UTERINE—OBSTETRICAL AND GYNECOLOGICAL SOCIETIES—ST. GEORGE'S HOSPITAL—GUILD OF ST. LUKE—CHURCH SANITARY ASSOCIATION.

London, October 24, 1902.

The Harveian Oration at the Royal College of Physicians was duly delivered on the 18th inst. Dr. David Ferrier, F.R.S., was the orator this year and took for his subject "The Heart and Nervous System." He passed in rapid review our present state of knowledge of the influence of the nervous system on the heart and vessels, tracing the steps by which that knowledge has been attained. The subject had attracted the attention of Harvey. Some of the earliest anatomical observations on this matter were made by Willis; some of the latest researches by two English physiologists still living The differentiation of the great system of visceral or splanchnic nerves from the somatic is the "distinguished merit of Gaskell," and we owe largely to Langley ' what is known respecting the distribution of the ultimate ramifications of this great system of nerves." The orator concluded by saying that his object had been to present a concise sketch of some of the principal relations of the heart to the nervous system, but he had to leave many problems untouched, while some of those mentioned were still hypothetical. "Doubtless," he said, "some Harveian orator of the future, if he takes up the same theme, will be able to expound it more luminously in the light of fuller and riper knowledge."

After the oration the President presented the Bissett-

Hawkins medal to Mr. W. H. Power, which is awarded to the medical practitioner who, in the judgment of the college, deserves special recognition for his work in advancing sanitary science during the preceding ten years.

Secondary deposits in one or both ovaries are found in about 10 per cent. of cases of mammary cancer. A very remarkable case of this kind was communicated to the medical society by Mr. Bland Sutton—the most remarkable he had ever seen. The case also bears on the relative frequency with which cancer attacks both breasts. In reference to this, Mr. Sutton observed that he had watched some patients in which he suspected secondary deposits and afterward found that the suspicious nodules were not cancerous. He had come to the conclusion that a woman with cancer in one breast was five times more likely to have secondary deposits in one or both ovaries than in the other breast. As to the case from which the tumor exhibited was taken, the right breast was removed in January, 1894. Recurrence in three years and again in four years—each time removed. In January, 1899, the other breast was affected and removed. For two years the patient remained well. In January of this year a tumor appeared in the abdomen and was removed in March. It was the right ovary, dense, heavy, and cancerous, seven inches in each diameter. Mr. Hutchinson, Jr., from its size and limitation to one ovary, thought it must be unique. Recurrence in the opposite breast he considered rare, and it used to be regarded as a contraindication to operation, but he had seen removal followed by successful results. Mr. Gould did not think recurrence in the opposite breast quite so rare as some, though it was certainly infrequent. Dr. V. Bell had seen a case of recurrence in second breast in which after removal the patient remained well up to date—a period of five years.

Cancer was also under discussion at the Obstetrical Society. Dr. Cuthbert Lockyer gave further particulars of a case reported last year. The patient, aged thirty-five years, had a large growth projecting from the cervix uteri. She was operated on in 1901. A month afterward there growth in the rectovaginal septum, and she died five months later. The uterus was shown; the growth extended into the internal os, but did not involve the body; it seemed to be a squamous-celled epithelioma. Dr. Rose thought no operation of use when the disease passed beyond the uterus, and the only trustworthy operation was removal of the entire uterus. Eight cases of cervical cancer which he had treated were free from recurrence from four to fifteen years. Dr. Spencer recommended removal of the cervix high up, as well as part of the body, by galvano-cautery; but it was not safe to cauterize the broad ligament. Dr. Duncan said everything depended on the extent of the disease. The great mortality was due to operating when the vaginal walls and pelvic glands were involved.

Dr. Lewers showed a specimen of cancer of the body of the uterus from a single woman aged fifty-five years. As it was impossible to remove the growth in one piece by vaginal hysterectomy, he performed pan-hysterectomy. Before opening the abdomen he passed a ligature round the internal os. Dr. Duncan and Dr. Horrocks both approved of ligaturing the os. It prevented the contents of the uterus passing downward.

Dr. Duncan showed a gravid uterus at the third month with epithelioma of the cervix. Vaginal hysterectomy was performed, and the patient, at thirty-four, did well.

Professor J. W. Taylor related a case of inversion of the uterus, which was irreducible by ordinary means. The inversion was complete, the orifices of the fallopian tubes could not be seen, there was no definite line of demarcation between the uterus and vagina. She was admitted to hospital in the last stage of anæmia from the frequent hemorrhages and vomiting, and had to be sustained by nutrient enemata. After opening the peritoneum and pushing it up reduction was still impossible. The anterior wall was, therefore, incised and the inversion reduced. The incision was sutured. A week after suppuration took place, but the patient recovered. Prof. Taylor suggested that it might have been better to cut a wedge from the uterine wall.

The treatment of this case met with little approval at the meeting. Mr. Buller-Smythe thought Aveling's repositor should have been tried, it was better than Tait's, and almost always successful. Dr. Heywood Smith suggested that intermittent squeezing of the inverted fundus, though tedious, was often effectual. Pressure emptied the vessels and caused the muscular tissue to relax. If then pressure were made with the thumb at the orifice of one of the oviducts, where the tissue was thinner, it was often easy to reduce the inversion. Dr. Handfield-Jones also discountenanced the operation. The long, weak scar in the wall would be a source of danger in a future pregnancy. The removal of the uterus would have been simpler and [illegible]. In a similar case he had found it equally difficult to keep the cup of Aveling's repositor on the uterine body, but, by packing swabs round the womb in the upper vagina and by patience, he had succeeded.

Dr. H. Spencer held that no plan equalled the use of Aveling's instrument. Pressure with it and patience would overcome the muscular resistance in nearly every case. Dr. Duncan agreed with this, and said that by the repositor and packing he had reduced an inversion of nine years' standing. Dr. Blacker thought the objection of Dr. Handfield-Jones important, as the cases usually occurred in young women in whom pregnancy might be expected.

Dr. Spencer exhibited the Porro medal, which was struck to commemorate the twenty-fifth anniversary of the first Porro operation, and presented to the society a copy of the book issued on the same occasion.

The Gynæcological Society has resumed work with its wonted vigor. Prof. Taylor showed a specimen of tubal gestation which suggested a form of rupture not hitherto described, for at one end of the sac was a congeries of large dilated vessels, apparently on the point of bursting. He also read an account of a case of uterus bicornis with rudimentary right horn. He removed this horn without tube or ovary and fixed the uterus in anteflexion. Good recovery followed.

Mr. Bowerman Jessett showed four specimens illustrating the significance of uterine hemorrhages due to tumors. One was cancerous, the others were fibroids. Mr. Jessett also read a paper on "Some Complications Arising Subsequently to Cœliotomy." He dealt with pain and intestinal or ureteral occlusion resulting from adhesions to the abdominal wound, or to the line of suture to the peritoneum in the floor of the pelvis, or to exposed stumps, or between folds of intestine or omentum. Such adhesions might reform, and he had known the abdomen to be reopened five times on account of them. To avoid them the operation should be, as far as possible, aseptic, the greatest care should be taken to cover all raw surfaces with peritoneum, and to accurately approximate the edges of the serosa. For suturing the peritoneum he uses fine catgut, also for any vessels or adhesions, but silk for the ovarian and uterine arteries. The parietal peritoneum he closes with three to six catgut sutures through the fascia and muscle; then he unites the fascia with continuous catgut, and the edges of the skin with silk or horsehair, also continuous. He emphasized the importance of getting the bowels to act within thirty-six or forty-eight hours, either by calomel or salines. Many early cases, he believed, died—not from peritonitis, as was supposed, but from tympanitis, due to paresis of the bowel, produced by the opium given to constipate for some days after operation. He regarded drainage as the chief cause of ventral hernia and so drained through the vagina. He thought it a mistake to wash out the abdomen.

At a recent meeting on behalf of St. George's Hospital it was stated that the annual expenditure is about £40,000—double what it was fifty years ago—but the income is only half that amount. Mr. Vinrace, M.R.C.S., thereupon inquired, through the *Daily Graphic*, on whose behalf this money is expended, seeing that the hospital is situated in the wealthiest part of the metropolis? He remarked that if it were for the *bona-fide* poor only no one could object; if otherwise, the inquiry promised at the meeting should extend to the means adopted to prevent hospital abuse.

Mr. Timothy Holmes, who is treasurer of the hospital as well as consulting surgeon, took up this challenge, and, in an excellent letter in the *Graphic*, explained the position. As to the the circumstances of the patients, he says the board exercises the greatest care. There are no letters for out-patients, and the great majority—about three to one—of in-patients are admitted without recommendations, solely on account of the gravity of their ailments. Mr. Holmes adds that "seeing is believing, and if Mr. Vinrace will do me the favor of meeting me at any convenient time at St. George's we will go through any of the wards he may choose, and he can judge for himself."

This straightforward way of meeting the criticisms of a medical practitioner might very advantageously be imitated by the managers of some other hospitals.

The Guild of St. Luke has scored a success. On Wednesday evening a great number of doctors attended the service at St. Paul's Cathedral in their robes. The service was intoned by a minor canon and the sermon preached by a bishop. The music was rendered by the choir of the Gregorian Association, numbering some 250 voices.

The tenth annual meeting of the Council of the Church Sanitary Association was held on Wednesday, when Dr. Collingride, Medical Officer of Health for London, presided. The annual report pointed out that the chief obstacles to sanitary reforms are ignorance, selfishness, and the difficulty of getting legislation. A resolution was unanimously adopted to the effect that teachers and preachers should inculcate the Christian obligation of endeavoring to secure for others pure air and water, abundant light, and wholesome dwellings, with good food and drink—in fact, whatever contributes to the maintenance of health.

Progress of Medical Science.

The Boston Medical and Surgical Journal, November 6, 1902.

Round Shoulders and Faulty Attitude.—Robert W. Lovett says that the indication from the study of many cases seems to be that the cure of the form of faulty attitude known as round shoulders is often accomplished by a readjustment of the whole attitude, involving the relation of legs, pelvis, and head, rather than by any marked straightening of the spine. The author gives a method of measurement and record which presents a side elevation of the whole attitude, and the relation of legs, thighs, pelvis, spine, and head to each other and to the perpendicular. The seat of faulty attitude, he says, is not as yet formulated. Gymnastic treatment should be general and local.

The Actinic Rays. Edward A. Tracy reports three cases demonstrating the use of the actinic rays in minor surgery. In the first a sebaceous cyst an inch in diameter was removed from the scalp without pain, the actinic rays being used for anæsthesia. They were applied from a No. 3 Minin's lamp, at a distance of ten inches for fifteen minutes. In the second case a subcutaneous abscess the size of a marble was removed from the thumb under actinic ray anæsthesia, and the rays were also applied afterward in place of all other antisepsis. In the third case a skin slough an inch square was removed from the palm of the hand. Finsen uses the actinic rays for the cure of lupus. Minin uses the rays in the treatment of luxation burns, hæmatoma, acute myositis, and articular rheumatism, and for the pains accompanying pleurisy, contusions, etc., and for lupus in particular.

Journal of the American Medical Association, Nov. 8, 1902

The Purse-string Suture in Gastrorrhaphy for Gunshot Wounds; an Experimental Contribution.—N. Senn says that in the treatment of gunshot wounds of the stomach the principal object of suturing should be to close the perforation in such a way as to guard securely against extravasation and at the same time approximate and hold in apposition a maximum surface of intact, healthy peritoneum. This is accomplished by making a cone of the injured part of the stomach, with the apex corresponding with the wound directed toward the lumen of the organ. The purse-string suture, applied in a manner described in the experimental part of this paper, will maintain this cone until the healing of the visceral wound has advanced sufficiently to render further mechanical support superfluous. The cone on the mucous side of the stomach acts in the manner of a valve, which in itself is an effective barrier against the escape of stomach contents, while the circular suture constitutes almost an absolute safeguard against leakage, and brings in contact the serous surfaces in the interior of the cone. For wounds of the posterior wall of the stomach Senn recommends a purse-string suture of heavy, durable catgut, to be applied through the anterior wound. The anterior wound is closed with a purse-string suture of silk, of medium size, applied to the base of the cone on the serous side. It is desirable that the circular suture should cause no necrosis of the included tissues. By using an absorbable suture in closing the posterior wound in the interior of the stomach, this object is gained, as only a small part of the thickness of the stomach wall is subjected to pressure, and the tension caused by the ligature is gradually lessened by softening of its material, and is entirely removed by the absorption and digestion of the ligature in less than three weeks Diagrams are given in the paper which illustrate the manner of passing the sutures.

Metastatic Sarcoma of the Choroid.—M. Wiener reports a case of this rare affection He was fortunate enough to be able to remove the eye and subject it to careful examination. Sarcomatous patches were visible on macroscopical examination, the largest being just below the optic nerve entrance, and apparently just including it. The patch was of oval shape, 8½ mm. long in vertical diameter by 6 mm. wide in the horizontal; it had white, lustrous, smooth appearance, clear and distinct outline, and raised above surface about 0.5 mm. Immediately above this was a circular patch 3 mm. in diameter, of the same appearance as the former in the center, but pigmented toward the circumference. Three mm. to the temporal side of this last patch was an irregular, ragged, rectangular-shaped one, 6.0 mm. long by 4 mm. wide, of reddish color (probably from choroidal pigment), in some places darker than in others. This patch, unlike the others, had an uneven, broken surface, elevated in some places to about 1 mm. Two more sarcomatous areas were visible, one just below the macula lutea, the other just to the temporal side. Both of these were whitish, with here and there deeply pigmented spots. The optic nerve seemed to be somewhat swollen behind its entrance. Microscopically, these patches were seen to be chiefly of the small round-celled type, with some spindle cells; the growth was traversed by many blood vessels and channels, and was located chiefly in the tunica vasculosa, involving, also, where it broadened out, the choriocapillaris. Here there seemed to be a special cell proliferation or accumulation from the lamina vitrea. Surrounding each patch were more than the average number of vessels, filled with blood, and some of these attaining large size. Scattered throughout the growth some choroidal pigment could be seen, having undergone degeneration or change of shape in many instances. The optic nerve was swollen and somewhat thickened at the entrance to the globe, but there was no infiltration of sarcoma cells.

Medical News, November 8, 1902.

The Use of Salicylate of Sodium in the Treatment of Pneumonia.—A. Frank Taylor speaks of Sebring's treatment of pneumonia by this drug. The writer has for nearly two years been following essentially the same plan. Out of the entire number of patients treated—twenty-five cases—he has lost but one—an infant twenty-two days old. These patients ranged in age from twenty-two days to sixty years. The writer gives to adults 15 grs. of salicylate of sodium once in four hours, and medium doses of veratrum viride and aconite combined, once in four hours until the temperature falls, then lessens the salicylate, all the time using turpentine and lard on the chest, with a covering of flannel and a rubber dam. There seldom is any necessity for opiates. A little codeine or heroin with muriate of ammonia, etc., to alleviate the cough is usually the only narcotic used.

The Etiology of Smallpox; with Special Reference to Its Microbiology and a Demonstration of Its Microbe.—William Seagrove Magill declares that an epidemic of smallpox is invariably the result of imported contagion. The specific germs are brought to a fresh locality by an individual from an infected spot, or by infected materials—rags, clothing, paper, household articles, etc. Smallpox is contagious at every stage of its existence. The diffusibility of variola is far greater than that of any other eruptive fever. Immunity from the disease may be natural or acquired. Thirty years of bacteriological investigations, some of them by the best specialists in the world, have completely failed to demonstrate any form of bacteria entitled to the slightest claims of specificity in accordance with the prescribed rules of the scientific method of research. Since the bacterial origin of smallpox has not been determined, the suggestion of a protozoic origin is being investigated. New work in the cultivation of protozoa is being done in the laboratory, but progress in this line is not yet sufficiently precise to authorize its presentation.

A Modified Method of Auscultatory Percussion.—Albert Abrams has employed his method for several years. He has often controlled its accuracy by skiascopy. It embodies the principles of transsonance. The clavicles, sternum, ribs, or vertebræ are percussed directly, without the interposition of the finger as a pleximeter. The blow is either light or strong, according to whether the superficial or deep dulness is to be elicited. In obtaining cardiac dulness, the clavicle or manubrium is percussed directly, and the stethoscope is gradually carried toward the organ in all directions from the lung. The cardiac area is at once indicated by a dull tone supplanting a resonant one. Lung-consolidation is easy to elicit by this method. If the transsonance of the apices is to be determined anteriorly, the stethoscope remains fixed first over one and then over the other apex, while immediate percussion is executed on a prominent vertebra. If the apices are to be auscultated posteriorly, the blow is limited to the manubrium. It is possible to outline the right auricle and the left ventricle on the posterior chest surface if the patient is erect, with the body inclined slightly backward. The pectoral chest-piece of the stethoscope should be of small caliber. In corpulent individuals the percussion blow is not conveyed to any distance. To outline the lower border of the stomach: With the finger, the lower ribs over the semilunar-shaped space of Traube are percussed, the stethoscope being fixed primarily in the hypochondrium, in order to detect the character of the tympanitic tone. While percussion is continued, the end of the stethoscope is gradually carried downward until the disappearance of the tone indicates that the lower border of the stomach is reached.

New York Medical Journal, November 8, 1902.

Subcutaneous Injections of White of Egg.—H. C. Jackson combats the views expressed by Southgate Leigh in a previous issue of the *Journal*, and contends that it is practically impossible to obtain sterile fluid, egg albumen, and that this proteid, introduced as such, directly into the circulation is not assimilated, and therefore can supply the body no energy. This is, therefore, an argument against its use as a hypodermic nutrient. The danger of inoculation with pathogenic organisms should alone be sufficient cause for its non-use, were it not supported by the lack of power of the body to utilize the proteid when thrown directly into the blood.

The Relationship Lues Bears to the Body Politic.—S. P. Collings reviews the history of syphilis among ancient peoples, and makes a plea for a more general instruction of the laity at the present time concerning the communicability and transmission of the disease, just as is being done in regard to tuberculosis. Special stress must be laid upon the modes of innocent transmission, and also upon the fact that those who have this disease are for several years a source of danger to those thrown into intimate contact with them, and that each infected person should have his individual effects, to be used by him and by him alone. If we are to have legalized prostitution regulated upon sanitary principles consistency requires that the men who visit legalized resorts should be subjected to the same rules and regulations as the residents of the houses.

Diseases Preceding and Following the Abuse of Alcohol.—T. D. Crothers says that in about 30 per cent. of all inebriates before the craze for alcohol and subsequent inebriety, there are incipient or well-marked forms of paresis and other disease states. Among these early disease symptoms can be traced degrees of dementia, syphilis, trauma, local inflammations, the presence of toxins and bacterial products, with reflex disturbances due to tumors and the pressure of foreign bodies on the nerves. These are not recognized, and are therefore seldom studied, as a condition of predisposing and exciting causes. Especially prominent is general paresis. Closely allied with this are the dementias. Other preceding conditions are sunstroke, blows on the head, concussion, influenza, and prolonged wasting diseases. Not infrequently tuberculosis is present, as may also be dyspepsia and nutritive disorders and rheumatism. Following the abuse of alcohol, we may have dementia, arteriosclerosis, cerebral hemorrhage, atrophic cirrhosis of the liver, peripheral neuritis, stiffness, cramps, and pains in the extremities, nephritis, gastritis, etc. In all these cases there is starvation and toxic poisoning. The direct action of alcohol on the hæmoglobin of the blood diminishes the power of conveying oxygen, and this strikes directly at the nutrition of the body. The toxins of alcohol not only destroy nutrition and increase waste matter, but diminish the elimination process. Some of the conclusions which will be apparent from this clinical study are that at least one-third of all inebriates have suffered from some disease, present before alcohol was first used.

American Medicine, November 8, 1902.

Congenital Hernia of the Liver into the Umbilical Cord, with Report of a Case.—J. W. Bullard states that this developmental deformity is very rare. The child he describes was a boy weighing three and a half pounds. In the tissues of the cord was a tumor about the size and shape of a hen's egg. The tumor was in the tissues of the upper side of the cord; it was pinkish, partly solid, and could not be reduced. There was no impulse transmitted to the tumor when the child cried, though it was a little more tense. As the child was weak, the operation was deferred. On the twelfth day the baby was not doing well and operation was decided upon for the next day. The abdominal cavity was opened immediately below the tumor, and the incision was carried up on either side of the tumor. The contents of the hernial sac were found to be composed entirely of liver, about half of which appeared to be in the sac. At the lower border of the sac the liver was not firmly adherent, and was separated from the sac walls almost to the fundus, but at all other points the adhesions were so firm that it was impossible to break them up. The abdominal wound had to be closed up on this account, and the child left to its fate. It died twenty hours later. The writer concludes that it is advisable to do the radical operation in these cases soon after birth, as delay with its changes in the cord and the amniotic coverings of the sac, is likely to lessen the chances for a favorable result.

The Oxygen Bath for the Peritoneum and Its Possible Value. Second Report on the Cancer Case Relieved by an Exploratory Laparotomy.—Eugene R. Corson reports a case of inoperable carcinoma of the breast. He decided to try the Beatson operation on the patient. There was a fair-sized uterine fibroid, with tubes and ovaries and bowels adherent to the uterus. Just as the adhesions were about to be broken up, the patient stopped breathing. She was resuscitated and the abdomen was closed. At the end of forty-eight hours marked improvement occurred, in both objective and subjective symptoms. This improvement continued for one month, and then the infiltration of the tissues of the chest returned very rapidly, together with great dyspnœa and pain and a rapid and weak pulse. The abdomen was again opened this time under cocain. Nitrous oxid was passed through a warm wash bottle to raise its temperature before it entered the abdominal cavity. The pulse and respiration became so bad that in a few minutes the peritoneum was stitched, and the rest of the wound brought together with adhesive strips. Soon the patient again improved. Fluid in the left pleural cavity was drawn off. In about eight days oxygen was again passed over the bowels, this time by means of inserting a trocar. The gas was allowed to distend the abdomen until it became large and tense. This was accomplished three times. There was general improvement again from this treatment. Twelve days later this oxygen bath was repeated, and was again followed by improvement. Four times after this, this treatment was repeated, each time, excepting the last, being followed by improvement. The patient died three months after the first opening of the abdomen. The writer suggests that if the stimulation from the oxygen is greater than that of the ordinary atmosphere, perhaps that following the use of ozonized oxygen may be greater still, and he believes the experiment worthy of trial. This case shows that there was a considerable absorption of gas by the peritoneum—rapid, as compared with that by the connective tissue spaces. He believes that in cases of pulmonary œdema and congestion, due to whatever cause, this method would give relief, and perhaps tide the patient over a dangerous moment.

Philadelphia Medical Journal, November 8, 1902.

Suppurative Tubal and Ovarian Disease.—J. J. Gurney Williams especially emphasizes the following points: Gonorrhœa is by far the most frequent cause of suppurative tubal and ovarian disease. Vaginal puncture is dangerous and unsurgical. The mass should always be removed through an abdominal incision. Plain sterile water should be used in all abdominal operations. The use of mercury, permanganate, or any antiseptic, except alcohol, is unnecessary in the preparation of the operator or assistants, as cleanliness is the great point, and may be obtained by soap, water, and brush, using many changes of water and taking many minutes to scrub. Silk should be used in all tying within the abdominal cavity. An absolute differential diagnosis previous to operation is in the majority of cases impossible. The cases in which drainage is used usually do better than those not drained. The absolute avoidance of morphine, or any form of opium, before or after operation should be observed. The objections to operations are not founded on fact, and there is not enough consensus of opinion that these suppurative conditions should always be operated upon.

Movable Kidney; Its Diagnosis and Treatment.—Robert J. Reed states that in not a few of the patients who suffer from movable kidney the symptoms are for a long time indefinite and without local manifestation. The symptoms are diversified. The digestive system is disturbed, there may be cardiac palpitation, almost constant flatulency, and many nervous disturbances. In many cases there is marked discomfort and actual pain, when the digestive and neurotic symptoms have reached an aggravated form. The severity of the pain generally depends upon the displacement as well as upon the length of time that the extreme displacement has existed. There is now and then an attack of extreme pain resembling renal or hepatic colic. Upon palpation of a movable kidney its striking and very natural characteristic is to slip away with ease under the liver into its normal position. Its smooth surface and distinct outlines are very significant. In some cases the hilus can be felt. There is a certain degree of tenderness, always much the same and possessing the peculiarity experienced by pressure upon the testicle or ovary. It is well that an early diagnosis of the condition be made. Not every case requires operative treatment. Tight clothing should be discarded, as well as skirts suspended from the girth dragging downward all of the abdominal organs by their weight. The abdominal supporter, if strong and well fitted, is helpful. In two cases under observation the straight front corset is giving fair success. A direct support to the kidney is generally necessary, and may be given by a strip of adhesive plaster and a small pad. The plaster should be three inches wide, and should reach from below the umbilicus to the middle back about the level of the tenth rib. A small pad of cheese-cloth should be placed below the margin of the ribs, at a point opposite the tenth and eleventh ribs, and be held in place by plaster. It should be applied with the expiratory act. If these measures do not afford relief, if the symptoms continue, and especially if albuminuria develops, an operation should be performed. The writer adds a few important points: Seek to avoid wounding the iliohypogastric nerve. Do not attempt to anchor the kidney in too high a position, its major portion should rest below the twelfth rib. Aim to keep the kidney in its normal relation to the axis of the body, in fastening it in its new position. Keep the patient in bed three or four weeks, and in many cases tonic and constitutional treatment should be begun and continued indefinitely. If the patient has suffered long, she should not be encouraged to feel that all of her troubles will cease after the operation. The surgeon should first make sure that there is not a general ptosis of the abdominal organs, and possible displacement of the uterus. Complications such as these which are overlooked will often explain an unsatisfactory result in the operative treatment of movable kidney.

The Lancet, November 1, 1902.

Ozone in Chronic Middle-Ear Deafness.—Four cases treated by this method are reported by G. Stoker. The ozone was generated by an electric current acting in a Ruhmkorff's coil, to which an ozonizing tube was attached. The ozone so generated was pumped through an Eustachian catheter for about three minutes from twice to four times a week. In all the cases hearing was considerably improved. In some improvement was remarkable, especially so as to the disappearance of tinnitus.

Acute Pancreatitis Associated with Cholelithiasis and Glycosuria; Cholecystotomy; Recovery.—The case is recorded by W. Gifford Nash. The patient was a fat male, aged sixty years, who had had attacks of epigastric pain extending over a period of seven years. The onset of the last attack was sudden, and the pain was in the epigastrium. There were nausea, vomiting, hiccough, and collapse. The temperature at first was subnormal, but in the course of two days it rose two or three degrees above normal. The pulse was very rapid (160). The whole abdomen became enormously swollen, and suggested intestinal obstruction. This was relieved by enemata and aperients, but quickly reappeared. Later, as the abdominal swelling subsided, there was increased resistance over the pancreas, giving the impression of effusion into the lesser peritoneal cavity. Then at the operation fat necrosis was seen and a gallstone was removed. The author believes that the stone in the gall-bladder was accompanied by an inflammation of the bile passage, and that some infection spread along the ducts of the pancreas to that viscus itself.

Some Clinical Aspects of Vaccination.—Arthur Maude speaks of recrudescence of pocks, "raspberry excrescence," character of the pock, constitutional symptoms, and the value of the areola. He believes in "absolute" vaccination—that is, the repetition of vaccination at short intervals till no reaction whatever is produced again. He has seen some cases in which recurrent attacks of boils have followed revaccination in persons not previously subject to boils. The various rashes are more common after revaccination than after primary inoculation. He has seen eruptions due to mixed infection. He has also seen one case in which possibly tuberculous disease of the humerus has followed vaccination. This patient was a man of sixty years. The local reaction was severe and protracted, as he used his arm during healing. The areola was large and, the scabs were tough and leathery, and productive of suppuration, but there was no evidence of skin tuberculosis. Some months after he complained of persistent pain on movement of the shoulder-joint, and a senile osteoarthritis was suspected. Later a tentative diagnosis was made of tuberculosis, but there was no positive evidence that this lesion was actually present.

British Medical Journal, November 1, 1902.

Functional Derangement of the Eye.—Robert Marcus Gunn speaks of the difficulty in distinguishing between an hysterical loss of sight and malingering. Malingering will probably always be a source of difficulty. Aside from cases of traumatic origin, functional cases are far more common in females. The division between hysteria and deceit is not strongly drawn. Cases in which neutralized glasses at once cure the defect, are cases of feigning undoubtedly, although cure by suggestion may be thought of. Complete double amaurosis is extremely rare. Occasionally functional amblyopia occurs in the form of homogenous hemianopia. Cases of functional amblyopia consist of two groups: Idiopathic, occuring usually in women, and sometimes in children. Traumatic, occurring probably equally in both sexes, but always in adults. As to the nature of the nervous system at the bottom of these cases, we are ignorant. It may be assumed, at least in most cases, that there is a temporary partial or complete loss of the power of conduction between the lower or middle visual centers and the highest conscions centers, and possibly the same is the case with infants who, with no obvious disease of the eye, take no notice of objects. The prognosis is good. The treatment is to remove the patient from home surroundings, avoid too much sympathy, give drugs like asafœtida, and the use of faradism.

The Cause of Heart Irregularity in Influenza, with a Demonstration of the Clinical Polygraph.—James Mackenzie states that the clinical polygraph is an adaptation of an ordinary tambour to a sphygmograph. By it, movements due to the circulation or respiration can be registered on the same tracing paper and at the same time as the radial pulse. The point of the lever of the tambour lies on the paper just above the lever of the sphygmograph. The tambour is connected by an elastic tube with a shallow open cup, "the receiver." This cup is placed over any pulsating part, and the movements are conveyed by the tube to the tambour. Tracings were taken in the case of a patient recovering from influenza. They showed evidence of a discordance in the actions of the right auricle and of the left ventricle. The movements in the veins of the neck showed from time to time the irregularity of the heart's action, for they were every now and then suddenly distended by a wave much larger than usual. This large wave always occurred at the same time as the radial pulse. By observation it could be seen in the superficial jugular veins. It obscured the movement that the carotid should have made. It occurred exactly at the time that an auricular wave was due. At the time of the occurrence of this auricular systole the ventricle had also passed into systole. The auricular contents could not be sent forward into the ventricular chamber, but were all sent back into the veins, thus causing the large wave. It can thus be inferred that the right ventricle followed the same rhythm as the left ventricle and not that of the right auricle. We so constantly associate the auricles with their ventricles, that it seems reasonable to expect that when there is discordance the two halves of the heart will act independently. The poisoning of the heart by certain drugs, as digitalis, causes a slowing of the pulse, and a discordance between the actions of the auricles and ventricles. The heart symptoms in this case, it is suggested, are due, not to vagus stimulation, but to a poison acting like digitalis directly on the heart itself.

Deutsche medicinische Wochenschrift, October 16, 1902.

Carcinomatous Inoculation Metastases.—Olshausen believes that carcinomatous metastases due to inoculation, or, more properly speaking, autoinoculation are much more frequent than is generally supposed. The author reports several cases in which, following the removal of carcinomas, recurrence took place, first developing upon the cicatricial tissue, formed as the result of the operation. In such instances the recurrent tumors must be regarded as arising from inoculation. The same is true with respect to non-malignant tumors, especially those of the ovary. Observations along this line are of significance in connection with the present widespread discussion concerning the etiology ot carcinoma.

Agglutination of the Streptococci.—Fritz Meyer has investigated this matter experimentally, and finds that streptococci, like other bacteria, are agglutinated by specific immune sera. By such an agglutination streptococci causative of anginas and pyogenic infections may be absolutely differentiated. Streptococci which are found in the anginas of scarlet fever, rheumatism, and angina simplex show gradual but not absolute differences in their agglutination capacity. All of these facts strongly confirm the opinion that the streptococci, so called, are a multiple species, and it is apparent that antistreptococcus serum, which is to be employed for therapeutic use should not be obtained by the inoculation of streptococci, the virulence of which has been increased by animal passage.

Berliner klinische Wochenschrift, October 13, 1902.

Technic of the Leucocyte Count.—Robert Breuer has devised a new cell for use in the enumeration of leucocytes. It is of the same depth as the Thoma-Zeiss, but is divided by horizontal and vertical lines into nine spaces of one square mm. each. Every square mm. is subdivided into four equal parts by three horizontal lines, in order to further facilitate the counting. In making the count the blood is diluted one to ten, and a drop placed in the cell as in the use of the ordinary Thoma-Zeiss apparatus. The leucocytes in five of the square mm. are then counted, and the result obtained multiplied by twenty, which gives the final figures, viz., the number of leucocytes in one c.mm. of the undiluted blood. If it is desired to make a differential count at the same time, Türks or Zollikofer's fluid may be used as a dilutant, and a differentiation between the mono- and polynuclears thus obtained. The advantages of this cell are greater accuracy and simpler computation than is possible in the use of the Thoma-Zeiss.

Berliner klinische Wochenschrift, October 20, 1902.

Causes of Primary Glaucoma.—Georg Levinsohn says that an increase of connective tissue in the ciliary body is the cause of primary glaucoma in the vast majority of instances. This increase leads to an enlargement of the ciliary body, and a deviation from its normal position and relations, so that the iris assumes a concave shape with the concavity backward. This produces a lessening of the size of the anterior chamber, and a more or less marked obliteration of Fontana's space. The abnormal position of the iris also gives rise to a dilatation of the pupil, which still further assists in the blocking up of the canal of Schlemm. Specimens are submitted in support of this theory. Furthermore, it corresponds with the well-known fact that an early peripheral iridectomy is the most efficient method of treating this disease.

Münchener medicinische Wochenschrift, October 14, 1902.

Tendon Transplantation for a Paralyzed Quadriceps Femoris.—Magnus reports three cases in which good results were obtained. The method pursued was as follows: the insertions of the sartorius and biceps were freed, and the tendons of both these muscles drawn through a slit made in the tendon of the quadriceps, close to its union with the patella, and made fast to the tendon of the latter muscle. A plaster cast is applied, which is removed after six weeks. The results obtained by this method are interesting, in view of the fact that most authors regard tendon transplantation as of little avail in cases in which the quadriceps femoris is involved.

Pulmonary Œdema and Fibrinous Bronchitis Following Thoracentesis.—F. Magenau reports a rare case. The patient, following labor, had progressed favorably to the eighth puerperal day, when a left-sided pleurisy, with effusion developed. In spite of all treatment, the exudate increased rapidly in amount, and thoracentesis was performed, which resulted in the evacuation of a tolerably clear serous fluid, 2,500 c.c. in amount. Within a few hours thereafter a pulmonary œdema and fibrinous bronchitis set in. The case ran a course of nearly three months, ending in recovery. Careful observation was not able to determine a cause for these peculiar complications.

Sclerœdema.—A. Buschke reports a case in which this diagnosis was made. The patient was a male, forty-six years of age, and had just recovered from an attack of influenza. The first appearance of this peculiar condition was a stiffening of the skin of the back of the neck. This gradually extended until the entire neck and face were involved. Upon examination the skin was found to be swollen, and very tense, so that no lasting impression could be made by pressure, excepting upon the edges of the involved regions. Movements of the head and neck were painful, and the face had a peculiar mask-like expression. Although in many respects the case resembled one of sclerodermatitis it was evident, upon careful examination, that an infiltration was present in the deeper cutaneous structures. For this reason the term "sclerœdema" was applied. The case has now been under observation for two years. Under massage some improvement has taken place. The infiltration is, however, still present, although the movements of the head are less painful than formerly. The causation of the disease is unknown. Careful and repeated examinations have failed to reveal the presence of any kidney lesions.

Therapy and Pathogenesis of Stenocardia and Related Conditions.—Robert Breuer reviews the various theories relative to the pathogenesis of stenocardia, and comes to the conclusion that the primary cause is to be regarded as a pathological change in the arterial walls, as the result of which these vessels do not respond to the demand made upon them during bodily exercise. The result of this is an anæmia and weakness in the muscles supplied by the involved arteries. The subjective symptoms due to these conditions are pain and reduced functional activity in the muscles thus affected. A sharp differentiation is to be made between pseudo and true stenocardia. The former may be neurotic or reflective in origin, and is in no way associated with lesions of the arterial wall. The treatment resolves itself into two subdivisions: (1) Treatment of the attacks; (2) Treatment during the intervals. For the attacks morphine is the drug *par excellence*, although amyl-nitrite and nitroglycerine are often used with good results. During the intervals theobromine, or its various preparations, should be given. Much experience has demonstrated that this drug is superior to all others in its ability to lessen the frequency and the severity of the attacks. Observation has shown that there are a certain number of cases of indefinite abdominal pain which are due to lesions of the arterial walls of certain of the abdominal arteries, and which resist all ordinary treatment. If such cases are followed to the autopsy table, the arterial lesions mentioned will be found, and the pathogenesis of the condition made clear. In such cases, theobromine is very effective. The author has observed a number of such, a detailed description of which is given. Instances are also reported of the use of this drug in coronary angina, coronary angina with aortic insufficiency, coronary angina with aortic and mitral insufficiency, and coronary angina with aneurysm of the arch of the aorta. In all of these cases theobromine was very effective. Of the preparations of theobromine, diuretin is the one which seems to be the most effective. This should be given well diluted in a daily dose of 3 to 3.5 g. It is important that this amount should be equally divided throughout the twenty-four hours, so that the result may be continuous. Much has been said concerning the injurious effects of diuretin upon the stomach, and the annoying cerebral symptoms which often accompany its use. Breuer has never observed such, and believes that it may be given for long periods in the above dose with impunity. The mode of action of theobromine in this class of cases is not entirely clear, but it seems probable that it acts similarly to the nitrites as an arterial dilator. Its action, however, is much more powerful and lasting than the latter.

Münchener medicinische Wochenschrift, October 21, 1902.

Intestinal Action of Atropine.—Aronheim confirms Ostermaier's views, which have recently been published, concerning the favorable results obtained by the administration of atropine in hernias and other acute intestinal conditions. The author has used this drug with the best results in several cases of inflammation of the appendix. Here the daily subcutaneous dose was .001-.003. The local symptoms rapidly subsided, and the general condition improved in like ratio. Phenacetin, or antipyrin, were also given if high temperatures were present. A like result was obtained after the use of atropine in several cases of paralytic ileus.

Nature of the Circulatory Disturbances Accompanying Collapse in the Acute Infectious Diseases.—Passler and Rolly, after a series of extensive experimental observations upon rabbits, come to the conclusion that the primary cause of the circulatory disturbances which accompany collapse in the acute infectious diseases is to be found in a damaging to the vasomotor apparatus due to the toxins. Secondarily this leads to an inadequate supply of blood to the heart muscle, with its weakening and final collapse. The authors confined their observations to diphtheritic and pneumococcus infection. In diphtheria it is probable that the toxins, in addition to damaging the vasomotor apparatus, also exert a deleterious influence directly upon the heart muscle, but such is inconsiderate, and would lead to no serious consequences provided the vasomotor system remained intact. In pneumococcus infection, on the other hand, no injurious action of the toxins directly upon the heart muscle could be established. From these facts it is evident that in the treatment of the acute infectious diseases every effort should be made to sustain the action of the vasomotor apparatus.

Paratyphoid Fever.—F. M. G. de Feyfer and Heinrich Kayser report observations upon fourteen cases. Clinically, all of the cases were characterized by a short prodromal stage (one to four days) and a favorable course. The temperature curve was intermittent or remittent, and the frequency of the pulse corresponded thereto. Vomiting and diarrhœa were among the initial symptoms. The spleen was not palpable, but percussion frequently showed that it was slightly enlarged. A typical typhoid roseola was present in one-half of the cases. Bronchitis and angina were frequent complications. Intestinal hemorrhages were rare. The urine in all of the cases gave a positive diazo-reaction and showed the presence of a large amount of indican. In none of the cases save one did the blood serum of the patients agglutinate the bacillus typhosus. In this case the serum agglutinated both the bacillus typhosus and the bacillus paratyphosus (type B, Schottmüller). For this reason a diagnosis of a mixed infection (typhoid and paratyphoid) was here made. It is interesting to note that in this case the course was afebrile throughout. The blood serum of all the cases agglutinated the bacillus paratyphosus (type B, Schottmullen), but refused to agglutinate type A, isolated by the same author. In one case (the mixed infection) the serum was of very high agglutinating power, giving a positive reaction with type B in a 1 to 5,700 dilution. The agglutinating power of this serum was tested against certain other microorganisms with the following results: type A, 1-33 negative; bacillus typhosus, 1-120 positive; bacillus breslaviensis (Känsche), 1-720 positive; bacillus Gaustad (Holst), 1-360 positive; bacillus Backer (Holst), 1-33 negative, bacillus Morsellensis (von Ermenghen), 1-60 negative, bacillus Abel, 1-60 negative; bacillus morbificans bovis (Forster-Baseman), 1-60 positive; bacillus enteritidis (Gartner), 1-60 negative; bacillus Friedebergensis (Gaffky-Paak), 1-60 negative; bacillus paracoli (Kayser), 1-60 negative. The differential diagnosis of this disease comprises the differentiation between it and typhoid fever, the typhoid form of influenza, and a gastrointestinal catarrh with or without fever. This differentiation cannot be made upon clinical grounds, and is only to be determined as the result of agglutination tests.

French and Italian Journals.

Suprarenal Glycosuria.—Stefano Barba carried out a number of experiments with the view of ascertaining whether injections of suprarenal extract would cause glycosuria in human beings, as Blum, Zuelzer, Herter, and Richards claim that they do in animals. The result was negative, both in patients with normal suprarenal glands and in those suffering from Addison's disease. In one case of Addison's disease there was a slight aggravation of the general condition, and in the other two cases there was a general improvement and an increase in the diuresis.—*La Riforma Medica*, October 22, 1902.

A Saltless Diet and Its Effects on the Organism.—C. M. Belli instituted a series of researches with the view of ascertaining whether salt is really a necessity to life or not. He describes his investigations, and concludes therefrom that the absence of salt from the diet does not in any way affect the digestion nor the assimilation of food, but has a limited, though evident, influence on metabolism. This was accelerated if the salt were not added to the food, but returned to normal when the amount usually used was added. Salt is therefore not merely a condiment or a diuretic, but, according to the author, who quotes in support of his views Dubelir, Gabriel, Pugliese, Coggi, Straub, and Grube, it is an agent of nutritional economy.—*Annali di Medicina Navale*, September, 1902.

Two Cases of Musical Heart Sounds.—Modesto De Vivo describes two cases, and reviews the literature. He concludes that the causes of the phenomena may be various, such as tendinous bridles, inspissation and retraction of the cordæ tendineæ of the mitral valves, perforations, retractions of the valves, pericardial filaments, calcareous and fibrinous deposits which diminish the apertures of the blood vessel, diffuse atheroma, or, as in one of the cases described, a valve elongated by organized inflammatory deposits. The sounds are produced either by the vibration of these bridles and filaments, or by the vibration of the blood current against the calcareous or fibrinous deposits within the lumen of the aorta.—*La Riforma Medica*, October 14, 1902.

Ileocæcal Tuberculosis.—Guilbaud was called to attend a child that was said to be suffering from appendicitis. The incision revealed a large cæcum, very thick throughout its length. It was rigid, and of woody hardness. Its external surface was covered with tuberculous granulations. The terminal part of the ileum presented the same appearance, and the same consistence. The mesenteric ganglia were enormous. The appendix was behind the cæcum not visible. It was fixed in its position. There was no trace of suppurating focus, of false membrane, or of any walling off. It was then, not a case of local appendicitis with encysted peritonitis, but ileocæcal tuberculosis, of an hypertrophied and sclerosing form, with mesenteric adenopathy. The prognosis is always grave.—*Le Bulletin Médical*, October 18, 1902.

The Influence of the Micrococcus Tetragenus on the Tuberculous Process in the Lungs.—Alberto Michelazzi, from the results of his researches, reaches the following conclusions: (1) That the micrococcus tetragenus interferes with the development of the tubercular bacillus. (2) That when previously injected into a susceptible animal it prevents the development of tuberculosis not only in the lungs, but also in other organs. (3) If the tuberculous poison be first injected and then the micrococcus, there will be no interference with the development of tuberculosis. (4) The lesions produced by the micrococcus tetragenus in the lungs of guinea-pigs are precisely similar to tuberculous lesions in the human lungs (cavities, pneumonitis, etc.) and many of these lesions in man are to be ascribed to the action of the micrococcus.—*La Riforma Medica*, October 16, 17, 18, and 20, 1902.

Obligatory Medical Inspection of Workshops and Public Places in General.—Savoire states that the public authorities should institute obligatory medical inspection of workshops and public places. This is justified by the necessity of establishing early diagnosis of tuberculosis. The workmen should be taught the rules of antituberculous hygiene. The medical inspector should see that hygienic measures are instituted to assure the healthfulness of localities. After the medical examination the workmen should be classified according to their state of health. Those suspected of tuberculosis should be examined frequently till their definite condition is determined. The cases of tuberculosis should be isolated in every instance. The expenses of inspection should be borne by the aid societies.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, October 16, 1902.

The Endovenous Injection of Oxygen in Man.—C. Bernabei, while ackowledging the excellence of the experimental and practical work done by Mariani in the endovenous insufflation of oxygen in man, protests against the fact that no recognition has been given of his own preparatory and experimental work in the same direction. In his work on the extrapulmonary absorption (endovenous, subcutaneous, serous, and mucous) of gas (O, CO_2, N_2H_2, and, endovenous, for purposes of comparison, air), a work communicated to the Tenth Italian Congress of Internal Medicine, held in Rome in 1899, incorporated in the report of this congress and published in *Il Policlinico*, he had in mind the therapeutic application of the process. It would not have detracted, he thinks, from the value of Mariani's own admirable work to have referred to that previously done by a colleague.—*La Riforma Medica*, October 10, 1902.

Treatment of Tetanus.—Vallas discusses the properties of antitetanic serum. It is preventive if it is injected into the animal before, at the same time, or immediately after the toxin, especially if the injection is made ten or twelve hours before that of the toxin. Antitetanic serum, injected under the skin or into the blood, is incapable of curing or of attenuating confirmed tetanus. Immunity by injection of serum is acquired immediately after the injection, but lasts only a few days. The immunizing properties of serum last for a very long time. It does not prevent the vegetation of the bacillus of Nicolaier; it is not bactericidal. Its preservative action is due only to the destruction of the poison; it is only antitoxic. The antitoxin contained in the serum is not a modification of the injected toxin. It is a product of secretion of organic cells, probably of leucocytes, excited by the toxin. The antitetanic toxin is strongly agglutinating for a culture in bouillon of the bacillus of Nicolaier. The serum of a man cured of tetanus does not contain antitoxin. Besides, an attack of tetanus does not vaccinate against the disease.—*Gazette des Hôpitaux Civils et Militaires*, October 18, 1902.

Stenoses of the Pylorus.—Chauffard recognizes three principle causes of pyloric stenoses in the adult. There are stenoses of fibrous origin, of cancerous origin, and of spasmodic origin. In the first class the causes are various. There may be a scar of ulcerous origin, old inflammatory adhesions (peritonitis, syphilis), a congenital narrowing, and a sort of pyloric hypertrophy, as is noted sometimes in infants. The writer then describes several cases. The first patient was a man of thirty-five years, small and weak. He had suffered with his stomach since the age of fifteen. In order to decide on the best method of procedure, the exact dimensions of the dilatation of the stomach had to be estimated. This could be done by clapotage, by the study of the peristalsis of the stomach, by insufflation, and last and best of all, by illumination of the stomach by an electric lamp. Operation was decided upon, as the pylorus was found to be contracted. Gastroenterostomy was performed, and was followed by the happiest results till certain indiscretions in diet precipitated an ulcerous condition. A second operation was also successful, and the patient is in excellent condition, although he has to live very prudently.—*Journal des Praticiens*, October 18, 1902.

The Employment of Sterilized Linens in Nursing Infants.—Weill and Agniel call attention to the frequency of cutaneous infections (erythemas, pustules, furuncles, abscesses, etc.) in the children of the Crêches. For several years there was a veritable epidemic of affections of this nature at the Crêche de la Charité. The employment of antiseptic preparations in solutions or in the form of salves had been productive of no result. The medications even often produced irritating effects which aggravated the trouble. Powder had the best effect, but this was slight. The writers then conceived the idea of using sterilized cloth for dressing the children. From this moment there was a complete change. The children who had not been affected with the lesions remains unaffected, excepting at the point of the occiput, and the use of a sterilized cap caused this last lesion to disappear. All the surface of the body that was covered with the sterilized linen was protected against infection. With regard to the sick children, the results were still more remarkable. From the day when this treatment was begun, the cutaneous lesions ceased spreading and healed rapidly. In the specific infections (chickenpox and measles), the secondary infections were avoided by this treatment. In cases of ulceration, lymphangitis and erysipelas were prevented.—*Lyon Medical*, October 19, 1902.

Æsthetic Ablation of Benign Tumors of the Breast.—H. Morestin says that the blemish of a scar varies in importance according to the subject operated on, and according to the operation performed. As far as the breast is concerned, this question is of no importance to a large number of patients. Of recent years, the inconveniences of scars have been considerably decreased. They are far less disfiguring than was formerly the case. The immediate union, the care given to the wound, the perfection of the methods of suture, give results so satisfactory that surgeons may speak of "beautiful scars." The writer then describes his method of removing benign tumors of the breast without disfigurement. He operated on the first patient as follows. He made a very small high axillary incision. The incision measured 6 cm., and was in the hollow of the axilla. The next step was so to separate the tissues that a tunnel could be made from the incision to the tumor, which was in the lower, outer quadrant of the breast. For this maneuvring, a bistoury and scissors were used. The breast was held up as high as possible toward the place of incision, in order to shorten the distance as much as possible. When the tumor was reached, the capsule was opened with the scissors. Then long, thin forceps were thrust through the tunnel, and by them the tumor was seized and separated from its final attachments. The distance between the incision and the tumor was 15 cm., with the breast in normal position. A long drain was slipped into the axillomammary tunnel, under the loosened skin, and the skin was sutured. There was not a marked loss of blood. The wound was bandaged. The drain was withdrawn on the second day and the stitches on the sixth. The incision healed perfectly, and the scar had to be searched for to be seen. There was, of course, no mark on the breast.—*La Presse Médicale*, October 11, 1902.

A Case of Human Glanders, Ending in Recovery.—Charles Nicolle and Dubos declare that the observations of human glanders are not very numerous. The cases of recovery are exceptional. The writers then report a case which fell under their own observation. The patient was a young countryman. One day, when working in the fields, he felt the sensation of a foreign body in his left eye. He rubbed his eye vigorously with his hand. His father examined the eye, but saw nothing in it. The next day the patient felt a small, painless mass in front of the left ear. Two days later there was a large mass under and behind the jaw on the same side. The general condition was excellent. Twelve days later there appeared a third tumor of the same kind in the depths of the left calf. All of these masses increased rapidly in volume without any inflammatory phenomena or general reaction. The examination of two sick horses led the physician to think of glanders. Microscopical examination confirmed this diagnosis. The tumors were extirpated. This was followed by an amelioration, but recurrence soon took place. The removal was accomplished about a month after the first appearance of the infection. Medical treatment was instituted: forced feeding, rest, life in the open air, cacodylate of soda; but the disease was only arrested in its course. At the end of three months, when there was no appreciable result from the treatment, it was decided to inoculate the patient with the serum of a heifer. A total of 190 c.cm. were injected in two and one half months. From this moment the symptoms were rapidly ameliorated. The tumors disappeared, one after another. The ulcerations consecutive to the operation healed, and the small ganglionic masses that had developed in various parts of the organism disappeared spontaneously. The cure was complete before the end of the third month of treatment. It is now six months later and there has been no recurrence. The infection evidently took place through the conjunctiva.—*La Presse Medicale*, October 18, 1902.

Diagnosis of Cystic Disease of the Breast.—P. Bégouin reports two cases that have recently come under his notice, of cystic disease of the breast. One patient was a woman of fifty-four years, who six months before she presented herself at the hospital was struck in the breast. A small swelling developed gradually, without any pain and without any discharge from the nipple. It was difficult on looking at the breast to detect the swelling. The tumor felt like a round flat pebble with a diameter of about 5 cm. It was hard and [illegible]. The surface was lobulated, and irregular as if it were studded with grape-seeds. At the periphery, its limits were merged in the glandular tissue. Pressure on the tumor did not cause any discharge from the nipple. The skin over the tumor was movable, and also over the pectoral muscle. There was a small gland high up in the axilla without any special characteristic. The second case described had essentially the same characteristics. Several points would suggest cancer, such as the age, the rapid development, the hardness, the irregular surface, and the indistinct limits of the growth. But, as in all cases of cystic disease, there was no sign at the beginning to call attention to the diagnosis of cancer. The cases both proved to be cystic disease of the breast. In both cases were found nodosities in the neighborhood of the tumor and in the other breast. The writer adds that in every case of tumor of the breast, that might be taken for cancer, although this diagnosis is not evident, it is always necessary to examine the part of the gland which appears healthy as well as the other breast. If there are disseminated nodosities, even though scarcely appreciable, the disease of Reclus must be thought of, and its diagnosis eliminated or confirmed. Before operation, an exploratory puncture should be made, and, if there is still doubt, an exploratory incision. These preparatory precautions will determine that a certain number of so-called cancers are only cystic disease. The cystic disease is almost always bilateral, and tiny nodosities are found in the neighborhood of the tumor and in the opposite breast.—*Journal de Médecine de Bordeaux*, October 19, 1902.

Revue de Medicine, October, 1902.

Arterial Hemorrhagic Changes in Cirrhosis.—Ch. Bouchard says that abdominal plethora is not the only cause of hemorrhages of the digestive tract in cirrhosis. Certainly hemorrhages which occur outside of the territory of the portal vein, and which are very frequent in cirrhosis cannot be due to this cause. They are in relation with preexisting arterial lesions affecting the skin, the mucous membrane of the mouth, the pharynx, and the œsophagus. The gastrorrhagias of cirrhosis are also due to a preexisting arterial lesion. Epistaxis from arterial lesion is in intimate connection with cirrhosis.

Anguish.—Paul Londe considers anguish to be a symptom which is both mental and somatic. It may result from any perturbation of psychic or organic life, the perturbation being transmitted to the bulb. The manifestation of the symptom is sometimes merely a simple malaise, but it may be psychic, and there may even be delirium. It is accompanied by various bulbar troubles; it may be masked or abortive. It is always more or less paroxysmal, yet there have been described cases of chronic states of anguish with recrudescence. Cheyne-Stokes' respiration induces a sort of chronic anguish. In the diagnosis we should attempt to recognize the syndrome under the most varied aspects, to ascertain its origin, and to decide whether there be a lesion or merely a functional trouble.

Revue de Chirurgie, October, 1902.

Massage of the Exposed Heart.—Maurice Boureau says that the experiments made in the direction of giving massage to the exposed heart in case of syncope have so far given no decisive results. In cases of chloroform syncope, his advice is to first apply Sylvester's method of artificial respiration which is nearly always sufficient to restore the patient, and then to try rhythmical tractions of the tongue. If, after ten minutes of these manœuvres, respiration does not return, then, as a last resort, the surgeon might make a diaphragmatic incision, and give massage to the heart. The author, however, has no very great faith in the procedure, and thinks that it will probably be abandoned by surgeons before long.

The Scattering of Hydatid Cysts by Operation.—F. Devé concludes from his experimentation that the scolex and the proligerous capsules (specific microscopic germs), as well as the daughter vesicles (macroscopic elements), can give rise to new hydatid cysts. During the course of bloody operations on hydatid cysts the greatest care should be taken to prevent the dissemination of the infection outside of the sac, and to destroy the various specific germs contained within the parasitic vesicle in the interior of the sac. Experimentally, a 1 per 1,000 solution of bichloride or a 1 to 200 of formol will, in from two to two and a half minutes, destroy the vitality of the hydatid germs. In the case of non altered cysts, a preliminary parasiticidal injection of Van Swieten's fluid, or better, of formol, 1 to 200, left two or three minutes in contact with the contents of the mother vesicle, will, apparently, prevent the formation of post-operative echinococcosis.

Society Reports.

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Proceedings of the Seventeenth Annual Meeting, Held at New Haven, Conn., October 28 and 29, 1902.

The conference convened in North Sheffield Hall, under the Presidency of Dr. H. M. Bracken of Minneapolis, Minn.

Report of the Committee on Communicable Diseases.—Dr. B. Stanton of Cincinnati, Ohio, in the absence of the chairman, presented the report of this committee. The following list of diseases believed to be communicable, dangerous to the public health, and such as boards of health may properly endeavor to prevent, was presented: Typhoid fever, typhus fever, smallpox, chickenpox, measles, scarlet fever, whooping cough, diphtheria, influenza, cholera, yellow fever, bubonic plague, mumps, German measles, glanders, hydrophobia, malaria, epidemic cerebrospinal meningitis, pneumonia, puerperal fever, epidemic dysentery, erysipelas, beriberi, ankylostomiasis, leprosy, tetanus, anthrax, actinomycosis, trichinosis, trachoma, scabies, syphilis, and gonorrhœa. After considerable discussion this report was adopted. The conference discussed and adopted a new constitution.

Production and Control of Vaccine Virus and Antitoxins.—Dr. U. O. B. Wingate of Milwaukee, Wis., spoke on this subject, discussing it under six headings, as follows: (1) Does the commercial element relative to vaccine virus, antitoxin, etc., render these agents dangerous for use? If so, what course should be pursued to eliminate commercialism? (2) Should the nation or State control the production and sale of same? (3) If the nation should control it, should its production and distribution be under the supervision of the Public Health and Marine Hospital service of the United States? (4) It is practicable for State boards of health to institute inspections over the production and sale of these agents, and should State boards propagate these agents? (5) Does not the commercial element threaten the public confidence, and if some steps are not taken, can we maintain the reputation that a proper use of these agents fully merits? (6) Should humanized vaccine virus be used in preference to bovine virus?

He thought the first and fifth should be considered jointly. His experience had been sufficient during the present epidemic of smallpox in this country to furnish a certain amount of information concerning the subject which was of great value. In his experience there had been considerable difficulty with the vaccine virus. Too much trouble resulted from its use. Whenever an outbreak of smallpox occurred, it was quite a serious thing to get a supply of virus to use and then find it had no effect, and that those who were exposed, who might be protected by successful vaccination, were not protected because the virus was impure. This had occurred in a number of cases. He thought some measure should be taken whereby, if vaccination was urged, a sufficient amount of protection would be given to the public, so as to obtain its confidence.

In regard to antitoxin, he thought this could possibly be excluded. Perhaps the commercial element did not enter into this question so much as it did in that of vaccine virus. He quoted from Theobald Smith, who said (referring to these products) the preparation of animal vaccine is simple enough, and its simplicity is a source of danger, because its production may be undertaken by such as are not sufficiently trained in scientific methods to apprehend and utilize the improvements brought about by investigation as well as anticipase and guard against the dangers due to altered conditions. In this regard vaccine virus differs from the preparation of diphtheria antitoxin, because the latter substance cannot be prepared excepting by those who have had considerable technical training. Its successful manufacture necessarily implies that degree of care which also assures the safety of the product.

If this were true, the essayist said, it would relieve us very much in regard to the manufacture and sale of antitoxin. The greatest danger was in the production of these products, and not in the actual sale of them.

Regarding the other divisions of the subject, he again quoted from Theobald Smith, with reference to inspection, etc., and the practice that existed on the continent. Each State or State division assumed the responsibility of preparing the vaccine virus itself, and the national government appointed inspectors, provided vaccine plants, under whose supervision the virus was prepared, tested, and officially stamped, the same being done with regard to antitoxin in Germany.

As we had now a national public health organization well equipped with experts, Dr. Wingate thought it would be practicable to have agents appointed to inspect the products of vaccine virus, and perhaps the other products, or some means might be adopted by which we could say to the public that these products were safe to use, and that they were efficacious. He did not think this could be said now of these products at all times. He believed that any recommendations which might emanate from the conference would have considerable influence in establishing a system of this kind.

Massachusetts had been producing its own antitoxin for a number of years, with good results. The State Board of Health produced it, and supplied antitoxin free to those who applied for it throughout the State. Whether other States could do this generally or not was a question. It was certainly a step in the right direction, because if antitoxin was prepared under the supervision of the State Board of Health it would be done properly. Furthermore, a great majority of people who required antitoxin were poor. They could not avail themselves of the remedy if they had to purchase it in order to use it. Whether the State or the local health authorities should furnish it was a question, so far as the expense was concerned. In some localities in his State the laws were such that the expense of these agents would be put upon the county, town, village, or city, and the State was appealed to in extreme cases. He thought it would be difficult in Wisconsin to secure the passage of laws whereby antitoxin could be supplied for the use of those who might apply for it to the State Board of Health.

Some Questions to Be Answered in Dealing with Smallpox.—Dr. C. O. Probst of Columbus, Ohio, followed with this paper. He stated that in Ohio, since the present epidemic began, 14,224 cases of smallpox had been reported, with 376 deaths. This was probably considerably short of the actual number of cases, for many had doubtless occurred that were never recognized or reported as smallpox. Even now, when the disease made its appearance in a new neighborhood, disputes in diagnosis often occurred. The main difficulty at present was from the people, especially the merchants, who were unwilling to accept the diagnosis of smallpox made by the local physicians. The State Board of Health of Ohio had appointed ten experienced physicians as medical inspectors, paying them $10.00 a day and expenses. When the diagnosis of smallpox was made locally, the board insisted that the local authorities should accept it, and if they called upon the State Board to send some one to verify the diagnosis, the local authorities were made to pay the expense. Should the State or community pay this expense? The community usually receives the greater part of the benefit. A prompt diagnosis might prevent an epidemic. If the disease was not recognized as smallpox, or not treated as such, it was carried to other, perhaps quite distant, communities. A proper line should be drawn between State and local responsibility in these cases. His conclusions were:

The State should make an inspection and pay the expenses thereof: (1) When the attending physician, with the help of local counsel, if obtainable, is uncertain of the diagnosis. (2) When there is a serious dispute among local physicians as to the character of the disease. It often happens that there is one or more physicians in a place who, perhaps without seeing the case, publicly declares the disease is not smallpox. They will usually say so after the State inspector has pronounced it smallpox, and they should not be regarded in deciding the question of sending an inspector. (3) When an eruptive contagious disease, affecting adults, is prevailing, and not considered or treated as smallpox. (4) When the local board of health requests advice in enforcing restrictive measures, or where complaint is made and there is reason to believe that such board is neglecting its duties, and matters cannot be settled by telephone or letter. Exceptional cases other than these may arise, when the State should send and pay the inspector.

The community should pay this expense (1) When the attending physician diagnoses the case as smallpox. (2) When the attending physician is in doubt, and the board of health is unwilling to call competent local counsel, simply to escape paying a consultation fee. (3) When the character of an outbreak has been fully established, and other cases, directly traceable to known cases of smallpox, are the subject of dispute, and the symptoms indicate smallpox.

The next question he considered was that of control of interurban quarantine. Should the State Board of Health have authority to modify or set aside a local quarantine regulation? Yes, but it should use this power in urgent cases only.

He presented a plan whereby a State board of health might possibly give reasonable assurance of purity of vaccine virus. The Ohio board contemplated putting such a plan into operation, and was holding it in abeyance, hoping to have it criticised at this meeting. Two vaccine propagators, and a third might be added, were willing to enter into this arrangement. They would furnish once a month, or as often as necessary, samples of two or three lots of vaccine virus. The size of a lot would depend on the general demand, and might be the product of one heifer, or the mixed product of several inoculated on the same day. The lots would be numbered. A sample of each lot would be examined for the number of bacteria and presence of pus organisms. Possibly a test would be made for the tetanus bacillus The methods of examination would be published, and when the sample passed muster, it would be announced that lot so-and-so produced by such-and-such propagator, had been examined, and the sample had been found free from pathogenic organisms. The propagator on his side would agree that any person in Ohio ordering virus of a particular lot should receive that virus and no other, unless notified to the contrary. He would not be bound to hold this virus especially for the Ohio trade, to his loss, but would endeavor to keep a supply of it on hand.

This plan had suggested itself to the board of Ohio because of the great opposition to vaccination, occassioned largely by the lack of public confidence in the purity of commercial vaccine. The exaggerated statements of the bad results from vaccine in Cleveland, and the reports of several deaths there from tetanus credited to vaccination even by the medical profession, made it highly desirable that the people of Ohio should in some way be given assurance of the purity of virus used.

Dr. **Samuel W. Abbott** of Wakefield, Mass., in opening the discussion on these two papers, stated that the State Board of Health of Massachusetts had examined the products of several private producers of antitoxin in 1896, as sold in the open market, and found some of them absolutely worthless. Speaking of the experience of his own State in antitoxin production, he said (1) about 180,000 packages had been produced in the nearly eight years of production up to the present date. (2) Nearly one-quarter of a million dollars had been saved to the State, the principal portion of which would have gone out of the State to private producers. (3) Several thousand lives had been saved which might otherwise have been lost through inability to pay the cost of life-saving. (4) No untoward accidents or injuries had been reported in the State from the use of antitoxin in the eight years (5) All parties were absolutely satisfied with State production, including the physicians and boards of health who used the product, and the people for whose benefit it was used. No one was discontented except the few who desired a change for commercial reasons only.

Dr. **Walter Wyman**, Surgeon-General of the Marine Hospital service, called attention to a bill which was presented at the last session of Congress entitled, "An Act to Regulate the Sale of Viruses, Serums, Toxins, and Analogous Products in the District of Columbia, to Regulate Interstate Traffic in Said Articles, and for Other Purposes." The number of this bill is 244.

Dr. **H. D. Geddings** of Washington, D. C., said that the question of antitoxins should be approached from two standpoints. There must be assurance that the public or the consumer should guard against such distressing and fatal results as had attended the late much-exploited cases in St. Louis. Up to the time of the occurrence of those cases the possibility of such accidents was recognized, but had not received the careful attention that it might have. Since that time, it had been claimed by every manufacturer of antitoxin that he specifically tested his product to see that it contained neither the organisms of tetanus nor the toxins produced by that organism.

The public in buying antitoxin was entitled, in equity and in justice, to receive what it paid for as advertised upon its labels. To sell a serum represented to contain two thousand antitoxin units to the cubic centimeter, and which was shown on test to fall between one thousand and two thousand, was certainly delivering goods under false pretences. He did not believe that it would be possible for national authority, as at present constituted, to exercise the function of inspection over all the antitoxin that was produced. It would be an operation of tremendous magnitude. The amount of serum antitoxin produced in the United States was large. However, some such control should be exercised, and was exercised in Germany, Italy, England, and France.

In regard to vaccine virus, if there was upon the market to-day a truly antiseptic, aseptic, or germ-free vaccine virus, the Hygienic Laboratory of Public Health of the Marine Hospital service was not able to purchase it in open market. Samples of every virus obtainable were submitted to tests in the hygienic laboratory, the result of these examinations showing that none was truly aseptic or antiseptic, and that none was germ-free.

Speaking of glycerinized lymph, he thought too much reliance had been placed upon the alleged antiseptic property of glycerin. A series of experiments conducted in the hygienic laboratory showed conclusively that while glycerin was to a certain extent a preservative of considerable potency, it was far from being an antiseptic or a germicide. The point he made was that the glycerinizing of the lymph could not take the place of scrupulous care in the original preparation of the material. If due antiseptic and aseptic precautions were exercised in gathering the lymph, it was possible that the addition of glycerin was unnecessary On the other hand, if it was gathered carelessly, proper precautions not being taken the addition of any amount of glycerin up to 100 per cent would not affect the sterilization of the product.

Dr. **Peter H. Bryce** of Toronto, Ont., stated that the American Public Health Association last year appointed a special committee to investigate the subject of vaccine virus, the speaker being the chairman of that committee. The committee had endeavored to gather facts bearing on the question, and had taken the trouble to visit some of the larger manufactories. This report would be presented with its conclusions at the forthcoming meeting of the American Public Health Association.

He was glad to hear what Dr. Abbott had said in regard to antitoxin. He believed that vaccine virus could be produced quite as well by private concerns as by a government laboratory. He would assume this for the purpose of argument. In England no one handled government vaccine except the public vaccinators, who had received a certificate of efficiency from some educational vaccine establishment, of which there were twenty-five throughout England and Scotland. The public vaccinator was appointed by the government. He received all articles from the national vaccine establishment, or as much vaccine as he proposed to use during one or two weeks. Since the year 1897, when the "conscience clause" was put in the compulsory act in England, the local board had changed its method in this way, that instead of requiring the people, under penalty, to present their children at a public vaccine station within three or four months after birth, it was now the practice for the public vaccinators of England to go from house to house, with a list of the children recently born, and offer free public vaccination to the mothers of these children. This was the present procedure, and it had worked admirably.

In Germany there were twenty-five local government vaccine establishments. In Germany no person, except a trained physician or public vaccinator, could vaccinate anybody If it could be shown that a public vaccinator was careless in his work, or in the lymph he used, he was subject to heavy penalty.

Speaking of Canada, he said there was no compulsory law in the true sense. True, every child was required to be vaccinated within three or four months after birth, but this was not carried out in Canada except in emergency. In Canada there was no law requiring trained vaccinators. There was no means by which lymph could be sent out systematically from any one station, or from any one person who was made responsible.

With reference to the establishment of a national or federal laboratory or institute, where lymphs and serums could be manufactured, so far as he was concerned, he would not encourage any such thing in his own province until he was perfectly sure that the work of vaccination would be put into trained, certified hands, and that it would be done in such a systematic and routine manner that lymph would certainly be used within a week or two while it was still fresh.

Dr. J. F. Kennedy of Des Moines, Ia., suggested that the conference formulate a definition of vaccination.

Dr Gardner T. Swarts of Providence, R. I., said that two or three years ago he read a paper on whether States should control the manufacture of vaccine virus, or whether it should be left to municipal authorities or private manufacturers, and previous to the preparation of the paper he visited nearly all the commercial establishments that produced vaccine virus, and made a partial report to the society. If State boards of health were large enough and could obtain a sufficient appropriation, or the State was large enough to warrant an appropriation to carry on the manufacture and production of vaccine virus and antitoxins, it was all very well. When it came to a small State like Rhode Island or Delaware, the amount of appropriation needed would be so small that it would be impracticable for the State to control an institution of this kind. If these products could be manufactured by the national government, there would be some assurance of purity, but the question arose, as in the case of St. Louis, whether State boards or city boards, which were controlling these products, would not fall into the hands of political schemers, and the result would be that those who produced the virus were not responsible parties, and the State might suffer as a consequence. There should be some control whereby these institutions and their products could be subjected to inspection.

Dr. John Guiteras of Havana, Cuba, said that compulsory vaccination and the preparation of vaccine virus had been carried out successfully in Cuba. There was a board or central station for the elaboration and preparation of vaccine, which was sent all over the island, handled by State officials who were vaccinators. During the last two years compulsory vaccination had been carried out, with the result that smallpox had not been able to gain a foothold in Cuba, although the island was surrounded by countries in which smallpox was quite prevalent.

Dr. John S. Fulton of Baltimore, Md., in discussing the paper of Dr. Probst as to the question, When shall the State Board of Health send at State expense a representative to establish or verify the diagnosis of smallpox?, said that in Maryland, when there was any doubt as to the diagnosis of this disease, it was always subject to verification by and at the expense of the State Board of Health. Coming from a small State, he could not see how in a State as large as Ohio any great expense would come from that practice, and he believed the State should send a representative in all cases of doubt. It was the practice in Maryland to send someone to verify the diagnosis whenever it was desired. It had been his invariable practice to confront the physician as speedily as possible who disputed the diagnosis, and insist that he be called in consultation.

Dr. Probst, in closing the discussion, urged vaccination, even with the virus at present to be had, although an effort should be made to avoid the accidents that occurred here and there. Some assurance should be given the public by saying that this or that vaccine virus had been examined by the State Board of Health, and found to be safe to use.

On motion of Dr. E. W. Cooper of Camden, Del., the whole subject was referred to a committee, consisting of Drs. Wingate, Probst, and Bryce. This committee subsequently presented the following report:

1. That vaccination may be defined as follows: An inoculation, by scarification, puncture, or injection beneath the epidermis, of a vaccine which produces, with some constitutional disturbance, the typical vaccine vesicle, which leaves, after the pock has healed, its characteristic scar

2. That in order to obtain the most satisfactory results, vaccine must be produced either by federal, State, or provincial officials, or by private producers under the closest supervision of qualified government officials.

3. That for the greatest protection against smallpox, State and provincial laws should provide machinery whereby certified public vaccinators can be appointed for the systematic vaccination by house-to-house visitation, of all children born during any year, and at public stations or otherwise of such others as circumstances may make necessary.

4. That the evidence of successful vaccination of all school children naturally forms a part of any system of public vaccination and certificates of such should be accepted only when signed by a municipal or local health officer.

5. That in order that the best results may be obtained, it is essential that medical colleges should be urged to provide for thorough instruction in the theory and practice of vaccination, and that all licensed physicians should hold certificates of having had practical instruction in the operation of vaccination in medical colleges, dispensaries, or public vaccine stations.

On motion, the report was adopted.

Summer Resorts.—Dr. C. A. Lindsley of New Haven, Conn., treated the subject under the following heads:

The Tented Camp; The Million-Dollar Hotel; The Variety of Guests Who Are Entertained at Them; Their Temporary Occupation: The Brevity of the Visits of the Great Majority of Those Who Frequent Them, and Their Sense of Responsibility While Being There; The Enormous Increase of Population When the Summer Influx Is Compared with the Permanent Residents of the Remainder of the Year; The Colonies of Cottages Clustered in Close Proximity and the Risk of Unsafe Results to Health from All These Peculiar Conditions.

Methods of Quarantine against Yellow Fever Adopted in Havana, Cuba, During the Year 1901.—This paper was read by Major W. C. GORGAS, surgeon, United States Army: With the object of excluding the infection of yellow fever, quarantine had been very generally resorted to, and had been enforced by keeping out people sick with yellow fever, and by holding all non-immunes coming from an infected point five days from the time of their last exposure to infection. The period of five days was fixed upon as being, with very few exceptions, the limit of the stage of incubation. As soon as a case was reported, if not sent to the hospital, it was strictly quarantined. Trusted guards in the employ of the sanitary department, in eight-hour shifts, were placed over the rooms quarantined, and nobody was allowed to pass except the physician in attendance. After the case came into the charge of the sanitary department, nobody was allowed to leave the quarantined area for any cause whatever, and no one except the physician was allowed to enter it. On the termination of the case, all fabrics of every kind which might contain infection were taken to a central station at Las Animas Hospital, and were sterilized in a large sterilizer with steam or formalin, as was thought best. The quarantined area was then carefully scrubbed with a bichloride solution, 1-1000, and sprayed everywhere, by means of a force pump, with the same solution, and then the rooms were closed and sealed, and disinfection with formalin at the rate of 1 liter to 1,000 cubic feet of air space was made, and the rest of the house was well scrubbed and cleaned with soap and water, and afterward sprayed with a bichloride solution of the same strength.

Early in 1901 the Army Board put forward the theory which they had demonstrated, and which Dr. Finlay had, for the past twenty years, maintained, that the mosquito was the means by which yellow fever was conveyed from patient to patient, and the only means, and that it was not conveyed by fomites and articles soiled by the yellow-fever patient.

As the result of the acceptance of this theory by the sanitary department, changes were made in the quarantine regulations. If the disease could be transmitted from a sick person only by the mosquito, there would be no occasion to give any care to the bedding, fabrics, etc., soiled by the sick person, or that came from the infected locality. In accordance with this view, the quarantine regulations of the city were modified. When a case was reported as yellow fever, the quarantined area was at once screened at public expense, with the idea of keeping infected mosquitos in, and of keeping out all mosquitos that had not been infected. A guard was placed over the quarantined area to see that the screen door was kept closed. A limited number of immunes, six or eight, were allowed to be designated by the physicians in charge, who could have access to the quarantined area. When the case terminated, all the mosquitos were killed by fumigation with pyrethrum powder, but no attention was given to clothing, fabrics, etc. In Havana pyrethrum powder was used in fumigating for yellow fever, for the reason that it was not objectionable to the people whose premises were being fumigated. It is a poor culicicide and does not kill the mosquito with any certainty. In every fumigation a considerable number will be found merely intoxicated, and will revive if given access to fresh air. Sulphur, tobacco, and other substances are very much more deadly to the mosquito, but it was feared that if the people were caused too much inconvenience it would result in cases being concealed, and this would defeat the success of the work. Believing that the infection was carried only by the mosquito, and that microorganisms which had escaped from the body of the sick person in any way and were preserved in the clothing and fabrics around the room could do no harm, these things were left alone. At the termination of the case the mosquitos in the house and in adjoining houses were killed, the screens [illegible] down, and the guards withdrawn. This was the [illegible] of quarantine put into effect with regard to cases [illegible] in the city.

From the time the system was adopted up to the end of the year, 1,250 non-immunes were reported as coming from infected localities. Of this number, twenty [illegible] were discovered to have yellow fever, or developed it within the period of incubation.

The author believed that under the system of inspection as enforced in Havana during 1901 yellow fever would no more frequently get into the United States than it had during the past years of rigid quarantine. The relief to commerce under such a system would be enormous. With present knowledge and experience, he advocated as a quarantine against yellow fever, both land and maritime, that infected vessels, or vessels coming from an infected port be carefully fumigated, so as to kill all mosquitos in water every part of the vessel. This would apply to ships and all cars and other vehicles on land. That the passage of merchandise, baggage, etc., be interfered with in no way whatever. That passengers, when sick, be quarantined and isolated; that all other passengers be allowed to pass freely; that non-immunes from infected points be seen once a day by a medical inspector, and if at the end of five or six days they were well, they be released from all surveillance.

Method of Stamping Out Yellow Fever Suggested Since 1899.—Dr. CHAS. J. FINLAY of Havana, Cuba, contributed a paper on this subject. His conclusions were:

1. That the germ of yellow fever is only pathogenic for human beings when introduced by inoculation.

2. That the regular process by which the inoculation of a germ is accomplished in nature is through the bites of the stegomyia fasciata, the insect having previously become contaminated through the act of biting yellow-fever patients within the first five or six days of their attack.

3. That although the bites of a recently-contaminated mosquito can produce only a mild attack of yellow fever or simply confer latent immunity without eliciting any pathogenic reaction, the bites of the same insect, when its contamination dates back from several days or weeks may be expected to produce severe or fatal attacks of yellow fever.

4. That the yellow-fever mosquitos, after they have once been contaminated, retain the power of inoculating the disease during the rest of their lives if they have the chance of biting non-immunes.

5. That the essential conditions for stamping out yellow fever from an infected locality are (*a*) to protect yellow-fever patients from the bites of the special yellow-fever mosquitos; (*b*) to destroy all mosquitos which may have reached yellow-fever patients; (*c*) not to allow non-immunes to enter the infected zone until the last of the contaminated insects may be supposed to have died; (*d*) to lessen the chances of propagation by adopting adequate measures calculated to prevent the multiplication of mosquitos in general.

6. In 1898, when the author reckoned the longevity of the stegomyia at thirty-five to forty days, as a maximum he fancied that his theory would be improved by including also the possibility that the infected insects might transmit their infection to their progeny, as the cattle-tick is supposed to do with regard to Texas fever. The reasons which induced him to make that suggestion ceased to exist from the moment that the United States Commission proved that some of the stegomyias live as many as seventy or more days, and the author was not sorry to give up an idea which did not fit readily his theory.

Major W. C. GORGAS presented the following resolution:

Resolved, That in view of the establishment [illegible] that yellow fever is transmitted only by the mos[illegible] conference is of the opinion that there is no lon[illegible] sity for the disinfection of clothing in yellow-fe[illegible] bedding, fabrics, or effects of any kind, but simply to take measures looking to the control of the sick and the extermination of infected mosquitos. In cases in which non-immunes have been exposed to infection, they should be observed during the period of incubation.

The above resolution was the report of the committee on yellow-fever resolutions, and was signed by Drs. Gorgas, Ross, and Glennan.

Dr. J. S. Stephens of Natchitoches, La., representing Dr. Arthur Nolte of the Louisiana State Board of Health, submitted a minority report, to the effect that the mosquito was not the only mode of transmission of yellow fever, he and his confrères believing that fomites carry the disease. Experience in the past had been extensive in that regard. Believing, therefore, that both the mosquito and fomites were modes of transmission of the disease in Louisiana, the same quarantine was maintained to-day that was carried out years ago, with slight modification.

After a spirited discussion, participated in by several members of the conference, Dr. John S. Fulton of Baltimore moved that both the majority and minority reports be spread upon the proceedings, but that the conference do not commit itself to any expression concerning the practical measures to be used in restricting yellow fever. This motion was adopted.

An address of welcome was delivered by Prof. Wm. H. Brewer, President of the State Board of Health of Connecticut, after which came the delivery of the presidential address.

The State in Its Relation to the Tuberculous was the title of the presidental address delivered by Dr. H M. Bracken of Minneapolis, Minn. He considered the subject under the following heads: (1) The care of the advanced or incurable cases; (2) The care of the incipient cases; (3) The protection of the uninfected.

In studying these three groups, the author reversed the order, considering first the advanced or probably incurable individuals. Humanity demanded that we should care for these. The last United States census gives the total number of deaths during the census year from this one disease as about one hundred and ten thousand. Undoubtedly, a large proportion of these patients were too poor to care for themselves during the latter part of their illness. It can thus be seen that there is a great demand upon the municipality or State to care properly for these unfortunates. Looked at from an economical standpoint, he thinks it is wise to provide special hospitals for such cases rather than to thrust them upon the general hospitals, where they may infect the non-tuberculous patients. Humanity demands that the tuberculous poor should be decently housed. Discretion, as well as humanity, demands that the incurable tuberculous shall be properly cared for.

The present method in vogue in certain State institutions of drawing a line between the advanced and the incipient cases of tuberculosis, and saying to the former, "Go hence; we cannot cure you; we do not want you; you cannot get well; go home and die, while we care for those only who may recover," is highly deplorable. It is depressing; it is inhuman. Undoubtedly, a percentage of the advanced tuberculous cases may recover. Why should this class of patients be told, indirectly at least, that they are incurable? Why should not hope be held out to them as long as there is any hope whatever?

The incipient tuberculous demand attention. It is easier to persuade legislators to give money to institutions that can show great results. Every hospital is ambitious to keep its death rate as low as possible. Appeals for institutions for the incipient tuberculous are influenced by the fact that better results can be shown for this class than for the advanced cases, and the feeling prevails that it is through results we must appeal to legislators.

He inclined to think that the municipal sanatoria should have an advantage over any single State sanatorium. He did not wish to be understood as opposing the latter, but rather as asking for more than it can offer. The people will take an interest in a local institution when they would give little or no attention to a State institution.

If it is a public responsibility to provide for all tuberculous individuals, it is an imperative duty to protect the non-tuberculous. This can only be done by removing all tuberculous individuals from the homes or places of residence where they are a source of danger.

In closing this address, Dr. Bracken suggested that the conference would accomplish the greatest good by the formulation of some rules that might serve as a guide in securing favorable legislation. He therefore made the following propositions for consideration:

That physicians, or those having the care of tuberculous individuals, be required to report the disease to local health officers.

That local boards of health should be required to register all tuberculous individuals within their jurisdiction.

That the proper care of the tuberculous be urged upon State and municipal authorities, and that the construction of sanatoria and isolation hospitals be insisted upon.

That the advanced cases of tuberculosis be recogized as demanding attention equally with the incipient cases; (1) in order that they may have every possible chance to recover; (2) in order that the danger of infection through them to others may be removed; (3) in order that the incurables may be well cared for so long as life lasts.

That it is the duty of the State and the municipalities, singly or jointly, to provide for the proper sanitary care of all tuberculous individuals, either at their homes or in hospitals and sanatoria.

That the various States and provinces here represented place themselves on record as urging the necessity for the establishment and proper maintenance of State and municipal institutions for the care of the tuberculous.

A committee was appointed to make rules governing the transportation of the dead.

The Plague in San Francisco.—Professor F. C. Robinson of Brunswick, Me., presented the following resolutions, in behalf of the State Board of Health of Maine, expressing the opinion of the conference as to the conduct of the health authorities of San Francisco in dealing with the plague question:

Whereas, Thirty cases of plague have occurred since July 13, 1902, no information as to their origin or exact location having been furnished, no effective steps having been taken to restrict the spread of the disease, the City Board of Health of San Francisco being helpless, and the *mala fides* of the State Board of Health of California having been fully established by the history, supported by documentary evidence in the possession of this conference; therefore, be it

Resolved, That the conference of State and Provincial Boards of Health of North America views with abhorrence the irretrievable disgrace of the present State Board of Health of California, and pronounces the plague situation in California a matter of grave national concern; and be it further

Resolved, That the national conference of State and Provincal Boards of Health of North America does hereby advise the various State boards of health of the United States to consider the propriety of calling upon the Surgeon-General of the United States Public Health and Marine Hospital service to arrange at the earliest possible date a joint conference for the purpose of eradicating the plague from the United States.

The resolutions were unanimously adopted.

Dr. Cressy L. Wilbur of Lansing, Mich., read two papers, one entitled "Progress of the Movement for

Uniform Statistics of Causes of Death," and the other, "How Shall Births Be Registered?"

Some Recent Evidence as to the Spread of Typhoid Fever.—Dr. Henry B. Baker of Lansing, Mich., followed with a paper on this subject. In about 25 or 30 per cent. of the cases of typhoid fever, the urine contains vast numbers of the specific microorganisms which cause the disease; also that this condition sometimes remains for a considerable time after apparent recovery, and that cystitis, months after recovery from the fever, may be due to the continued presence of typhoid bacilli in the bladder. This is one reason why typhoid fever is sometimes spread more or less directly from person to person, and is so likely to occur in a camp to which it might be supposed only well persons go. It emphasizes the importance of proper disposal of the urine, as well as the bowel discharges at all times. Human urine and other excreta should be considered by sanitarians as generally liable to contain the specific cause of typhoid fever.

The habits of flies, when considered in connection with present knowledge of the presence of the bacilli of typhoid in the urine and other excreta, make plain the danger of all camps to outbreaks of typhoid fever, and should make it possible to prevent and restrict such outbreaks.

The essayist quoted Dr. V. Stuhlern, who was the first in recent times to prove the existence of typhoid bacilli in the sputum.

In closing, the author said that typhoid fever is restricted by isolation of cases and disinfection of all infected articles.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. Irving A. Watson, Concord, N. H.; *Vice-President*, Dr. John Guiteras, Havana, Cuba; *Secretary*, Dr. Gardner T. Swarts, Providence, R. I.; *Treasurer*, Dr. James A. Egan, Springfield, Ill.

The time and place for holding the next annual conference were left to the executive committee.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 16, 1902.

Charles L. Dana, M.D., Vice-President, in the Chair.

Pathology and Treatment of Epilepsy.—Dr. William H. Thomson presented a paper on this subject. He said that the more the pathology of epilepsy was understood, the more it became known that epilepsy stood alone among nervous diseases. At the outset of such a study one was confronted with some difficulty in defining what was meant by epilepsy. It could not be defined as a convulsive disease, or as one characterized by loss of consciousness, for these features were not constant and invariable phenomena of epilepsy. Epilepsy was a specific disease, and no other was so protean in its manifestations. A non-convulsive case might, at any time, change into a convulsive one, or *vice versa*. The mistake was often made of looking upon some one apparently unimportant symptom as a prodrome of the disease rather than as a part of the disease. The one unvarying element which constituted the pathognomonic feature of epilepsy was suddenness. Many diseases were rapid in their onset, but not instantaneous as was epilepsy. The phenomena of this disease were dependent upon a disturbance of the normal relations of nervous force and inhibition. The beginning of every nervous action was always on the afferent side, and in epilepsy there was no exception to this rule. Inhibition implied an accumulation of nerve force in order to inhibit. The familiar act of sneezing began with an aura in the nose, and then spread widely through the respiratory muscles. There were many striking examples of the fact that any new afferent excitation might become quite dangerous in its effect. Some toxins circulating in the blood seemed to give rise to convulsions, and affected primarily the peripheral nerves. An animal, for example, poisoned with strychnine had a normal appearance until touched; then convulsions were at once excited. From these considerations of the physiology of the nervous system and the pathology of epilepsy, the author defined epilepsy as a "disease characterized by a sudden derangement of the normal regulative inhibition existing between cortical nerve centers, induced, in the first instance, by an abnormal afferent excitation." By this view of the disease its origin was shifted from the motor or efferent to the sensory or afferent side. This afferent theory of the nature of epilepsy was not in the least controverted by the development of the disease from a traumatism to the brain.

Treatment.—The treatment should be begun by a careful examination of the whole patient, and a thorough search for some abnormal afferent irritation. A venous thrombosis in the meninges following such disease as typhoid and scarlet fever, was not an uncommon cause of epilepsy. The greatest area of reflex excitability in the whole body was in the region of the epiglottis, and rapid eating and drinking; therefore, keep this part of the nervous system in a state of abnormal activity The speaker said he felt sure that he had seen certain cases of epilepsy apparently attributable to the habit of eating rapidly and bolting the food. He had seen two cases of epilepsy in which the convulsive seizures had been diminished in severity by two applications of nitrate of silver to the larynx, and he would suggest that an application of nitrate of silver solution, ten grains to the ounce, be made once a week. For many years he had made use of the red pepper pack to the whole body of the epileptic on the theory that by such repulsive measures the abnormal afferent impression might often be turned aside This pack should be made by wringing out a sheet in an infusion of red pepper of the strength of half an ounce to one pint of water. The bromides were often very carelessly administered to epileptics, whereas, the very fact that they must be continued for a long time, made it necessary that unsual care should be exercised to avoid bromism This could be done by promoting the general health by proper hygiene, and by the administration of the bromides in conjunction with phosphorus and cod liver oil. The bromides would also act well when combined with the coal-tar remedies, as, for example, one grain of antipyrin with every two grains of bromide. Chloral was useful as an adjuvant, but should not be prescribed in larger doses than ten grains. In the treatment of epilepsy one should never lose sight of the fact that the system of the epileptic is profoundly perverted, and that nothing which would be likely to improve the general health should be thought too trivial to receive attention. These patients were specially prone to toxæmia, particularly from the intestinal tract. He always prescribed intestinal antiseptics sooner or later, and made it a point to insist that the patient eat very sparingly of meat. Those cases of epilepsy characterized by several seizures occurring close together and then a long interval of immunity, were very apt to be dependent upon intestinal toxæmia. Another fertile source of toxæmia was renal insufficiency, a condition which might be present without albumin or casts being found in the urine. In conclusion, the speaker said that he knew of no one factor which diminished nervous excitability so much as open-air life Possibly this was because under such conditions the tendency to toxæmia was greatly reduced. He would recommend open-air treatment as earnestly for the epileptic as for persons afflicted with pulmonary tuberculosis.

Dr. B. Sachs said he had been deeply interested in the paper, yet he felt compelled to dissent from the conclusions of the author. The opinion that afferent symptoms were responsible for the epileptic attack had been held by many, yet the weak point of this theory seemed to be that all persons were alike exposed to these same afferent stimuli, and yet all persons did not become epileptics. The afferent stimuli were responsible merely for the attacks. Proof was not lacking also that epilepsy was not merely a disease of the afferent system, and that there are substantial changes in the brain, particularly in the cortex which must be held responsible for the greater responsiveness of these persons to afferent stimuli. Epilepsy, therefore, was a disease, the chief symptoms of which were excited by afferent impulses; beyond this, argument did not seem to carry one. Suddenness was certainly a very characteristic symptom of this disease, yet any argument which would tend to lessen the prominence of loss of consciousness as a symptom seemed to him unfortunate and confusing. For a long time he had been accustomed to say that the treatment of epilepsy consisted largely in removing all peripheral causes of epileptic attacks. He believed, in addition to our efforts to remove the abnormal afferent stimuli, we should endeavor to remove the increased irritability of the cortical centers. He was in entire agreement with the reader of the paper as to the great frequency of autoinfection as a causal factor in epilepsy, and the need for treatment directed to the gastrointestinal canal. He had had cases in which extreme care in the regulation of the diet and bowels had accomplished far more than the administration of the bromides and similar remedies.

Dr. S. J. **Meltzer** said that although he had given the subject a good deal of thought, he did not feel like accepting the author's view that epilepsy is essentially dependent upon a disturbance of inhibition. Nor did he think it was necessary to look for an invariable and characteristic feature; certain elements might well be absent at times without vitiating the diagnosis of epilepsy. A distinction should be made between reflex epilepsies and those which we call idiopathic.

Dr. **Pearce Bailey** agreed that neither convulsions nor loss of consicousness were fundamental in epilepsy, yet he did not feel like giving such a prominent place to the element of suddenness. This element was just as [illegible] in myotonia congenita and in some cases of hysteria. Moreover, he did not think the attack was really as sudden as Dr. Thomson seemed to think. Some epileptics had knowledge of an impending attack for about a day beforehand, and this seemed to him to be in the nature of an aura. Some uncertainty regarding the subject under discussion arose from the author's method of considering the epileptic attack and the aura as indivisible. As to the treatment, he would say that his experience with methods directed to allaying peripheral irritation had not been very satisfatory. This treatment had been carried out with great exactitude at the Craig Colony for Epileptics with almost negative result. At the Colony drugs were found the least important part of the treatment; occupation, muscular work, and outdoor life were the chief elements in the treatment.

Dr. **William P. Spratling** of the Craig Colony said it was a rather rash thing for any one to attempt to define epilepsy. Personally, if he were asked to do so, he would decline, and would then reply as follows: "It is a nervous affection, generally characterized by some impairment or loss of consciousness coincident with some impairment or loss of the power of motor coordination, with or without convulsions, the paroxysms being generally abrupt in appearance and short and variable in duration." He would totally disagree with the reader of the paper as to the suddenness of the phenomena of epilepsy, for he saw at the Craig Colony many cases in which the approach of the attack was known for some time previously. The afferent impulse theory did not seem to him necessary; he would rather believe that epilepsy was due to some change in the brain cells, and that an afferent impulse was only needed to bring this out. He did not think that much could be said as yet concerning the pathology of epilepsy, for the lesions found at autopsy in the brain were, apparently, the results and not the cause of the disease.

Prognosis in Epilepsy Often Favorable.—He was disposed to be optimistic regarding epilepsy, for an experience of ten years in the Craig Colony had given him an opportunity of seeing some remarkable results from treatment. As to the latter, the greatest stress was laid upon attention to the diet and to the gastrointestinal tract, and to the benefit of occupation. When a prognosis was given it should be based upon the mental condition. He did not hesitate to say that epilepsy is a curable disease. They had at the Colony records of twenty patients who had left after a stay of two and a half to three years, and who had been away for four or five years, remaining absolutely well. It should be remembered in this connection that there were many varieties of epilepsy, and that those who early show mental impairment afford grounds for a gloomy prognosis.

Dr. W. M. **Leszynsky** pointed out the unfortunate tendency at the present time among general practitioners to at once prescribe the bromides just as soon as the diagnosis of epilepsy had been made. Personally, he was disposed to avoid using the bromides as much as possible, and to place the utmost reliance upon open-air life and suitable occupation, together with measures directed toward securing a healthy state of the gastrointestinal tract.

Dr. **Ralph L. Parsons** of Ossining reported several cases of epilepsy which had been successfully treated and permanently cured by the persistent and systematic use of strychnine, given in increasing doses up to the physiological effect. Massage, general hygienic measures, and colonic washings were also employed.

Dr. **Thomson** closed the discussion. He said that he had not intended to speak of afferent stimuli as causing epilepsy as such, but had endeavored to point out the fact that these stimuli are *abnormal*. For example, by the use of strychnine one could make the peripheral irritability so great that a breath of air would bring on convulsions. Not one of the speakers in the discussion had accepted his challenge to cite a case in which there was a spontaneous afferent motor activity of the nature of an explosion. The differences of opinion brought out in this discussion were more apparent than real.

Anniversary Meeting, November 6, 1902.

Robert F. Weir, M.D., President.

The Past, Present, and Future of the New York Academy of Medicine.—Dr. **Andrew H. Smith** delivered this, the anniversary discourse. He said that the inception of the Academy of Medicine took place at a social gathering in 1846, and in the following year it was formally organized and entered upon its career. The first president was Dr. John Stearns. Valentine Mott, Willard Parker, John Watson, William H. Vanburen, and Alonzo Clark were among the eminent men who had adorned this academy. The former home of the academy was a large dwelling house, but the rapidly-increasing library made it necessary to look for more commodious quarters, and the result was the present edifice. The list of Fellows now comprises 800 names. The publications of the academy were now regularly received by almost every medical library in the world, hence, it was no exaggeration to say that whoever spoke from its rostrum was heard around the world. The annual editions to the library for the past three years had been not less than 3,500 annually, and 991 journals were kept on file, thus adding 1,145 bound volumes each year. During the present year 11,520 readers had registered at the library. The speaker said that the Board of Health was emphatically the child of the Academy of Medicine, the original health department having been formed by the Academy of Medicine, aided by a committee of citizens. He thought it would be well if at the present time a closer relation existed between the Board of Health and the academy, even, perhaps, to the extent of making the board an executive department of the academy. This was only one of many actions taken by the academy for the conservation of the public health. Such activity was as much a legitimate part of the work of the academy as was scientific discussion or the maintenance of a public library. The need for the academy's being in close touch with the health department was illustrated by the wholly unnecessary and disgraceful detention a few years ago of cabin passengers of incoming steamers because of the outbreak of cholera among the steerage passengers. A more intimate relation between the public and the academy would have prevented the wretched maladministration of Bellevue and the other city hospitals. Scientific medicine had certainly failed to obtain the hold which it deserved upon the popular mind, and the medical profession itself was largely responsible for this. We had been content to dig and delve and wrest from Nature many important secrets, and then kept this important knowledge to ourselves. Who was better equipped to educate the public in these matters than those who had discovered these facts or had specially studied them? Only in medicine was it considered undesirable and undignified to give out any information to the laity on subjects of interest to them. This was in sharp contrast with the methods of the Christian Scientists. Their principles, such as they are, were freely and publicly discussed; the only trouble was that there was so little to be discussed. To many persons even these meager discussions were more satisfactory than the shadowy glimpses given to them of the mysteries of true scientific medicine. Anything of an educational nature given out to the public by the Academy of Medicine, or under its censorship, should be looked upon as a guarantee of the genuineness and reliability of the information so furnished. Doing a thing properly was the best way of preventing somebody from doing it improperly.

The Disappearance of Yellow Fever from Havana, Cuba.—Major W. C. Gorgas, U. S. A., formerly Chief Surgeon of Havana, presented a communication on this subject. He said that perhaps many medical men had forgotten that at one time New York City was more subject to yellow fever than Havana, and that Philadelphia was in still worse condition in this respect. The peculiarity of the habitat of yellow fever had always occasioned remark. It had been principally confined to the coast of the Gulf of Mexico, though frequently spreading to other ports. It had never been transmitted to the dense populations of India and China. This limited spread of the disease had long attracted attention, and had been very difficult to explain. However, this difficulty cleared up when the theory was advanced that the mosquito was the intermediary host, for the disease could not be carried in this way to such distant places as India and China. The disease was sharply limited by latitude, north and south, it disappeared quickly on the appearance of frost, and was not usually found in high altitudes. Yellow fever was frequently epidemic at Vera Cruz, and that city was connected with the city of Mexico by a railroad, and had intimate commercial relations with that place; nevertheless yellow fever was not contracted in the City of Mexico. This was probably because the infected mosquito could not live at that altitude. The female mosquito alone bites, and in doing so infects the person, unless the latter was already immune, or unless more than three days had elapsed since the development of the disease. In localities having frost the disease could only be epidemic, even under the most favorable conditions for its development. A considerable number of non-immunes must be added to the population yearly to make yellow fever endemic. So far as could be ascertained from the records, yellow fever had been endemic in Havana since 1762. The large number of non-immunes introduced annually into Havana explained the continuance of yellow fever in that city. From 1836, according to official statistics, up to the time of the the American occupation of Havana there had been frequently as many as one thousand deaths a year from this disease and seldom less than 500 deaths. A sanitary department was at once organized in Havana by the Americans, and the work of sanitation was pushed most vigorously. In the first year of the occupation there were 8,000 deaths, giving a death rate of 33, and in 1900 there were 6,000 deaths, or a death rate of twenty-four. Pretty nearly half of the Governor-General's staff died in 1900 from yellow fever, and there were more cases and more deaths from this disease in the cleanest and most hygienic quarters of the city. About this time Major Walter Reed published his paper, showing that a special variety of mosquito was the intermediary host of the infective agent of yellow fever, and on this basis the sanitary department set out to combat the disease. Usually within two hours after notification of a case of yellow fever the infected house was thoroughly screened so as to prevent the access of the mosquito, and fumigation was practised so as to destroy the mosquitos already on the premises. It was required by law that all water barrels and cesspools be screened, and the larvæ were destroyed by the application of petroleum. Petroleum was never used, however, when it was possible to remove the fresh water collections by drainage. It was now over a year since the last case of yellow fever occurred in Havana. An inspection of that city in January, 1901, just before waging war on the mosquitos showed 26,000 breeding places for the larvæ in the city, whereas a year later the inspection showed only 300 such places. It was surprising how little ditching would make a muddy field comparatively dry. This work showed the feasibility of exterminating yellow fever from the whole world. If yellow fever could be kept out of Havana for twenty years, he thought the disease would be completely exterminated in North America, for Havana had been the great center of infection, and if it could be kept clean the other places would probably gradually clean themselves.

Yellow Fever Not Carried by Fomites.—Surgeon Ross, U. S. N., said that ships now came frequently into Havana with yellow fever, and the sufferers from this disease were taken off the ships and carried through the streets of Havana, a distance of three miles to the hospital. While in transit these patients were kept carefully screened from mosquitos. The precautions instituted by Major Reed had been continued since his departure, so that it seemed that Havana was safe for the future. The speaker then cited instances to show how perfectly the mosquito theory explained all the many hitherto puzzling and contradictory facts known regarding yellow fever. He said he had made experiments which seemed to absolutely exclude the possibility of transmitting the disease by fomites. For example, men had been caused to live in small and ill-ventilated rooms, such as were used by the common people of Cuba, and in contact with fomites for a much longer time than the incubation period of the disease, and yet they had not developed it. He mentioned this because a few persons who had made a study of yellow fever admitted that the disease was propagated by certain mosquitos, but insisted that it might be transmitted in other ways.

Dr. W. B. James said that the present occasion was not so much one for discussion as for commendation of the scientific insight which had pointed the way and the magnificent scientific labors which had culminated in this brilliant and unexpected victory over this dreadful scourge of humanity. These wonderful achievements should lead us to gird ourselves up for a more effective attack upon some of the infective diseases, such as tuberculosis, which continue their ravages within our borders.

Major Gorgas said that it could not be denied that circumstances were specially favorable for this remarkable piece of scientific work—the military government, a medical man for governor, and the presence of several scientists who were engaged in a special study of yellow fever, constituted no ordinary combination.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held October 13, 1902.

Robert T. Morris, M.D., Chairman pro tem.

Plastic Operation Following Removal of Malignant Growth of Cheek.—Dr. Charles H. Peck presented a man, forty-nine years of age, who had been an excessive smoker with both pipe and cigar. For a number of years there had been a sore in the angle of the mouth, but he had paid but very little attention to it until about four months before coming under observation. At that time the inner surface of the cheek was occupied by an ulcer which involved nearly all of the mucous membrane, only a small portion of the angle of the mouth, however, being implicated. There was enough normal tissue left at the reflexion of the gums to allow of proper excision. The growth was excised and the gap closed by a sliding flap, the base of which was over the masseter muscle. The mucous membrane being entirely destroyed, none could be obtained for lining the flap, so this surface was left to granulate. Another flap was also slid from under the chin. The healing process went on rapidly and satisfactorily, and, while there was considerable cicatricial contraction and some ankylosis, the patient could not open his mouth quite well. The operation was done on August 18, and he was discharged on September 2.

Dr. John F. Erdmann said that he had done a very similar flap operation to that done by Dr. Peck, and in that case the disease had not recurred for eleven months.

Dr. Martin W. Ware said that Dr. Peck was to be congratulated on the good cosmetic obtained. The ankylosis had probably resulted from the absence of mucous membrane. When in Europe, he had seen Israel fill in such a gap by a pedicle flap, the skin side of which was turned in so as to form mucous membrane.

Dr. Peck said that he had considered this method, but had decided it would be impossible to do this on account of the beard, and he did not wish to disfigure the man by taking a flap high up under the eye.

A Case of Spina Bifida.—Dr. Frederic Griffith related the history of a case of spina bifida (this report will appear later).

Dr. R. T. Morris said that the cases he had treated by operation had shown a strong disposition to leak even after the smallest punctures with the finest silk. This leakage could be largely avoided by using powders which repel water. Immediately after the suturing, aristol, or the stearates in powder, should be pressed upon the punctures.

Pre-operative Preparation of the Surgeon and His Assistants.—Dr. George R. Fowler was the author of this paper He said it was generally admitted that the street clothing of the surgeon and his assistants should be completely covered if it were impracticable to remove it, though the latter was preferable.

Hand Disinfection.—The recent literature upon the so-called disinfection of the hands alone was most voluminous, yet the bacteriological examinations showed that it was practically impossible to render and maintain the hands sterile. It had long been known that the subungual spaces were a fertile source of infection. The general cleansing of the hands by combined mechanical and chemical means was, perhaps, the best. Often fissures were formed around the nails, and where the skin was sensitive, and, indeed, probably in all cases, folds of sterile gauze could be substituted for the nail-brush. He had long looked with suspicion upon the ordinary metallic nail-cleaners because of the traumatisms they produced. At one time he had endeavored to avoid this source of infection by trimming the nails so closely that there was practically no ungual space. This plan answered fairly well as regards infection, but the consequent loss of tactile sense, and the inability to pick up small instruments because of not having projecting nails, had made him finally abandon this method. He had recently found that an admirable method of cleansing the nails was by seesawing with the selvage edge of common gauze. A more convenient way of carrying out this idea was by using a steel-spring wire frame, like that for the keyhole saw, and substituting for the saw a small round brush. Such a device Dr. Fowler exhibited. Immediately after alcoholic disinfection of the hands, they were usually sterile, but after placing the hands in warm water for some minutes and irrigating with sterile sand, it would be found that the microbes would soon come to the surface.

Rubber Gloves.—He believed rubber gloves were useful, but their field of usefulness was limited to certain examinations in very septic cases, and they could not be employed where delicate tactile sense was required. There was scarcely an operation in surgery that did not risk the tearing or puncturing of the gloves; moreover, the interference with the tactile sense and the catching of the needle in the glove made them very inconvenient. Worst of all, the poulticing of the hands arising from the use of rubber gloves caused the passage of myriads of micro-organisms to the surface of the hands, and hence when the gloves were torn or punctured, infection was actually favored by the use of the gloves. Dr. Fowler said he was in the habit of using a solution of potassium permanganate and corrosive sublimate for filling the creases in the hands. It was important that the surgeon should frequently dip the hands in a disinfecting solution during operation. His own preference was for a *cold* solution of corrosive sublimate of a strength of one to two thousand.

Head.—The next most important source of infection was the hair of the head, because of the very frequent presence of dandruff, and even of street dust. The surgeon should wear a closely-fitting cap during operation.

Mouth.—It had long been believed that the expired air was sterile, and this was probably true with quiet breathing, but it was entirely different during conversation, as had been conclusively shown by bacteriological studies. It was obvious, therefore, that a gauze covering should be worn over the mouth, and if the surgeon would insist upon wearing a beard, this, also, should be covered. The operator should also refrain as far as possible from speaking while operating.

Dr. Frederick Holme Wiggin said that he had been deeply interested in the paper, which dealt with a most important subject, and one to which, ordinarily, not enough attention was given. He had been specially interested in the criticisms of the nail-cleaner, and had been accustomed, in his surgical practice, to clean his nails with the folded sterile towel. He thought it would be desirable, if practicable, for the surgeon to put on fresh underclothing after having taken a bath, as a preparation for operating. He was accustomed to cleanse the hands and arms by rubbing for several minutes with tincture of green soap and a stiff, sterile bristle brush. He was favorably impressed with the suggestion made in the paper of substituting sterile gauze for the nail-brush. Having cleansed the parts as just described, he washed with alcohol and again in an alcoholic solution of bichloride, 1 to 300. A final cleansing with sterile water was given. In prolonged operations he was in the habit of dipping the hands occasionally in an alcoholic solution of bichloride, and then in a sterile saline solution. The speaker said that the covering of the head with a cap was doubtless a good plan, but he had been content with protecting the brow with a scarf made of several layers of gauze. It was well to discourage conversation during operations, for it not only minimizes the danger of infection, but prevents the distraction of the operator from his work. He had never found it necessary to make use of any covering over the mouth.

Dr. Carl Beck said that the area of operation could never be absolutely sterilized, and it was a question whether this was necessary in practice, for it had been aptly said that there was no need of sending a policeman after every micrococcus. No matter how thoroughly the skin was cleaned, the follicles would still afford shelter to many microbes. No doubt catgut had often been erroneously accused of exciting infection when in reality the source of infection was the bacteria in the skin. The application of the tincture of iodine was a desirable method of combating skin infection. If the surgeon were attentive to his personal cleanliness, there should be no need for covering the mouth

Dr. M. W. Ware said that the objection to rubber gloves, founded on their promotion of sweating, was met by the substitution of cotton gloves. Experiments had shown that the hands under the cotton gloves were more nearly sterile than when under rubber gloves. It had been suggested that better disinfection of the hands would result from cleaning them under running water and discarding the basin.

Dr. Charles N. D. Jones advocated the heating of the glass operating table in a compartment, and the surgeon's taking a full bath to which some disinfectant is added, such as acetic acid and chloride of lime. He favored the dipping of the operator's hands in a disinfectant solution from time to time, and he sometimes made use, during operations, of a weak disinfectant solution, such as a 1–1,000 formalin solution.

Advantages of Rubber Gloves.—Dr. Joseph Wiener Jr., regretted that the rubber gloves had been, in this discussion, "damned with faint praise." Rubber gloves, he said, though introduced abroad, had been pretty generally discarded there. Dr. McBurney's enthusiastic advocacy of gloves had had much to do with their popularity in this country. He was satisfied that the hands could not be kept sterile during an operation without rubber gloves. The objections to the gloves had been well stated in the paper, yet he felt they were useful. He had begun their use about one year and a half ago, and, by persevering in their use, he found that most of the difficulties first experienced had vanished. This had been the experience of most other surgeons who had persisted in using them for two years. He would not think of doing any abdominal operation, any clean or any septic operation, without rubber gloves. He did not puncture the rubber gloves more than once in about fifteen operations, and found he could palpate fully as well as without the gloves. Lately they had found at the Mount Sinai Hospital that it was a great improvement to make use of dry sterile gloves well powdered with sterile talcum powder. Although he ordinarily perspired freely, he had been able, by the use of the talcum, to do an operation and keep the skin under the glove dry the whole time. This did away with one of the important objections to the gloves. Another great advantage of the gloves was that, while it would take fifteen minutes to disinfect the finger after handling pus, rubber gloves could be sterilized in as many seconds.

Dr. Robert T. Morris said that in this discussion the cell resistance of the person wearing the gloves had not been taken into consideration. The bacteria were not only in the follicles, but were also imbedded in the epithelial cells. If a person were strong and well, the bacteria would not be proliferating; on the other hand, if he were ill, as with an attack of tonsillitis, these bacteria would be found proliferating, and the fingers would ordinarily be moist. He did not think any young man could become a good operator by beginning with gloves, because of the interference with tactile sense, though no doubt one who had become expert in palpation might develop a good tactile sense after the persistent use of rubber gloves. Many surgeons found that they operated much more slowly with rubber gloves, and this disadvantage should not be overlooked. With regard to hand disinfection, he would say that good results were obtainable by the use of the nascent chlorine method advocated by Dr. R. F. Weir. Some of the depilatories composed of sulphites certainly did penetrate deeply into the hair follicles, and would destroy the bacteria in the epithelial cells. He had been impressed with this fact in connection with his work on animals, and he was experimenting, at the present time, in this field to discover a means of preparing the patient for operation. Blood serum was known to be distinctly germicidal, and it was a question whether it was not sufficiently so to make it unnecessary to dip the hands from time to time in a disinfectant solution while operating.

Dr. Fowler closed the discussion. He said that Dr. Wiggin's suggestion about the use of a gauze scarf on the forehead reminded him that he had omitted to mention in his paper the danger of infection from the dropping of perspiration upon the patient or into the wound. He had seen a drop of perspiration fall into a laparotomy wound, and had been present at the autopsy, and had felt that this death, like many other obscure ones, might well be attributed to infection arising from contamination with perspiration. Koeniger's bacteriological experiments showed plainly that not only was there infection of Petri dishes near by as a result of conversation but that this infection even extended to a considerable distance; hence it was well to enjoin silence upon all spectators at surgical clinics. More than ten years ago he had begun the practice of painting the skin with tincture of iodine before operation, and it was a particularly useful procedure in emergency operations. All that had been said about the interference of rubber gloves with the tactile sense could be applied to cotton gloves, though this should be done with fifty-fold more emphasis. In cleansing the hands it was very much more effective to scrub or scour the creases on the palmar and dorsal surfaces in the direction of these furrows, or across the hand. About nine years ago he had had constructed at St. Mary's Hospital an operating table in which a steam coil was placed underneath the table. He had used for many years the permanganate of potassium and bichloride solution, and one not familiar with this method would be surprised to find what a coating dried upon the hands after they had been dipped in it. This method had been suggested to him by some observations made many years ago by Lister himself. This surgeon found that in impregnating gauze with cyanide of zinc and mercury, when he used colored solutions, the penetration into the interstices of the gauze was very much greater than when a simple uncolored solution was used. Dr. Fowler said he had tried the chlorine method honestly and faithfully, and, while he had no doubt that it effected surface sterilization quite as well as, and perhaps better than, some other methods, he found that he and his assistants developed a troublesome eczema between the fingers, and hence it had become necessary to abandon this method. The occasional dipping of the hands into sublimate solution during operation would not, perhaps, thoroughly disinfect the skin, but its astringent action upon the latter imitated very closely that retractile effect which had been shown to be effective in postponing the passage of micro-organisms from the deeper parts to the surface of the skin Cold solutions had been found to be very much more effective in this respect than hot ones.

Treatment of Diseased Joints by Plaster Strapping.—Dr. F. R. Cook read this paper. He said that in 1893, and again in 1895, Dr. V. P. Gibney had published articles on the strapping of sprained ankles. The pathological conditions which responded most readily to strapping had one factor in common, *i. e.* relaxation of tissue. A relaxation of veins led to passive venous stasis with exudation into joints, tendons, and surrounding tissues, thus giving rise to swelling, pain, and more or less impairment of function of the joint. In chronic affections there might be a cellular hyperplasia leading to a connective tissue formation. Alternate hot and cold douches, with active and passive motion, were usually employed here. The good effect of strapping in sprains and contusions and stiffened joints following fractures or over-immobilization, was probably dependent upon the fact that this met the indications mentioned. It could be applied so as to act perfectly as a substitute for the sprained ligaments. This accounted for the ease with which the patients could walk about. In order to secure the full amount of benefit, the ordinary diagnosis of sprain was inadequate; one must determine not only what ligament or ligaments were involved, but where the ligaments had more than one insertion or function, as in the ankle, one must determine what special fasiculus or fasiculi were sprained. This diagnosis was usually made by ascertaining the position of the part when subjected to trauma, the position of the parts in rest and motion following the trauma, by determining the area of maximum tenderness and maximum local heat, and by comparing the amount of pain produced by forcing the parts into all of the extremes of motion of which the joint is capable. Strapping afforded protection, which was particularly useful in rheumatic joints. Sometimes it also gave rise, in sensitive persons, to considerable counter-irritation. The strapping also acted as a fomentation and as a means of securing pressure, and so limiting swelling. Strapping with the use of the parts was an excellent form of massage, and this he believed to be the most important function of strapping. The strapping, in cases of contusion, was applied with the parts relaxed, while in sprains, the strapping was done with the parts in closer approximation. A number of cases illustrating the prompt and decided relief afforded by this treatment were cited.

Dr. H. M. Silver said that he had strapped the ankle in many cases with great success. After its proper application, the patients could walk about, were usually free from pain, and had very little trouble afterward. He had had no experience with strapping the knee.

Dr. Charles N. D. Jones indorsed the method as an excellent means of practising auto-massage.

Dr. Cook, in closing, referred more in detail to the method of strapping. In the case of the ankle-joint, he was accustomed to use Gibney's method, except that he carried the straps obliquely instead of straight around the foot. In strapping the wrist-joint it was better to encircle the wrist, otherwise one did not get good support. Of course some care and experience were necessary to avoid excessive constriction. In this region he usually employed very narrow straps or adhesive plaster, and applied them over the wrist-joint in a figure-of-eight. Several methods were practised for strapping the knee-joint. Ordinarily, and especially when there was considerable exudation in the knee-joint, one strap should be carried around the joint at its center, so as to secure the necessary pressure. If more straps were used, they interfered with motion, which was what should be avoided. After the first strap the others were applied alternately above and below, just as in bandaging an elbow, and all of the straps met at the hamstring muscles and diverged. The first strapping would soon become relaxed and then reinforcing straps should be applied over this. In strapping the shoulder-joint it was best to carry the straps from the chest around the shoulder to the back, and then others above and below, just as in strapping the knee-joint.

The Economic Side of Smallpox.—An illustration of the loss and inconvenience which may be caused to a community by even a comparatively slight outbreak of smallpox is furnished by recent events in Barbados. That island is suffering from an outbreak of smallpox of a mild type. Yet the disease has already proved a serious incubus to the trade of the place, owing to the strict quarantine which has been imposed against it by the neighboring colonies, all the islands except Trinidad and the colony of British Guiana having prohibited the landing of any goods whatever coming from Barbados. The steamers have ceased to communicate directly with the shore, and boatmen, lightermen, and wharfmen are out of employment. Yet smallpox is the very type of a preventable disease.—*The Hospital.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held October 23, 1902

James N. West, M.D., Chairman.

Appendicitis and Pyosalpinx.—Dr. L. J. Ladinski presented two specimens to show the difficulty of diagnosis of pelvic disease. The first specimen, an appendix and pus tube, was taken from a woman of forty years, who had had nine children. Four days before admission to hospital she began to suffer from colicky pain, especially marked on the right side, and accompanied by vomiting, chills, and fever. The diagnosis was appendicitis, but further examination showed a right pyosalpinx. On operating he found both appendicitis and pyosalpinx. Apparently the two diseases were coincident. Pus was found not only around the vermiform appendix, between the coils of intestine, but also in the pelvis. The second specimen was one of double pyosalpinx and appendicitis, and in this case also he considered the two conditions were merely coincident. There was a rather long history of pain in the region of the appendix, with severe constitutional disturbance and pain about a week before admission. Examination showed an irregular hard mass on the right side, and the pelvis filled with an irregular, nodular mass, feeling much like a fibroid tumor. The complicating appendicitis was not considered at all in making the diagnosis. At operation a mass was found which consisted of intestine, pus tubes, uterus, and a very much enlarged and inflamed appendix. There was pus in the pelvis and between the coils of intestine as well as around the cæcum. Both of these patients made an uneventful recovery.

Ectopic Gestation Twice in the Same Woman.—Dr. H. C. Coe presented a specimen of ectopic gestation removed from a woman thirty-two years of age. She was seen in consultation in the latter part of May. The history was that three years before she had been operated upon for ruptured ectopic gestation, and that the left tube was removed. This statement was confirmed by the hospital records. When seen by him the woman had skipped two periods, and the colicky pains, the flow of blood, and other symptoms pointed to another ectopic gestation. A diagnosis to this effect was made and operation advised, but the patient refused. A week later, however, a posterior section was made for exploration. A ruptured tube was found on the right side with the ovary. The interesting point was that the left tube and ovary were still present and were found to be normal despite the hospital record of the first operation.

Dr. P. A Harris said, with regard to the recurrence of ectopic gestation in the same individual, that he had had four such cases.

Dr. Coe said he did not believe his patient had had an ectopic gestation the first time, and in this view he was supported by the pathologist who examined his specimen.

The Rontgen and Ultraviolet Rays in the Treatment of Uterine Cancer.—Dr. Margaret A. Cleaves presented this paper and reported a case (to appear in a future issue).

Dr. H. C. Coe said he had examined the patient very carefully before the treatment was begun, and there could be no question that the case would have been looked upon by surgeons generally as inoperable. He would not have attempted to use even the sharp spoon and curette. He had examined this patient again only yesterday, and the appearance was that of a woman shortly after a hysterectomy. No nodules could be felt at all on the right side; on the left side was an extensive cicatrix, the result of the malignant process. It had drawn the uterus over to one side of the pelvis. There was no longer any foul discharge. The appearance of the patient indicated a remarkable improvement, and he could not imagine that the same result could have been attained by any of the recognized surgical methods, not even the use of the galvano-cautery as employed so successfully by the late Dr. John Byrne. Personally he had not had a single case of malignant disease that he could consider cured; the disease had recurred in some cases six years or more after operation. There were several cases of uterine cancer under *x*-ray treatment at the hospital. In one of these, in the service of Dr. Jarman, of recurrent carcinoma of the cervix, in which it was not thought wise to operate again the *x*-ray treatment had been employed, and he understood that the disease had entirely disappeared. This case had been seen by a number of the surgeons, and there could be no question about the diagnosis.

Dr. **William James Morton** said that the case had been reported in the paper with great fidelity, and the author was to be congratulated. He hoped that in time the method of application would be simplified, and the number of treatments reduced. He personally believed that the treatment of such sases, as well as those of growths in the abdomen, could be effected in a simpler manner. He was in favor of the use of the *x*-ray alone. There was a certain pleasure in knowing just what does the work, and he objected strongly to mixing up methods, as it was both unscientific and unnecessary. It had been noted abroad that a certain type of cutaneous epithelioma—the nodulated, indurated type—yielded very slowly to the *x*-ray, yet these cases did better when the *x*-ray treatment was combined with the use of the Finsen light. This would seem to justify the author in the combined method which she had employed. A most important warning had been sounded in this paper with regard to throwing too rapidly into the system the toxins resulting from the disintegration of these growths. An operator could, according to his experience and judgment, make the *x*-ray treatment of cancer result in the development of sepsis, or he could produce a mummifying effect on the affected area. If the treatment were pushed too much it might cause the patient his or her life. The ordinary use of the *x*-rays three times a week he did not consider to be, as a rule, pushing the treatment too much. It seemed to him almost ridiculous to apply a local treatment with the *x*-ray to the disease on the supposition that it is a local disease; to his mind it was far more rational to treat the parts widely rather than confine the application of the *x*-ray to the mass or nodule that could be seen or felt. He knew of a case in which an intelligent surgeon had faithfully treated for two months with the *x*-ray a carcinoma of the breast in the neighborhood of the nipple, and while doing this had carefully screened off the adjacent parts. The result was that the tumor near the nipple improved very decidedly, but meanwhile the cancer extended into the lymphatics in the axilla. He could recall six cases of cancer of the uterus and rectum treated by means of the *x*-ray. One of them had yielded a remarkably good result. The patient had been brought to him from out of town, and the attending physician had remained with the patient for three weeks and had made daily examinations. This physician had previously removed the greater part of a recurrence of the disease by means of caustic, and on its recurring again had brought the patient for *x*-ray treatment. The local condition was very much the same as that described in the paper under discussion, but there was not the cachexia present in that case. His patient had been discharged as cured, and Dr. Bache Emmet had confirmed his statement that no evidence of the disease could then be found. He did not believe there was any necessity for the use of the internal tube, except in a case seen very early when there was reason to believe that the disease was strictly localized, and in such a case it might, perhaps, be better to excise the growth promptly, and then make use of the *x*-ray.

Dr. **George G. Hopkins** of Brooklyn referred to a case which had been carried in on a stretcher each day for a month. Several of the best men in Philadelphia had pronounced the case one of inoperable carcinoma. The patient was very anæmic and weak. The vagina was almost occluded, and projecting above was a grayish fungoid mass. After treating the case for six weeks he was able to introduce a seven-inch bivalve speculum, whereas [illegible] he had only been able to insert the speculum [illegible]. The treatment employed combined both the *x*-ray and the Finsen light. He thought we should be much more hopeful with regard to the treatment of uterine cancer than of cancer of the breast. The best German pathologists of the day had announced that the cancer cells of the breast were, as a rule, smaller than those of the uterus. The best pathologists of the day did not look upon it as a constitutional disease in its inception. The uterus was abundantly supplied with anastomosing lymphatic channels, and six or eight ducts discharge into the lumbar glands. These glands did not become involved until quite late in the disease, hence the treatment by either the *x*-ray or the Finsen light should prove most useful.

Dr. **A. D. Rockwell** cited a case in which a lupus had improved up to a certain point, under the Finsen light treatment abroad, and then there had been no further progress. On coming under his care he had made use of the *x*-ray treatment, and had readily succeeded in completing the cure. This case only suggested that the alternation of the *x*-ray and Finsen light treatment might be desirable in certain cases. He had never used the [illegible], and agreed with Dr. Morton that it was not necessary.

Dr. **James N. West** thought it was well to operate upon malignant growths as early as possible, and then subject them to the *x*-ray or the Finsen light. By operating first, the danger of throwing the toxins too freely into the system would be largely obviated. Those working in this new field should be most careful to have their diagnoses confirmed by microscopical examinations. He recalled one case in which he felt sure, from the clinical appearance, that the diagnosis was carcinoma of the cervix, yet, as a matter of routine, he had a microscopical examination made, and was surprised when the pathologist assured him that the case was non-malignant. This patient had done well, and had since born two children.

Dr. Cleaves, in closing, said that the idea of using the light was to employ the same vibrations, only in less degree, and so keep up the good influence. She thought in future the treatment could be applied less frequently and more simply with the same results. She did not favor the employment of the speculum, and agreed with the opinions expressed in the discussion to the effect that the tissues generally in the pelvis should be brought under the influence of the *x*-ray. With the Tesla tube the *x*-ray radiations were obtained not from one point, but from every part of the tube

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The Indications for Trephining in the Cerebral Hemorrhage of Whooping-Cough.—Loewy says that the cerebral hemorrhages occurring in this disease sometimes fall within the jurisdiction of the surgeon. This is the case when there are pronounced symptoms of cerebral irritation and when the sudden appearance of the nervous disturbances point to extensive extradural ,subdural, or cortical hemorrhage. Under these conditions, so long as there are no distinct pressure symptoms, the pulse remains good, and the condition is not becoming steadily more serious it is preferable to wait. Hemorrhages, especially subdural, may be completely absorbed, and symptoms of circumscribed bleeding may be produced through capillary hemorrhages into the cortex, or simple œdema and even entirely negative autopsies are on record with such symptoms. If, on the other hand, the condition becomes aggravated, and especially if the pulse is that of intracranial pressure, trephining is indicated as in any other form of intra- or extradural hemorrhage. The longer the time that has elapsed since the onset of the symptoms, the less chance is there of operation being needed. Lumbar puncture is always indicated, and should be done early, since it is harmless, gives valuable diagnostic data and diminishes intracranial tension, if present.—*Deutsche Zeitschrift für Chirurgie.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 8, 1902:

	Cases.	Deaths.
Measles	51	1
Diphtheria and croup	318	46
Scarlet fever	93	9
Smallpox	4	1
Varicella	57	.
Tuberculosis	198	132
Typhoid fever	145	27
Cerebrospinal meningitis	..	1

Malaria in Ceylon.—Dr. Albert J. Chalmers, registrar to the Ceylon Medical College, says the *Lancet*, has made a preliminary report on the prevalence of malaria in Ceylon. The theory of the origin of the disease which is propounded by Mr. A. Perry, principal medical officer and inspector of hospitals, Ceylon, raises two points which are not without practical importance. They are: (1) Is it possible that the infection in man can take place by some other means than through the mosquito? and (2) If this be not possible, how did the cycle of the life of the parasite start? In reference to the causal relation existing between the climatic conditions and the incidence of the malady, Dr. Chalmers says: "There appears no doubt that the reason why so few anopheles, sometimes none, are seen in the dry season for months together—*e. g.*, in Accra and Kumassi, West Africa—and then the sudden appearance of these insects in numbers, is due to their hibernation in dark, protected spots. They come out again in the wet season, as this is the time *par excellence* when they find the pools of water with suitable algæ for propagating their species, and, in my opinion, this is the reason of the relationship between malaria and the rainfall."

The most interesting points which the report shows may be briefly summarized as follows: (1) Malaria, at the present time is epidemic in Ceylon only in certain localities; (2) The island contains many anopheletes, and the conditions which exist there are peculiarly suitable for their development; (3) A large proportion of the existing anopholetes are not infected with the malarial poison; and (4) Coolies affected with malaria are constantly being introduced from India to Ceylon. There is, therefore, a possibility that malaria may become more prevalent if these facts are not realized.

The Prognostic Value of the Ehrlich Diazo-reaction in Consumptives.—Gieseler gives the following improved formula for the reagents of this test. Instead of sulphanilic acid, paramidoacetophenon is used, as it gives more brilliant tints. Four c.c of reagent A (paramidoacetophenon 0.25; acid hydrochlor. 25.0; aq. dest. ad 500.0) are mixed with one-fiftieth of this amount (*i. e.* gtt. 1–2) of reagent B (sodium nitrite 0.5; distilled water 100.0) and shaken with 4 c.c of urine. One-eighth of the entire volume (*i. e.* 1 c.c) of ammonia is then added, and the color of the foam noted. The reaction is positive only when a distinct shade, varying from pink to deep red, is present. The reaction was studied in 100 patients, who were kept under observation for an average of four months. The result of these investigations showed that, though the reaction may be regarded as often affording useful corroborative evidence, still it cannot in any way invalidate conclusions derived from clinical observation. A positive diazo-reaction is simply a comparatively frequent phenomenon in cases ending fatally, but is not constant in its appearance, while, on the other hand, an existing reaction in cases not absolutely hopeless may disappear again if the condition improves.—*Zeitschrift fur Tuberculose und Heilstättenwesen*, Vol. 3, No. 5, 1902.

Indications that Our Methods of Fumigation Are Faulty.—G. E. Pfahler conducted experiments with formaldehyde gas on cultures of the staphyloccus pyogenes aureus taken from the surface of the floor, the bed, and the mantel; all grew well. With formalin used in different ways, all cultures grew. With sulphur thoroughly tried, all cultures grew with the exception of one, which remained sterile. The fact that we have been able to control epidemics by the use of the methods of fumigation would seem to depend more upon the customary cleansing given to infected rooms, etc., than upon the action of the gas. All investigators seem to agree that formaldehyde gas is the best disinfectant known, but we should aim at obtaining a more satisfactory method of application, which will probably mean an apparatus capable of generating the gas ten times as fast, or in more concentrated form.—*Proceedings of the Pathological Society of Philadelphia.*

Dengue Fever at the Civil Hospital, Hongkong.—The latest scourge afflicting Hongkong is dengue fever. The hospitals in the island have overflowed with patients of all ages and descriptions, and those not admitted for that disease have soon contracted it. Among the staff at the hospitals, the first to be attacked were the ward boys and native nurses, and in the last week of August seven of the sisters of the Government Civil Hospital were off duty with it, some in the initial stage, others convalescing.—*London Hospital.*

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General U. S. Marine Hospital Service, during the week ending November 8, 1902:

		Cases.	Deaths.
SMALLPOX—UNITED STATES.			
California, San Francisco	Oct. 18–26	1	..
Colorado, Denver	Oct. 18–25	1	..
Illinois, Chicago	Oct. 25–Nov. 1	2	..
Indiana, Indianapolis	Oct. 25–Nov. 1	1	..
Iowa, Ottumwa	Sept. 27–Nov. 1	2	.
Kansas, Wichita	Oct. 24–Nov. 1	1	..
Kentucky, Covington	Oct. 18-Nov. 1	22	..
Lexington	Oct. 25–Nov. 1	12	..
Maine, Biddeford	Oct. 25–Nov. 1	1	..
Massachusetts, Boston	Oct. 25–Nov. 1	18	4
Cambridge	Oct. 25–Nov. 1	1	..
Everett	Oct. 25–Nov. 1	1	..
Michigan, Detroit	Oct. 25–Nov. 1	13	..
Grand Rapids	Oct. 25–Nov. 1	8	..
New Hampshire, Nashua	Oct. 25–Nov. 1	23	..
New York, Binghampton	Oct. 25-Nov. 1	1	..
New York	Oct. 25 Nov. 1	1	1
Ohio, Cincinnati	Oct. 24-31	3	..
Cleveland	Oct. 25–Nov. 1	11	8
Dayton	Oct. 25–Nov. 1	1	.
Youngstown	Oct. 18–Nov. 1	1	1
Pennsylvania, Altoona	Oct. 25–Nov. 1	4	..
Erie	Oct. 25–Nov. 1	3	..
Johnstown	Oct. 25–Nov. 1	6	..
McKeesport	Oct. 25–Nov. 1	3	1
Pittsburg	Oct. 25–Nov. 1	18	6
		Two imported	
South Carolina, Charleston	Oct. 18–25	2	..
Wisconsin, Milwaukee	Oct. 25–Nov. 1	10	1
SMALLPOX—FOREIGN.			
Austria, Prague	Oct. 4-11	8	
Belgium, Antwerp	Oct. 11–18	1	..
Ghent	Oct. 11–18	..	2
Canada, Amherstberg	Oct. 18–Nov. 1	3	..
Quebec	Oct. 25—Nov. 1	1	..
Ecuador, Guayaquil	Oct. 12–19	..	3
France, Paris	Oct. 11–18	..	1
Rheims	Oct. 12-19	..	1
Great Britain, Liverpool	Oct. 11–25	21	..
London	Oct. 11-18	4	..
India, Bombay	Sept. 30–Oct. 7	..	1
Russia, Moscow	Oct. 4–11	3	1
Odessa	Oct. 11–18	1	..
St. Petersburg	Oct. 4–18	8	5
Straits Settlements, Singapore	Sept. 6–20	.	5
Turkey, Constantinople	Oct. 12–19	..	1
YELLOW FEVER.			
Colombia, Panama	Oct. 13–27	12	1
Ecuador, Guayaquil	Oct. 12–19	..	1
CHOLERA.			
China, Hongkong	Sept. 20–Oct. 4	5	4
Egypt, Alexandria	Oct. 4–11	72	71
India, Bombay	Sept. 30–Oct. 7	..	2
Madras	Sept. 20–Oct. 3	3	3
Japan	To Sept. 30	11,228	6,302
Korea, Seoul	Sept. 27	Between 50 and 250 deaths daily.	
Straits Settlements, Singapore	Sept. 6–20	..	15
PLAGUE.			
India, Bombay	Sept. 30–Oct. 7	..	112
Karachi	Sept. 28–Oct. 5	27	22
Japan, Yokohama	Sept. 27–Oct. 4	1	1

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Original Articles.

REPEATED ECTOPIC GESTATION.

BY BROOKS H. WELLS, M.D.,
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AN abdominal section for a ruptured ectopic pregnancy, an interval of a year and three days, a second section on the same patient and the removal of a second gravid tube, called my attention to the possible light to be thrown by the study of similar cases on the very obscure etiological conditions which may result in the arrest and implantation of the fertilized ovum in some portion of the Fallopian tube.

The record of my case is as follows:

Mrs. A. B., German, aged twenty-six years, had had one child when fourteen years of age, and had then remained sterile. There was no history of any pelvic inflammation or any history or local condition pointing toward a gonorrhœal infection at any time. On the evening of February 16, 1901, Dr. J. Y. Mangum was called to see her because of very severe colicky pains, from which she had suffered during the previous week. He found her with marked symptoms of internal hemorrhage, a mass to the right side of the uterus, and a history of irregular bleeding from the vagina for the previous month, and sent her at once to my service at the Polyclinic Hospital, with a diagnosis of ruptured ectopic gestation.

On admission at 10 P.M. her condition was very serious, and rapidly growing desperate. By 11, when I had reached the hospital and preparations were completed for the operation, the lips were white, she was pulseless at the wrist and semi-unconscious. Hot salt solution was thrown into the rectum, strychnia given hypodermically, and while an intravenous saline infusion was being made the abdomen was opened.

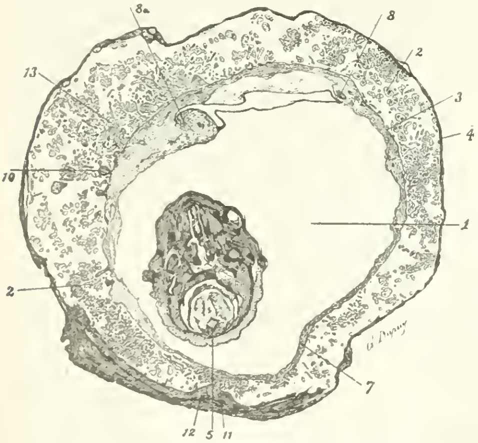
A large amount of fresh blood, some older clots, and an unruptured ovum the size of a large orange and of ten weeks' development were found free in the peritoneal cavity. The ovum had escaped from an extensive tear in the right tube. Active hemorrhage was going on from the torn ovarian artery.

The vessels were secured and the tube easily removed, there being only a few slight and recent adhesions binding it down. The appendages on the left side were free from adhesions, were apparently perfectly normal, and were not removed. The abdomen was closed in layers with slightly chromicised kangaroo tendon. The woman rallied well, made a smooth convalescence, and rapidly recovered from her extreme anæmia.

On February 17, 1902, Mrs. A. B. came again to the clinic, saying that she had gone over her time five weeks. She had spotted a little during the last two weeks, had had slight pain in her left side, thought she was pregnant, and wished to know if all was right. Bimanual examination revealed a tender, soft, semi-fluctuant, rounded mass the size of a hen's egg, lying close to the left of the uterus. The cervix felt soft. There was a slight, bright, bloody discharge. The body of the uterus was slightly enlarged and softer than normal. A large pulsating artery was felt to the left. A diagnosis of unruptured ectopic gestation was made, and the woman was at once sent to the ward and prepared for operation, though I wished to hold her over for my next clinic day, the 21st. On the 18th she complained of colicky pain for a short time in the afternoon. On the 19th, at about 11 A.M., a gentle bimanual examination was made by a member of the faculty. At 7 P.M. the house surgeon found signs of internal hemorrhage and a pulse of 136. These symptoms increasing, I operated at 9 P.M. Fresh free blood and some recent clots were found in the abdominal cavity. The blood was coming from eroded vessels in the wall of the left tube which enclosed an ovum of about eight weeks' growth. The tube was easily removed, the adhesions being recent and very slight. The abdomen was closed as before. Convalescence was smooth, the temperature never going above 99° F.

The specimen shows the tube of the left side distended by an oval mass one and a half by two inches in its diameters. This mass occupies the middle third, there being a small portion near the uterine end where the tubal mucosa is normal, and shows no microscopical changes, and a similar portion at the fimbriated extremity. After hardening and embedding, sections were cut at various planes perpendicularly to the tube length. The section from which the accompanying drawing was made, and which Dr. S. W. Bandler kindly examined for me, shows that the embedded ovum, which is about the size of a silver dollar, may be divided into two parts: An inner[1], the central cavity containing the fœtus, and an outer peripheral portion[2], comprised between the chorionic membrane[3] and the unbroken tube wall.[4] The fœtus evidences a well-formed neural cord with its canal.[5] A central vertebral formation, still in the state of cartilage, is present, evidencing two lateral prolongations, which surround three-fourths of the medullary canal. The age of the fœtus approximates about the eighth to the tenth week.

The central cavity is lined with a membrane[7] of considerable thickness, composed of a trabecular, branching, almost homogeneous network, in which are numerous spaces or vacuoles and numerous round or spindle-shaped cells with dark nucleus, often situated in the periphery of the spaces. The bodies of the cells are long and thin, uniting with each other, and forming together with numerous non-nucleating fibers of the same character the trabecular network. This inner lining evidences at various points in its circumference, but most essentially at a certain point, large spaces of oval shape,[8] lined by long flat cells, and filled entirely with very numerous, small, round, dark nuclei, whose protoplasm shows no boundary, so that the nuclei seem embedded in a homogeneous colorless substance, which is probably not protoplasm. These spaces filled with these round cells (fetal vessels filled with blood cells) are more numerous in an area situated near the thickest portion of this lining. In this thickest portion, are several of these spaces and two or three ducts, cut in transverse sections and lined with two or three parallel rows of small round cells, giving these ducts something of an epithelial appearance (allantois duct). This thickened area is apparently the point of insertion of the abdominal pedicle or cord.[8a]. At various points the peripheral layers of the inner lining take on the character of a fibrilated connective tissue. This inner lining is covered in its entire circumference by a membrane composed of a structureless protoplasm, in which are embedded small, round, dark nuclei, generally in two layers, and not infrequently in more (syncytium). This outer membrane is not closely adherent to the one before described, but is lifted off from it at almost all points of its circumference. It does not run an even, smooth course, but sinks into the larger and smaller depressions, covering the various projections and papillations. The typical structure of one of these projections or papillations[10] consists of a center of fibrillar connective tissue, which is an extension of the so-called myxomatous tissue, and a covering composed of the protoplasmic membrane, with its usual double row of small, round, dark cells. Into these projections there extend longer or shorter, but extremely narrow, spaces filled with the small, round cells or nuclei, found in the oval spaces. The oval spaces are blood vessels containing the early stages of the fetal blood, while the longer, narrower channels are capillary extensions of the same. The lining membrane plus its covering represents the chorionic membrane, and the papillations are simply extensions of the same, constituting practically and actually villi.



Section through gravid tube. Drawn from a photograph. × 2.

Between the chorionic membrane and the peripheral boundary of the ovum, in the entire circumference, are myriads of villi[2], connected, of course, with the chorionic membrane, but showing this connection at very few points. The older villi are composed of an inner filling of connective tissue, containing sometimes one, but generally several, large capillaries filled with round cells (fetal blood). Many of these capillaries are lined by a series of flat cells and surrounded by a parallel stratum of circular, thin fibers, with distinct nuclei. The outer surface of the villi is composed of protoplasm (homogeneous), in which is embedded a double row of small, round, very dark nuclei. Other villi are composed of a connective tissue center of a more myxomatous character and contain smaller capillaries, with a less distinct wall of circular fibers. These villi contain large cells, whose protoplasm is finally granulated, but whose small nucleus is extremely dark (nucleated red blood cells). At numerous points the change of these large nucleated cells to the smaller round cells situated in the capillaries may be distinctly observed. At the periphery of the villi, capillaries of a smaller caliber are extremely numerous. Many of the villi evidence at their tips a growth of small, round cells, densely grouped, often pushing the outer protoplasmic cover before them and constituting the so-called *cell groups*, which at numerous points pass over into the protoplasmic cover, or are themselves changed to smaller or larger protoplasmic multinuclear groups. Many larger and smaller pale nuclear masses are found free, or attached by a pedicle to the protoplasmic covering of the villi. At numerous points in the circumference of the ovum villi are attached to the tube wall. Here the cell groups at the tips of the villi furnish the point of contact and the round cells enter into and infiltrate the tube wall. In the major portion of the tubal circumference this condition is noted and the tube wall is extremely thin. At those points, however, where vessels and sinuses in the tube wall are still present, a perforation into them by the villi and the cell groups is evident. The tube wall is still intact in its entire circumference, and is lined at all points by either the infiltrating trophoblast cells or by large masses of fibrin.

The space between the chorionic membrane and the tube wall is of about the same width in the entire circumference. The villi fill up this space most completely at a point[11] near the location of the medullary canal of the fœtus, and the wall of the tube seems thickest at this point.[12] A differentiation into placental area and capsularis or reflexa does not exist, and is impossible, owing to the even division of the villi, but the area located near the medullary canal seems least invaded. Inasmuch as a point immediately on the opposite wall of the inner lining and near the abdominal surface of the fœtus proves to be the location of the abdominal pedicle insertion, this point[13] is the placental pole, and the former near the medullary canal is the summit of the ovum, and, as a matter of fact, the largest and the oldest villi are found at the placental pole.

We have here no division into placenta and reflexa, and no evidences of the union of a reflexa with the tube wall. There is no rest of tubal mucosa left, only an even growth of chorionic villi from every point of the circumference of the chorionic membrane, and an equally even invasion of the tube wall by trophoblast and villi in its entire circumference. Therefore the *placental sea* (intervillous space) is included between the entire tube wall[4] and the entire chorionic membrane[3] without any limitation to a *localized* intervillous space, so that an intervillous space existed in the entire circumference of the ovum. This ovum was evidently embedded at the summit of the tubal folds of mucosa; the villi developed evenly in the entire periphery of the ovum, destroying the mucosa folds very evenly, and invading the tube wall in a like manner. Because of this even invasion of the tube wall no perforations are to be found in this section, such as are usually or frequently found at this period in those tubal gestations in which a placenta develops at the point at which the ovum, at a very early period *comes in contact with the tube wall.* The specimen is in an excellent state of preservation and shows the relations in a perfect manner. No evidence of an amniotic membrane can be found and none lines the chorionic membrane.

The ninety-nine cases of repeated ectopic gestation in the accompanying table* are all that could be found by a search through the literature accessible at the library of the Academy of Medicine. In every instance but three the original reference has been looked up. The cases include all that could be authenticated from the lists of Varnier and Sens, Haret and recent journals. There are quite a number of cases recorded which have not been included in this table because of insufficient verification, some with no dates, no details, and no clinical or microscopic verification other than the writer's statement that they were cases of ectopic gestation. Thus Kyriac,[20] in a discussion on the treatment, merely refers to having seen extrauterine pregnancy occur twice in the same patient. This case is admitted by Haret to his statistics. Few of the cases are of much value in the present quest because of the lack of accurate information of the conditions found in the non-impregnated tube at the time of the first ectopic. They emphasize, however, the need of careful and accurate record of the remaining tube in all cases of ectopic pregnancy operated upon.

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*This table will be published in the forthcoming volume of "American Gynecological Society Transactions."

In fifty-six of the cases which I have included in the table the diagnosis was verified by operation at the time of both the first and the second ectopic pregnancy, each patient thus undergoing two abdominal operations. Four of the women died, two from excessive loss of blood and two from septic infection.

In these cases the condition of the remaining tube at the time of the first operation was noted in twenty-one instances. Thirteen were apparently normal. Six showed slight adhesions. One showed slight catarrhal salpingitis. One was poorly developed and tortuous.

The intervals between the first and second ectopic are noted in eighty-three cases. The average interval was two years and four months; the shortest three months; the longest twelve years. Intrauterine pregnancy occurred between the ectopics in five instances, the time of impregnation running from eight months to five years after the first tubal implantation. Two of these pregnancies went to term, two aborted, and one became an hydatidiform mole.

Some curious cases are recorded of recurrence in the same tube. Thus N. G. Haydon[21] reports a case of "two fœtuses found in connection with the same tube," at an autopsy. They were in different portions of the same (right) tube. One was a recently ruptured sac, from which a three-months' fœtus escaped, and to this sac was attached a mass containing the bones of a mummified fœtus. The woman was supposed to have aborted about four years before her death, but no fœtus was then found. Tyler Smith and J. Braxton Hicks described this specimen of Haydon's. Bland Sutton[22] and also Varnier and Sens[23] regarded this case as doubtful. Stahl,[24] on the other hand, considers it authentic, as the chief cause for its rejection by others seems to have been the possibility that the uterus was bicornate, and it is hardly probable that if such a condition had existed it would not have been mentioned by such observers as Smith and Hicks.

Heinricius and Kolster[25] record a somewhat similar instance in a woman, aged thirty-three years at time of second extrauterine pregnancy; married. Six years before she had had amenorrhœa for six months, together with a movable abdominal tumor, which increased gradually in size. Menstruation then returned and tumor decreased in size until the fall of 1896. In 1897 it again enlarged until August, when it became smaller. Movements were felt in the tumor from April to August. On October 10 the cervix was dilated with laminaria tents and sounds. Death on the sixth day from septic peritonitis. The autopsy showed an unmacerated fœtus 51 c.m. long in a tumor connected with the left tube, and in another mass connected with this tumor were fetal bones, apparently those from the earlier pregnancy.

F. A. Stahl[24] saw a patient, twenty-five years old at time of first extrauterine pregnancy. Her menstrual and general history was normal. First pregnancy ended by normal labor (midwife) in November, 1893. History of pelveopara-perimetritis until seen by Stahl in July, 1897, with no other pregnancy in this interval. On November 20, menstruation was one week over time. She then passed what was probably decidua, then an irregular flow. An abdominal section on December 11 showed ruptured pregnancy in the ampulla of right tube; an ovum partially detached and adherent to fimbriæ was shelled out. Oozing from fimbriæ was controlled by folding them and stitching borders together, with the expectation that this would cause occlusion of tube. Retroflexion of the uterus was relieved by dissecting away a band posterior to it and performing an abdominal hysteropexy. She recovered with disappearance of dysmenorrhœa and other pelvic symptoms. Four months later the uterine attachment to abdominal wall broke down. She had vomiting, discharge from uterus, etc. Recovered. Was well until January 9, when she menstruated. There were symptoms of rupture of extrauterine pregnancy, March 25, 1899. Did heavy work for twelve days, then suffered a second attack of pain and syncope. Stahl was called April 9, and operated April 12. A six-weeks' ectopic was found at site of former pregnancy. The point of rupture was closed by blood clot, so there was no external hemorrhage. Tube and ovary removed. Recovery. September 21, 1899, cystic left ovary and part of tube removed. Recovery.

These cases show that, contrary to the opinion of J. Bland-Sutton[22] and others, extra-uterine pregnancy does not necessarily produce such gross changes in the tube as to prevent a second gestation in the same organ.

A number of other cases have been reported as recurrences of ectopic gestation in the same tube, but apparently without absolute proof. Varnier[26] for this reason discards those which have been described as instances of three extrauterine pregnancies in the same patient or as two in the same tube, by Haydon, Alban Doran, J. W. Taylor, T. F. Prewitt, Gottschalk, and Bennington.

Stahl[24] also rejects these cases, with the exception of that of Haydon, and also excludes one reported by P. A. Harris.[27] Harris made no record of the side upon which the first ectopic gestation occurred, though he thought that it was upon the same side as the second.

In the endeavor to find what is known concerning the etiology of ectopic gestation, a search through recent contributions to its literature shows a wide divergence of opinion and many conflicting theories.

While many still hold to the original dictum of Tait that a previous inflammation of the mucosa of the tube is necessary to allow the implantation of the ovum, some advance as efficient causes mechanical agencies, such as kinks, twists, tumors, etc., which may produce compression, partial obstruction of the tube and retardation of the ovum, while others cling to a theory of imperfect embryonic development of the ducts of Müller, or to a supposed atavistic condition of the tubal lining which permits of a "decidual reaction," or to changes in the ovum itself caused by the delay incidental to a "transmigration."

A brief recapitulation of accessible evidence may help us decide which of these alleged causes are entitled to bear the greater blame for the misplaced implantation of the ovum.

Mandl and Schmidt,[1] following others who had made similar experiments, attempted to arrest the ovum in the tube of a number of animals by ligation of the tube or uterine horn of one side. These attempts to imitate other forms of obstructive lesions failed to secure tubal pregnancies when the tube was ligated, while pregnancy did occur in the other horn. When the uterine horn was ligated, tubal pregnancy did not arise, but fœti were found in the portion of the uterine horn external to the ligature, and in the opposite horn. They therefore believe that a delay of the ovum in reaching the uterus is not the exclusive cause of tubal pregnancy, but that the tube must be capable of a decidual reaction, a peculiarity which is not always present. The delay of the ovum, which under this given condition of the tubal mucosa may lead to tubal pregnancy, may result from slow transmission of the ovum or from its external migration to the other tube. Referring to the negative results also obtained by Teinturier,[2] and his conclusion that it was necessary that there should be a previous disease of the tubal mucosa as well as a mechanical cause, Mandl and Schmidt state that it is as rational to believe that implantation of an ovum will occur more readily upon a diseased than upon a healthy tubal mucous membrane as to believe that pregnancy in the uterus is more likely to occur when endometritis is present than it is under normal conditions.

John Edgar,[3] noting the absence of tubal disease in a case of repeated ectopic gestation and in several ordinary cases of extrauterine pregnancy, concludes that tubal disease is not an essential cause of estopic gestation. He also thinks too much importance is attached to preceding sterility. Of twenty-six cases, which he has seen, nearly every one had had a child a few months or a year or two previously.

Herzog,[4] who has studied, microscopically, forty cases of extrauterine pregnancy, says: "Certain alleged causes formerly frequently cited as responsible for tubal pregnancy, such as inflammatory diseases of the uterus and tubes, must be absolutely discarded. We know now that these conditions, accused of being the cause of tubal pregnancy, make a woman sterile for the time being and, therefore, exclude tubal as well as normal uterine pregnancies. He ascribes a number of cases to conditions of the tubes due to anomalies in early embryonic development of the Müllerian ducts,[5] others to undue participation of the tubal mucosa in menstruation. He holds that the tubal mucous membrane normally undergoes slight changes during menstruation, and that when these are exaggerated they prepare the tube, as they normally do the uterus, to receive the ovum.

T. Carwardine,[6] says that the etiology is little known, but that inflammation of the tube is not the potent factor formerly supposed. In some cases it is a mechanical obstruction, *e. g.* myoma, polypus, or kink in the tube.

L. Seeligmann,[7] believes *traumatism* to be an important cause of ectopic gestation. In five cases which he mentions having seen there was a history of a fall or a blow in the pelvic region.

After a discussion of the views of other writers, and an analysis of forty-five cases of extrauterine pregnancy, Clitsch[8] summarizes his own opinion. He believes the cause of extrauterine gestation is not a single one. Usually there is a predisposition, inherited or acquired, leading to abnormal implantation of the ovum. Inflammation of the tube and its surroundings is the most common cause. Others—such as bursting of the tube, polypi, tumors, etc., which interfere with the lumen of the tube, and external or internal migration of the ovum to the other tube—are extremely rare. The cause of inflammation is usually an infection, which may be gonorrhœal, puerperal, or tuberculous. The most usual of these is the gonorrhœal. The final conclusion is that gonorrhœal inflammation of the tubes and their neighboring structures is the chief cause of extrauterine pregnancy.

E. Vignard[9] records thirteen cases of recurrent ectopic gestation. Ten of these had previously borne children. Eight had suffered from some genital disturbance, apparently inflammatory. Two had had irregular menstruation. One had had typhoid fever. From a study of these cases Vignard concludes that the tubal anomaly causing ectopic gestation is nearly always acquired. He does not attribute much importance to gonorrhœal infection but lays stress on *mild puerperal* infection as the great etiological factor. The unilaterality of the tubal lesions noted in many of the recurrent cases makes it difficult not to attribute *important etiological influences to inflammation caused by previous ectopic pregnancy* rather than that double salpingitis predisposes to bilateral ectopic.

Moericke[10] reviews the literature up to 1900, and discusses the various causes which have been advanced by different writers as etiological factors of extrauterine pregnancy. These are: pelviperitonitis, interstitial myoma, tubal diverticula and accessory tubes, interference of ova with each other, external migration of the ovum, reversed tubal peristalsis, abnormal trophic changes in the tube, infantile type of tube, salpingitis, especially gonorrhœal. He rejects all of these as causes of extrauterine pregnancy, and concludes that the human ovum does not embed itself in the tube unless there is some morphological or functional "dysteleology" of the tube. He considers tubal pregnancy as an atavistic manifestation, due to our unhappy social condition.

Goodrich[11] mentions as an objection to the inflammatory theory of the origin of tubal pregnancy the fact that the latter is not more often found with double pyosalpynx. His own explanation of this fact is that the reaction of the pus, whether acid or alkaline, may be of sufficient intensity to be incompatible with the life of the spermatozoon and possibly of the ovum, or that the inflammatory process furnished phagocytes in sufficient number to destroy either element. In support of the latter he quotes the experiments of Leopold[12] who found rapid absorption of fœti, introduced into the peritoneal cavity, only when there was peritonitis. Cases originating in a pus tube he explains by assuming that the process is old, the contents sterile, and phagocytes degenerated.

A recent compilation of the literature for the years 1896 to March, 1901, bearing upon the anatomy and etiology of tubal pregnancy is that of L. Aschoff.[13] It includes 320 bibliographical references. He remarks pointedly upon the poverty of the contributions in this field and their richness in numbers. He discusses the etiological theories under four heads:

1. *Atavism.*—Webster's theory is one which recent investigations have absolutely disproven. Aschoff believes that an ovum can only become implanted in a tube when the latter happens to possess the capability of a decidual reaction. He considers this an atavistic property. Aside from the fact that tubal pregnancy is rare in animals, the theory fails to hold because the capability of the tube for producing a decidua for embedding the

ovum is entirely unnecessary and in most cases does not exist. Patellani,[14] without considering the anotomical difference between tube and uterus, compares the functions of the oviducts of amphibians and birds, which, however, also contain the "Eihüllen" (egg sheaths?), with those of the *Müllerian* ducts of mammalia, likening the infantile, undeveloped human tubes to the cornua of the human uteri. He concludes that tubal pregnancies show a dysteleological functional condition just as developmental anomalies of the female sexual organs show a dysteleological morphological condition—a reversion to an earlier state.

Aschoff also criticizes Moericke[10] for seeing the weakness of the hypothesis of Webster and Patellani, yet himself reaching the conclusion that the ovum can become embedded in the tube only when a morphological or functional dysteleology exists.

2. *Functional Disturbances of the Tube through Inflammation and Atrophy.*—Chief among these is inflammation, particularly gonorrhœal. Recent anatomical investigations show that it is immaterial whether the tube is inflamed or not, as far as the possibility of the ovum becoming embedded is concerned, just as this may occur in an inflamed uterus, though inflammation increases the chance of abortion. Writers vary greatly in histological conclusions. Dührssen and Grossmann found small cell infiltration and loss of cilia, especially in the uterine portion of the tube, while Paguy, Fieux, Martin, Kreisch, and Thomson could discover no signs of inflammation. Mandl found that even in uterine pregnancy there is a rich round-cell infiltration of the tube wall, so care must be taken in diagnosing the presence of inflammation of the tube. Many writers support and many oppose the inflammation theory as the cause of tubal pregnancy. Its strongest support lies in clinical histories of previous endometritis after abortion, peri- and parametritis, gonorrhœa, and prolonged sterility before tubal pregnancy. On the other hand, there have often been normal births before the tubal pregnancy and no new gonorrhœal infection since their occurrence, and the existence of old gonorrhœal infection does not seem compatible with such numerous normal pregnancies. Many adhesions of the pregnant tube are the result of the pregnancy or of hemorrhage caused by it, not of an old inflammation. Marked inflammation of the non-gravid tube strongly supports the idea of previous disease of the appendages, but does not conclusively prove that the pregnant tube was also so involved. Local tuberculosis has sometimes been found.

Taylor and Dührssen are strong supporters of the theory that puerperal involution of the tubes leading to their marked atrophy is an important cause of tubal pregnancy. Heuer and Doktor attribute great importance to this puerperal or lactation atrophy.

3. *Mechanical Obstacles*—kinking of the tube by bands, polypi in lumen of the tube, diverticula, etc. The experiments of Lataste, Teinturier, Mandl, and Schmidt, who attempted to arrest the fertilized ovum in its passage to the uterus by ligation of the tube, all failed, and what would have been the strong support of the mechanical theory was thus lost. There are certainly cases in which neither inflammatory lesions nor obstructions exist.

4. *Abnormalities of the Ovum and of Its Transmission.*—In this group are included cases reported as external migration of the ovum through the peritoneal cavity to the other tube. It is also possible that the fertilized ovum moves abnormally slowly, or too rapidly undergoes processes of development. Pathological lesions of the ovaries are held by some to be responsible for such abnormal conduct of the ova.

In conclusion, Aschoff holds that until more is known in regard to the manner, time, and place of normal impregnation and development of the ovum, we can expect to know little of the causes of its slow movement or rapid development.

Petersen[15] states that all investigations show that ectopic gestation occurs most frequently in those who have previously borne children, and those who have remained sterile for a long time before the tubal pregnancy and had had genital, particularly tubal disease.

He holds that, as observers differ as to whether the salpingitis so often observed is the primary cause of ectopic gestation or secondary to it, histological examinations must decide the point.

Dührssen[16] studied cases with a view to determining, from the distribution and intensity in various parts of the tube of a catarrhal process, whether this process arose independently of the ectopic gestation and before it, and so might bear a causal relation, or was secondary to it. The lesions were found to diminish as one passed from the uterine end of the tube toward the site of the tubal pregnancy.

Engström[17] examined five cases of tubal pregnancy situated at the isthmus, and found in all signs of catarrhal salpingitis on the side toward the uterus, while if they were present on the other side of the site of attachment of the ovum they were less intense than in the former region. The variation in intensity of the lesion in passing from one portion of the tube to another was not investigated, as in Dührssen's examinations.

Petersen's series consisted of fourteen cases of tubal pregnancy from the middle of the second to the end of the fourth month, except one of about two weeks. In twelve of these, symptoms or signs of salpingitic disease were found. To study the variation in intensity of the lesion, transverse sections were taken at intervals of ½ to 1 c.m. throughout the entire length of the tube, and in many serial sections were made at chosen portions.

In the six cases of tubal pregnancy at the isthmus the ovum was attached at the middle of the tube, except in one case in which it was 3 to 4 c.m. from the os abdominale. In the uterine portion was a mild catarrhal process, which diminished in intensity in the direction of the dilated portion of the tube. Where the mole was situated there were sometimes changes due to pressure and dilatation, otherwise this portion was normal or nearly so. The ampullar portion was normal. In six other cases the ovum was in the ampulla. In these also the catarrhal process diminished from the uterine end outward. In two cases there was even some normal mucosa close to the point of attachment of the ovum on its uterine side; in one case it was nearly normal at the placental attachment; in three cases there was a slight catarrhal change in the neighboring mucosa.

In nine cases the non-gravid tube was also examined and a similar catarrhal condition found.

Existence of such a process in the unimpregnated as well as in the gravid tube, and the progressive diminution in intensity of process from uterus outward, with comparatively normal conditions of site of attachment of the ovum and the portion of the tube external to this, point strongly to an ascending infection from the uterus as the cause of the salpingitis. This evidence of extension from the uterus, the bilaterality of the lesion, which is of a chronic character, and often too far advanced to have originated after the fertilization of the ovum, and the frequent association of salpingitis with extrauterine gestation, indicate that the tubal lesion antedates the tubal pregnancy.

In two cases there were no signs of salpingitis. In one of these the tube twisted four times, evidently a congenital anomaly; in the other the only lesion was a fatty deposit between the layers of muscle directly opposite the point of attachment of the ovum, which might have interfered with the tubal peristalsis at that particular part of the tube. The material studied does not give definite evidence in answer to the question whether the ovum can be implanted on an abnormal mucous membrane, though in one case decidual formation was found in both tubes not only in normal, but in catarrhal mucosa. Seven of eight cases studied for the purpose showed distinct evidence of the formation of a capsular membrane. At the point of attachment the tube wall was usually thinned, the ovum being directly on the muscle layers. A decidua-like transformation of the cells of Langhan's layer was frequent. Distinct decidual cells were found at the point of implantation in only one case; in three they were found in the capsular membrane. In only two cases were decidual cells found in a part of the mucous membrane not surrounding the ovum.

An important contribution and one well worth attention is that of A. Couvelaire[18], who, after careful study by methodical section of fourteen tubes, three containing uninjured ova, finds that at a short distance from the ovum the tubal mucosa shows little change beyond increased vascularity and slight swelling, the epithelium remaining intact. At the site of the ovum itself the tube becomes thickened by hypertrophy of its muscular fibers and connective tissue. The mucosa shows at first an intact epithelium, is thickened by cellular hyperplasia, and contains groups of large, pale polyhydral cells, the so-called decidual cells of the tube. The tube of the opposite side in two cases which were examined gave no evidence of the "gravid reaction" of Webster. By the end of the fourth week the epithelium over the area of insertion of the ovum has disappeared, but no layer comparable to the spongy uterine decidua can be distinguished. The intravillous space of the embryo is separated from the tube wall by a layer of cellular elements, arranged as a fibrinous capsule. This external capsule he believes to be composed entirely of fetal elements. The tubal wall under this "capsule" shows extreme leucocyte infiltration.

As the result of a similar method of investigation, Cornil and Weinberg[19] arrive at an almost opposite conclusion. They hold that the external covering of the ovum is formed exactly as is the uterine decidua reflexa by the mucosa of the tube growing around and enveloping the ovum, and that the covering of the ovum is exactly like that of the lumen of the tube into which it projects.

In a most scholarly and exhaustive paper, recently published in the *Journal of Obstetrics*, L. W. Bandler goes minutely into the histology of the ectopic ovum and tube. He proves, as an histological fact, that in tubal gestation no decidua or trophospongea develops. This view is further strengthened by the fact that the tubal mucosa is not, like the lining of the uterus, a lymphoid tissue. As regards the processes depending on and originating in the ovum, they are the same in both uterus and tube.

From a study of the material we have reviewed, one may formulate the following conclusions:

Recurrent ectopic gestation is not extremely rare, and may be expected in a large proportion of pregnancies that occur subsequent to a tubal implantation of the ovum.

We are not justified in taking out the remaining and apparently normal tube at the first operation. Yet the fact that recurrence is liable to occur makes it necessary to watch with unusual care the early progress of any subsequent pregnancy.

Most reports of recurrent ectopic pregnancy have been so wanting in detail as to be of only slight value for purposes of study. For the sake of possible light to be thrown on the etiology, operators should make careful written records of the conditions found in the remaining tube at any operation for ectopic gestation, and should submit the specimen itself to competent pathological examination. They should also record cases of normal pregnancy occurring subsequent to ectopic gestation.

It is probable that the most frequent etiological factor leading to the abnormal implantation of the ovum is a mild infection of the tube, which, causing a change in its epithelial lining, increases the time occupied in the passage of the fertilized ovum through the tube.

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34 West Forty-fifth Street.

Malignant Pustule.—Camescasse advises a free incision, then bathing the parts slowly in several drachms of hydrogen peroxide and applying sodium bicarbonate. He finds this superior to the actual cautery, carbolic acid, or tincture of iodine.

TYPHOID FEVER, SYMPTOMATOLOGY, AND CLINICAL DIAGNOSIS.*

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Typhoid fever is an old subject, but, like the kaleidoscope, perhaps, we can shake it up again this evening and form new mental pictures, especially since its symptomatology is so complex. We are accustomed to regard typhoid fever from the standpoint of its intestinal lesions, yet typhoid fever is no more primarily intestinal than is smallpox primarily a cutaneous disease.[1] Cases may be grouped as follows: (1) Ordinary typhoid fever with marked enteric lesions. This includes the immense majority of all cases. (2) Typhoid septicæmia, a general infection with the bacilli without special local manifestations. At the bedside these cases present the picture of a severe intoxication with high fever and delirium. (3) Typhoid fever with localizations other than enteric. Clinically, the typhoid fever will be masked by the predominance of symptoms referable to the lungs, kidneys, meninges, or spleen. (4) Mixed infections. Not double infections, as with the bacillus tuberculosis, the diphtheria bacillus, or the plasmodia of Laveran, but conditions induced by one organism which favor the growth of other pathogenic forms, thus causing secondary infection with the colon bacillus, the streptococcus, staphylococcus, or the pneumococcus.

It is quite impossible within the limits of this paper, and of your patience, even to enumerate the long list of symptoms attending the progress of a disease having so wide a scope. He who studies typhoid fever attentively will not only gain an intimate knowledge of the working of any acute infection introduced into the human body, but he will gain also a thorough insight into the sanitary intelligence of the community in which he is living. The bacillus of Eberth is constantly present in the lesions, and it is discharged in the stools, urine, vomitus, sputum, and sweat. Widely distributed in the body, it has wide capacity for mischief outside the body after its discharge, and its conveyance by actual contact, by infection of water, by infection of food, and by contamination of soil, must be carefully guarded against. The recent paper by M. A. Veeder[2], on typhoid fever from sources other than water supply, is timely and significant. It gives us a clue to the explanation of the remarkable state of affairs existing in Jacksonville, Fla., during August and September, 1898. Thirty thousand civilians inhabited that city, and the same number of soldiers were encamped near by. Both civilians and soldiers drank water from the same source. Among the civilians there were only a few sporadic cases of typhoid fever. Among the soldiers, over sixty were admitted to the division hospitals each day[3].

In whatever way the bacillus typhosus is introduced, we have the onset of the disease after an incubation period ranging from four to twenty-one days. The onset is commonly insidious, and the actual time of beginning of the disease in ordinary cases must be fixed by the day the patient takes to bed. Rarely is the onset abrupt, but the practitioner will be on his guard in cases of sudden fever marked by decided symptoms of a gastrointestinal type or catarrhal type, especially when associated with disproportionate slowness of the pulse, pronounced and persistent anorexia, epigastric tenderness, and splenic enlargement[4]. During the first week the temperature may have the characteristic "step-like" rise, but this is by no means invariable, and too much diagnostic stress should not be laid upon its absence.

The prominent features of this week are the nervous symptoms, *i. e.* headache, mental confusion, wandering at night, but no actual delirium. Diarrhœa is usual, but constipation may exist and, indeed, prevail throughout the disease. Cough and bronchitic symptoms are not uncommon. Toward the end of the week the characteristic splenic enlargement and rose-colored rash are manifest.

In the second week the foregoing symptoms persist, and, with the exception of headache, are aggravated. Defervescence may now occur in the mild and favorable cases.

In the third week the symptoms are the same, but more grave. Loss of flesh becomes marked. There is danger of pulmonary complications, of failure of the circulation, and special danger of perforation and hemorrhage.

In the fourth week all symptoms ameliorate and gradual improvement takes place, except in severe cases, when the fourth and even the fifth week may present an aggravated picture of the third.

In the fifth and sixth weeks occur many of the complications and sequelæ. This sketch of the regular course of the disease may be tiresome and unnecessary to this audience, but will serve as a prelude to our consideration of the special features and symptoms which have diagnostic value.

The rash is the most valuable single sign. When associated with the characteristic fever, and with enlargement of the spleen, the combination forms a diagnostic triad which can be relied upon with considerable certainty. The absence of leucocytosis and the presence of Ehrlich's diazo-reaction furnish valuable accessories. When to these can be added the demonstration of the Widal reaction, the confirmation is complete. But this happy combination does not exist early in the disease, and may be absent altogether. The rash does not appear until the seventh to tenth day, is not invariably present, may be very sparse, and is often accompanied by other skin eruptions which confuse the picture. Departures from the type of the fever curve frequently occur. That such a thing as a febrile typhoid exists has been called to the attention of the profession by Liebermeister[5]. The temperature in typhoid fever, however usually gives us valuable indications in diagnosis, prognosis, and treatment. The splenic enlargement occurs in more than 90 per cent. of cases, is apparent at the end of the first week, and lasts until the fourth week, but is also found in so many diseases other than typhoid fever, that, save as one leg of the tripod, it has not much value. The absence of leucocytosis in a suspected case may be of decided value, but since leucocytosis is also absent in other diseases for which typhoid fever may be mistaken, it lacks decisiveness. Differential counts of the leucocytes are said to have much value both in diagnosis and prognosis. The exhaustive studies of the blood in typhoid fever, made at Johns Hopkins Hospital by Thayer and others, have added much to our bacteriological knowledge of the disease. Happy, indeed, must be the practitioner who can avail himself of the ready, rapid, and certain demonstration of the Eberth bacillus during every period of the disease. This ideal method of diagnosis is, as yet, however, restricted to the experienced bacteriologist. The method of serum diagnosis, known as the Widal reaction, has come into almost universal use, and is a valuable aid, but notwithstanding its importance, careful observation at the bedside must still take first rank, and no perfection of laboratory method can supplant the painstaking study of a skilled clinician[7]. The bedside diagnosis presents but little difficulty in a typical case, which can be observed for a considerable time. At the outset, though, the picture presented is that of an acute infectious disease, without positive differentiating features which would enable one to decide at once between typhoid fever, cerebrospinal fever, and acute miliary tuberculosis. I once had an opportunity to present these diseases in adjoining beds in Bellevue Hospital, and to teach their differential signs with the help of the table shown herewith:

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*Read before the New York Academy of Medicine, Section on General Medicine, October 21, 1902.

	ACUTE MILIARY TUBERCULOSIS.	ENTERIC FEVER.	CEREBROSPINAL FEVER.
Respirations .	More frequent.	In normal ratio.	Irregular.
Abdomen. . . .	Flat, often scaphoid.	Tympany.	Not distinctive.
Diarrhœa. . . .	When present, of certain character.	Common, and different in character.	Constipation usual.
Temperature.	Extremely irregular.	Of definite type.	Less definite.
Nosebleed . . .	Rare or absent.	Frequent.	Not common.
Splenic enlargement.	Not early nor marked.	Frequent.	Not marked.
Headache . . .	Acute.	Dull.	Pronounced and severe.
Photophobia .	Frequent and notable.	Rare and not well marked.	Intense.
Phonophobia	Frequent and notable.	Rare and not well marked,	Extreme.
Vomiting	Common and persistent.	Much less common.	More frequent.
Convulsions .	Frequent.	Rare.	Usual.
Delirium.	Alternates with headache.	Headache ceases on appearance	Not limited to first stage.
Rose spots. . .	Absent	At end of first week.	Wanting.
Other eruptions present	Petechiæ	Sudamina.	Petechiæ purpura herpes-labialis.
Widal's reaction	Wanting.	70 per cent First week 80 per cent S'c'd week 90 per cent Third week	Wanting.
Tubbing .	Marked drop in temperature	Not more than 2° rectal.	Provokes muscular spasm. Hot baths indicated, if any.
Invasion .	Gradual generally.	Gradual.	Abrupt.
Hyperæsthesia	Not marked.	Of brief duration.	Intense and general.
Retraction of neck . . .	Wanting	Wanting in usual form.	Present.
Ophthalmoscope. . . .	Tubercles in choroid (?)	Negative.	Papillitis early blindness late.
Kernig's sign	Present in tuberculous meningitis	Absent.	Present.
Lumbar puncture . .	Sterile in tuberculous meningitis	Usually negative.	Meningococcus, in all.
Leucocytosis .	Usually from suppurating focus	Absent.	Present.

This table must, of course, be taken as descriptive of typical cases of each disease, the kind that are found to perfection only in the textbooks. Even the roseolous exanthem, that most reliable sheet-anchor in our bedside diagnosis, has been wonderfully counterfeited in acute miliary tuberculosis and in cerebrospinal meningitis.

The instances are extremely rare, but have been reported by reliable observers.

It is not, however, with regard to these two comparatively rare diseases that mistakes in the diagnosis of typhoid fever are most frequently made. The experience of the Spanish-American War conclusively proved that the term malaria covers a multitude of diagnostic sins. There is one absolute pathognomonic sign for the diagnosis of malaria, and that is the demonstration of the plasmodium of Laveran. If that demonstration were made oftener there would be fewer cases of "malaria," "bilious remittent," and "typho-malarial fever" recorded in this latitude, and more cases of typhoid fever would be recognized, more ambulatory patients put to bed, and more deaths from intestinal perforation avoided. Here is an instance in which a simple microscopic demonstration outranks any amount of bedside theorizing.

Up to the middle of the nineteenth century typhus fever was not properly distinguished from enteric fever. At the present time, and in this city, the differentiation is rarely called for, and need not detain us to-night. Other diseases, which have been mistaken for typhoid fever frequently, but which, on careful study, present distinctive characters, are children's exanthems, influenza, appendicitis, peritonitis, trichinosis, enterocolitis, pneumonia, pyæmia, and other septic processes, ulcerative endocarditis, and secondary syphilis.

The bacteriological diagnosis of typhoid fever does not come within the scope of this paper, but has been assigned to other hands. Bacteriology has led us to the recognition of diseases presenting the clinical picture of typhoid fever, but which, as demonstrated by blood cultures and agglutination test, are probably caused not by the typhoid-bacillus, but by closely related organisms, the so-called paracolon or paratyphoid bacilli. Recent work in the differentiation of bacillus typhosus from bacillus coli, and other bacilli intermediate between the typhoid and colon groups, has been done by Widal and Schottmuller abroad, and by Gwyn and Cushing in our own country[8]. From the clinical side, paratyphoid infection has been described by Brill[6], Meltzer,[9] and others.[10, 11, 12, 13] It is probable, however, that the differentiation of these various bacilli will prove to be of bacteriological, rather than clinical, interest, and that the term typhoid fever will still be understood to cover infection from any of the group of intermediate bacilli, just as the term abscess comprehends collections of pus from various causative agents.[12]

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MONOPLEGIA DISTURBANCES OF SENSIBILITY IN CORTICAL PARALYSIS.*

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M. R., a NATIVE of Austria, aged thirty-three years, strong and robust, who has never been sick, except from occasional attacks of lead-colic, due to inhalation and absorption of fumes from the smelter in which he is employed, left home for work at the usual time, 6 P.M., on December 29, 1901. He was employed as a furnace man at the Arkansas Valley plant of the American Smelting and Refining Company.

About 8 P.M. two men were handling a pot of slag, which was partly cooled and considered sufficiently cold to remove to another part of the works. They had the slag on an elevated platform, about twenty feet above the ground and fifty feet away from where R—— was working, when the slag exploded, and a piece came down upon his head, knocking him down and rendering him unconscious.

He was picked up and removed to his home. His head was covered with blood, and his left arm was limp. He was able to walk with assistance, and directed the removal of his clothing.

I was sent for, and reached the house about 10 P.M. Upon examining his arm I found it was not broken, but paralyzed, and that he had no sensation from the tips of the fingers to the shoulder, inclusive.

Upon examining his head for the cause of the blood upon it, I found a depressed fracture of the right parietal bone. The wound upon the head was giving him no pain or inconvenience, and, as it was 10.30 P.M., and I would be compelled to operate by lamp and candle light, I decided to put on a wet dressing until morning and operate by daylight.

I shaved his head around the wound, and put on a 1-10,000 corrosive sublimate dressing.

The following morning, after careful examination, I found, upon drawing a line from occipital protuberance to glabella, a distance of fourteen inches, and taking the central point, or seven inches, the edge of the wound was two inches to the right, and three inches above, the right external auditory meatus. The length of the wound was two inches, and the transverse diameter one and one-half inches.

The patient's head was entirely shaved, and every precaution taken for an aseptic operation. The operation was performed at the home of the patient, a small three-room cottage. The gowns, dressings, gauze, sponges, towels, and instruments were all sterilized upon the kitchen stove in a portable Boeckmann sterilizer. After everything was in readiness, Dr. A. J. McDonald gave the anæsthetic, and Dr. J. H. Cole assisted in the operation.

Upon raising the flaps and examining the wound, we found fragments of the bone had penetrated the dura mater, the arachnoid and piamater, and lacerated the cortex. There were also some pieces of slag lying upon the cortex. After carefully removing all fragments of bone and slag, also the depressed pieces of bone, smoothing the edge of the wound and washing with sterile normal salt solution, the wound was packed with borated gauze, and a sterile dressing was put on, which remained for five days.

The man made an uneventful recovery, as far as the wound was concerned, never having any increase of temperature or acceleration of pulse, but the left arm did not do so well. With the removal of the pressure from the motor area of the brain I expected the paralysis gradually to improve. It did not meet my expectation. Upon a careful examination it was found that R—— had not alone loss of motion, but also loss of sensation of the entire left arm, hand, and side, down to the lumbar region. The area involved was from the median line in front to the spinal column behind.

About ten days after the injury, slight clonic spasms were noticeable over the paralyzed area, lasting only a few seconds. They did not come on with any regularity or to the same degree, frequently two or three days elapsing between them.

Eight months have elapsed since the injury, and the twitchings are still noticeable, but the frequency and extent have materially diminished. There was at no time any atrophy of the paralyzed muscles apparent. About thirty days after the injury movements of the arm commenced to be noticeable. Power in the hand has not fully returned, though it has improved to a great extent.

On March 6, 1902, Dr. Geo. L. Porter of Bridgeport, Conn., examined Mr. R——, and, by the pin-test, could not elicit any sensation below the wrist, although there was some strength and very slight movement of the hand and fingers.

This is a case of traumatic monoplegia, and interesting because we had complete anæsthesia of the paralyzed limb and left side of the trunk.

"Pepper's System of Practical Medicine," p. 44, Vol. V, edition of 1886, says: "Monoplegia, or paralysis of one extremity or of one side of the face, is not rarely observed. It may be caused by central lesions in the brain or spinal cord, or by an affection of the nerve-trunks of the part. Cerebral monoplegias are of great importance in diagnosis, and may be distinguished from others by: (1) Loss of power is greatest in the distal part of the affected member; (2) The precedence or coincidence of spasms (usually clonic or epileptiform) in the limb; (3) The absence of marked anæsthesia; (4) The preservation of muscular nutrition."

Strümpell, in his textbook on medicine, edition of 1901, page 1074, says: "A disturbance of sensation would invariably accompany cortical paralysis in man, but about this point clinical observations do not yet give perfectly harmonious results."

In our case there was, without doubt, a lesion of the motor area in the region of the anterior and posterior central convolutions. And, as the wound in the skull shows, the lesion was over the center for motion of the upper extremity. We had not alone paralysis, but also an anæsthesia of the paralzyed limb.

This case demonstrates the correctness of that view of observers, that the motor area of the brain cortex is also the center for skin sensibility of the same part.

Professor Obersteiner, in his book "Bau der Nervösen Centralorgane," fourth edition, Vienna, 1901, page 134, says:

"Our knowledge of localization of skin sensibility on the surface of the cortex of the brain is not well established. The general belief is that the parts of the brain cortex which give nerve force to certain specified groups of muscles are at the same time the center of cutaneous sensibility for the muscles and the skin covering them. This view is not, however, sufficiently established by clinical observation, because *crossed cortical paralyses are often not accompanied by the loss of sensibility*. Brissaud explains this fact by asserting that each hemisphere receives tactile impressions from both sides of the body; according to his view, the sensitive tract splits in the semiovale and part goes to the cortex and the rest finds its way through the splenium corporis to the corresponding part of the cortex of the opposite hemisphere. Charcot and Pitres believe the disturbances of the sensibility observed in one-third of the cortical paralyses are of purely functional origin, and are analogous to hysterical anæsthesia."

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*Read at the Rocky Mountain Interstate Medical Association meeting, Cheyenne, Wyo., September 9, 1902.

Strümpell, page 1074, says: "About the condition of sensation when there is cortical paralysis we know as yet very little. The experimental researches of Munk and the anatomical investigations of Flechsig, and others, have led to the conclusion that the termination of the sensory tract of the lemniscus, the so-called sensory sphere, is, in part, in the same cortical region as the motor cortical centers."

Our case, from the clinical standpoint, demonstrates the correctness of the above-named anatomical and physiological investigations. The view of Charcot and Pitres that the disturbance of the sensibility observed in cortical paralysis are of functional origin, and are similar to hysterical anæsthesia, was not absolutely borne out, as our patient had never any manifestations of hysteria.

This case is also remarkable in another respect; namely, there was an anæsthesia of the left side of the trunk, which demonstrates that there was a lesion of the center for the trunk as well as the center for the upper extremity. The motor area for the trunk lies in the superior frontal convolution, near lobulus pracentralis. This area was also injured, and the observation of this case demonstrates that the center for sensation of the trunk must be located in the same area as the motor area—that is, in the superior frontal convolution.

In conclusion, I will repeat that the clinical observation of this case shows that cerebral paralyses (monoplegias), due to lesions of the motor area of the cortex, are also accompanied by loss of sensibility, and that both motor and sensory areas must be located in the same place.

What explanation can we give for some observers having found motor paralysis without loss of sensation, and others having found both paralysis and loss of sensation? I believe that the extent of the injury has much to do with it. Both areas appear to be in one place, but on different planes. If the injury is slight and the contused or lacerated area of the cortex is only superficial, we may have paralysis without anæsthesia, but if the injury is more severe, and the deeper cortical cells are disturbed, we have both paralysis and loss of sensation.

The anatomical investigations of Meynert show that the brain cortex consists of five strata, and each stratum has a special histological structure. Without doubt the physiological function of one stratum serves for motor purposes, one for sensation, and so on. This view is not a new one, for Church and Peterson, "Nervous and Mental Diseases," edition of 1889, page 156, say: "Horsley believes them to be superimposed in strata: (1) Most superficially tactile, then (2) Muscular sense; (3) Pure motor elements below."

Therefore, in the destruction of one or the other layers, we get paralysis with or without anæsthesia, or *vice versa*.

Concentrated Milk.—The *Journal of the Society of Arts* is responsible for the statement that a Gothenberg physician has invented an apparatus by which milk can be brought into the form of a powder similar in appearance to flour, and possessing all the qualities of milk in concentrated form, moisture excepted. It is maintained that the flour is perfectly soluble in water, and can be used for all the purposes for which ordinary milk is employed. It is also claimed that it does not get sour, or ferment, and, in its dry state, is not sensitive to changes of the weather.

CLINICAL REPORT ON THE USE OF ARGYROL (SILVER VITELLINE) IN DISEASES OF THE NOSE, THROAT, AND EAR.*

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Synthetical chemistry has added a variety of new products to the rapidly-increasing number of pharmaceutical preparations. Time does not permit the active practitioner to test the merits of each new remedy, and consequently he selects those which appeal to him, in the hope that they may demonstrate some of the advantages claimed for them by observers who have carefully noted their virtues after due clinical investigation.

During the early summer Dr. A. C. Barnes of Philadelphia called my attention to his proteid salt of silver, commercially known as "argyrol." It was believed that this compound was an ideal substitute for silver nitrate, as it contained 30 per cent. of silver, which was twice the amount found in any of the proteid silver substances yet produced. It furthermore possessed the advantage of being extremely soluble, as one ounce of it is freely and completely taken up in less than a dessertspoonful of water, while other proteid salts of the metal can only be obtained in 5 per cent. solutions. Solutions of this new salt, no matter how concentrated, do not precipitate albumin or chloride of sodium, consequently exerting no caustic effects upon mucous membranes. Strong solutions of argyrol may be applied to the membrane without causing any irritation or annoyance.

Excellent results have been obtained from its use in diseases of the eye and genitourinary tract, and as no test had been made of its efficacy in affections of the upper respiratory organs, I decided to give this remedy a continuous trial.

My observations with the use of argyrol, both in clinical and private practice, extend over a period of five months, and embrace the treatment of acute and chronic catarrhal disturbances of the nose, pharynx, and larynx, and chronic purulent disease of the middle ear. Solutions of silver nitrate were entirely discarded during this time, and the new salt was employed in strengths varying from 5 per cent. to a saturated solution, whenever the opportunity presented.

When silver nitrate is applied to the mucous membrane it promptly demonstrates a coagulating action which limits its influence to the superficial tissues and retards further penetration, so lessening the therapeutic value of the local treatment. To show how thoroughly argyrol finds its way through animal structures, Dr. Barnes, in his original report,† quotes an experiment carried out by Dr. Edward Martin. A strand of catgut was immersed over night in a one-per-cent. solution of this new remedy; on the following morning section of the gut showed that it was "impregnated through and through with silver. The integrity or flexibility of the catgut was in no way impaired by the immersion." If this penetrative power is true in structures devoid of physiological function, it certainly should prove of value in living tissue. We must not overlook the fact, however, that the application of any such solution must act promptly, especially on tissues of a secretory nature, otherwise the activity of the glandular structure will overcome part of the local effect. The astringent property of any silver salt, no doubt, assists materially in augmenting its alterative tendency, and the deeper the penetration, the greater its therapeutic value. Genitourinary surgeons have observed that this salt penetrates deeply, without causing any disturbing chemical change of the submucosa. This, no doubt, accounts for its decided bactericidal powers, with freedom from irritation. The same pleasant features were observed in diseases of the respiratory mucous membrane.

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*Read before the Metropolitan Medical Society, October 28, 1902.

†Medical Record, May 24, 1902.

The solutions were applied in the usual manner, with a cotton-wrapped applicator. Starting at first with a 5-per-cent. solution, I rapidly increased the strength of the solutions to 20, 30, and 50 per cent., without the slightest sensation of smarting, or the unpleasant subjective experience of constriction or "dry" sensation which so frequently follows the use of silvernitrate solution.

In acute rhinitis, of the ordinary "cold in the head" variety, 10 to 30-per-cent. solutions were employed, after a preliminary treatment with a 1 to 3,000 adrenalin solution. The depletion following the use of the adrenalin was certainly prolonged by the astringent and penetrating properties of argyrol. No irritation was experienced at any time from these applications, and this feature argues well for the new product, as the nasal mucous membrane, during an acute coryza, is exceedingly sensitive to any solution. In four cases of vaso-motor periodica, repeated applications of a 20-per-cent. strength were employed with noticeable improvement in the attacks of paroxysmal sneezing and a material lessening of the hydrorrhœa. In two of these cases the treatment was carried out daily for ten days, while in other cases the treatments were made on alternate days. In these patients no annoyance was experienced from the solution, and when we recall how exquisitely sensitive the nasal mucous membrane is under such conditions, we can readily appreciate the advantages of a remedy which possesses bactericidal and antiphlogistic virtues, without increasing the existing local discomfort.

In cases of chronic catarrhal changes of the larynx, the mucous glands were promptly stimulated by the application, and the patients remarked that the parts felt quite moist and more comfortable for a few hours after its use. The disagreeable sensations which follow the local use of the nitrate of silver were not observed at any time after the treatment with argyrol. During the treatment of a physician suffering from a subacute laryngitis, the solution was rapidly increased from a 10 per cent. to a 30 per cent., without the slightest symptom of irritation or annoyance. In the same person a 1-per-cent. solution of the nitrate salt caused considerable local discomfort.

In attacks of acute pharyngitis, solutions of 30- and 50-per-cent. strength were employed daily for three treatments, with prompt relief from the dysphagia and a decided change in the engorged tissue. The same effect was noticed in acute tonsillitis and in nasopharyngitis. Two cases of mucous patches of the pharyngeal and tonsillar tissues were treated with the 50-per-cent. solution. The local soreness improved rapidly, and the lesions disappeared in a period of ten days. Of course, internal medication was given, and a gargle of lotio nigra was used, three times daily. Cases of chronic nasopharyngitis, in which "post-nasal accumulations of mucus" was the prominent symptom, were treated with 30- and 50-per-cent. solutions every other day to the rhinopharynx after the use of a cleansing spray. In these patients the mucus was more readily expelled, and the character of the secretion showed that the stimulating action of argyrol was very prompt. Instead of the usual plugs of retained secretion, the collections became more fluid in consistency and less in quantity. The same feeling of moisture was noticed by the patient as in that class of cases in which the membrane showed an atrophic tendency.

That this new product possesses distinct advantages over other salts of silver, was demonstrated to my satisfaction in a case of persistent herpes of the mouth, lips, palate, and tongue, following an attack of herpes zoster in a female about fifty years of age. The eruptions were very painful, and caused much distress, on account of the suffering during mastication and deglutition. Nitrate of silver and protargol were employed, but the stronger solutions caused so much irritation that they had to be abandoned. Argyrol was then applied in 50-per-cent. strength, with a decided amelioration of the local symptoms. In fact, at one time the eruption had entirely disappeared under its use, but reappeared, and is again improving under the same treatment.

In chronic suppurative otitis, with good-sized perforations, without excessive granulation tissue, a 50-per-cent. solution was permitted to flow into the middle ear through the opening in the drum. In one instance of long-standing disease, with repeated infection of the middle ear, from the Eustachian tube, the strongest solution was introduced into the tympanic orifice of the tube, by means of a slender cotton applicator, and carried toward the pharynx for nearly an inch without exciting any local annoyance, either objectively or subjectively. In this instance and in other cases which showed a mucopurulent discharge, without much osseous necrosis, the mucous membrane became paler and less boggy in appearance and the discharge assumed a more mucoid character. In three cases I have applied a saturated solution of this salt to the tympanic attic without causing any discomfort.

Dr. Barnes informed me that he has applied a crystal of argyrol to his own conjunctiva without causing any irritation.

My experience with this new salt of silver permits me to feel that it is a worthy substitute for the nitrate. It possesses the good qualities of our old friend without the latter's unpleasant irritating features, especially in its application to the nasal, pharyngeal, laryngeal, and aural mucous membrane. As yet I have not employed it in catarrhal manifestations of the Eustachian tube, by way of the catheter, but I am inclined to believe that it is safe to introduce weak solutions of this salt into the tube, after the nose and rhinopharynx have been satisfactorily cleansed.

Dr. Robinson of the Manhattan Eye and Ear Hospital's house staff has used a 50-per-cent. solution of argyrol in a few cases of acute purulent otitis media with pleasant results. The ear is first cleansed with an antiseptic and the "argyrol "solution is then instilled into the canal. This treatment is carried out three or four times daily. He informed me that the infectious process seemed to be retarded, and that extension to the mastoid did not occur as frequently.

38 East Sixtieth Street

Monarticular Disease.—I am convinced that single rheumatic joints never exist. If joint disease is due to rheumatism, more than one joint will become infected; every single joint disease is always purulent, tuberculous, gonorrheal, or due to pneumococcus or to some central nerve lesion.—A M Phelps

RELATION OF CONSCIOUSNESS TO THE NERVOUS SYSTEM.

By AXEL E. GIBSON, M.D.,
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The nervous system, as it presents itself to-day, is made up by numberless polymorphous cells sending out fibers in various directions in a fashion strikingly resembling the branches of a tree. With the exception of one—the trunk or neuraxon, which proceeds directly to the tissue or function to be innervated—these branches or dendrites, terminate in the proximity of the parent cell, to form a dense network, the aggregate mass of which, including the cells themselves, constitutes the gray matter of the brain and spinal cord.

Physiologically and topographically considered, the nervous system permits of a two-fold division: the cerebrospinal and the sympathetic—each system distributed over a rather definite area of innervation. The former supervises the instinctive or psychic processes of life; the latter is related to the vegetative or vital, while, as representing states of consciousness, they are both mainly below the sphere of self-consciousness.

The cerebrospinal system has its center in various levels of the medulla and fourth ventricle, while its subordinate centers extend down the entire length of the spinal cord, from which, through the intervertebral foramina, it sends out a number of equidistant and equilateral fibers, which constitute the thirty-one pairs of spinal nerves.

With the sympathetic system, we understand that unique aggregation of fibers, plexia and ganglia, which ramify throughout the body, supplying the purely vegetative functions of life, such as the internal viscera, blood vessels, and secretory glands, in contradistinction to the cerebrospinal, which mainly innervates skeletal muscles and functions of special sensation. The sympathetic system is located in a chain of some twenty to twenty-three ganglia, strung out on both sides of the spinal column, with which they are in intimate connection through communicating spinal nerves. Besides this double central chain of ganglia, the sympathetic system possesses a number of other ganglia, located at different places in the body, of which the solar plexus and semilunar ganglia are the most important.

Normally, this sympathetic system appears to be able to carry on its functions without the necessity of cerebrospinal interference. A complete separation may be brought about between the two systems by a sectioning of the connecting spinal fibers, the rami communicantis, without any immediate break in the continuity of the sympathetic functions. Dogs have been kept alive for weeks after their entire spinal cord had been rendered inactive, and, in Pflüger's *Archiv fur die gesammte Physiologie*, a case is reported in which a child was born without a trace of cerebrospinal column. Though the child did not survive birth, the case, nevertheless, goes to prove the power of the sympathetic system to maintain vegetative functions in perfect independence of cerebrospinal interference.

Another feature of distinction between the two systems is manifested in the rhythmic movements characteristic to the functions or tissues innervated by the sympathetic system. This rhythm, which is inseparably connected with the normal functioning of the heart, lungs, intestinal viscera, etc., contrasts most markedly with the disconnected spasmodic and abrupt movements of the skeletal muscles and sense-functions, which are directly under cerebrospinal control. In a word, the sympathetic system seems to be in closer touch with the great life of nature and more receptive to its harmonious health-bearing impulses.

Yet these differences between the two systems, however striking they may appear, are more apparent than real. The study of embryology has revealed facts which lead to the conclusion that the sympathetic system is an outgrowth of the cerebrospinal. The development of the fœtus presents in a series of quick, consecutive steps, corresponding stages of evolutionary growth once passed through. The science of embryology enables us to trace back, step by step, the adventures of the human creature during its sojourn in a dim, biological past. The invertebrate stage is followed by the vertebrate; the imperfect notochord is developed into the magnificent spinal column, with its elaborate network of nerves and ganglia. And as the evolutionary impulse, with resistless energy, continues to force its products to ever higher levels of attainment, followed by a corresponding increase in functional complexity, a more systematic division of labor is needed. The cerebrospinal system, ever harder pressed for service in its life-and-death struggles with stern environment, yields to the necessity of establishing specialized centers of innervation. In response to the waves of sensory impulse, which a constantly increasing complexity of function sends to the spinal column, a chain of ganglia is formed around the latter. Thus, in the course of time, the purely vegetative functions are provided with reflex-centers, or nervous storage-batteries, through which the routine of nutrition and secretion is governed; and the sympathetic system, with all its intricate mechanism of plexi and ganglia, is thus brought into full operation.

From this point of view, the solution to the problem of a fœtus existing without the aid of a cerebrospinal system is logically found. The intimate physiological relation existing between the fœtus and the mother would make it scientifically possible for the cerebrospinal system of the latter to substitute the missing one in the fœtus.

The sympathetic system is practically a series of relay-stations, in which the cerebrospinal system is storing up nervous energy for further distribution to the vegetative functions in course of demand. For the discharges and distribution of the sympathetic ganglia take place in response to stimuli reaching the system through the elaborate functional leverage of demand and supply at work in the bodily metabolism. Waves of protoplasmic energy, set free in the system through the assimilation and absorption of food-stuffs, sweep through the sympathetic area in unceasing rhythm. The cyclic movement of the heart, the periodic motion of intestinal peristalsis, the singular rhythmic action demonstrated in spleen, liver, kidney, and other secretory glands—functions which all are more or less under sympathetic control—manifest this rhythmic influx and efflux as forming a substratum for all vegetative existence.

Through this rhythmic movement the sympathetic system is related to cosmic evolution. For rhythm is universal. We encounter the rhythmic order in the movements of the stars and planets, suns and moons; in the seasons of the year; in the oceanic tides; in the recurrence of days and nights; wake and sleep; life and death. In rhythm lies the very basis for organic existence—the agency for cosmic order. The closer we approach the heart of nature and live in accordance with her demands, the more vigorously shall we feel the strengthening touch of her rhythmic impulses.

Hence, we are entitled to regard the presence of rhythm in the sympathetic system, and its non-presence in the cerebrospinal, as due to the isolation of the former from the disturbing impulses generated in the play of fear, imagination, and desires, which are constantly influencing the workings of the cerebrospinal consciousness. Left to the care of its own nature, the sympathetic system performs its functions under guarantees of enduring health and strength. But, owing to the fundamental identity underlying the two systems, a disorder in the one is sooner or later reflected into the other, and the health and vigor original with the sympathetic system must gradually succumb to the abnormal impulses reaching it from a disturbed cerebrospinal center. And as cause and effect are inseparably bound up in the same cycle of events, the cerebrospinal center from which a disturbance may have come must restore the disturbed order by generating harmonizing and compensating impulses.

Considered *per se*, the nervous system of man differs neither in a functional nor structural way from the nervous system of the animal. The operations of either system are based on purely mechanical principles. Thus the valve of the pylorus is flung open to permit the passage of the peptonized food the moment the latter, through the process of gastric digestion, is rendered fit for intestinal digestion and subsequent absorption. Behind this startling phenomenon of the pyloric sphincter muscle, which, while hermetically closed during gastric digestion, is spontaneously opened for the food when the latter is properly prepared, lies the principle of mechanical leverage. The closing of the valve is due to the constrictive influence of the sphincter nerve, which asserts itself as long as the presence in the stomach of undigested food serves as an irritant to contraction. Reduced to a soft, pulpy mass, the food ceases to irritate, and the sphincter muscle, yielding to its natural tendency to relax, leaves passage for a discharge of the gastric contents. The circumstance that even indigestible material, like seeds of berries, cellulose, and poorly masticated food are ultimately permitted passage to the small intestine, in spite of their undiminished power to irritate, merely refers to the physiological fact that the overstimulation of a nerve always results in its temporary paralysis.

The function in which the mechanical principle is brought to its highest and most wondrous perfection is found in the heart. The point of unstable equilibrium maintained between the rate of muscular expenditure in any part of the body and a compensatory rate of heart-beat on the other, exhibits wonders of accuracy in the functional leverages involved. Thus the increased expenditure of muscle tissue caused, let us say, by fast walking, is instantly responded to by an increased action of the heart, through which a greater blood supply is furnished for the repair of the broken-down tissue. The demand by the muscles for more blood has been answered, and the state of unstable equilibrium is thus maintained.

The principle of mechanical leverage involved in this phenomenon may be traced thus: the fast walking results in an increase of catabolic changes in the involved muscle-substance, at a rate preventing the normal elimination of the ensuing waste-products. The accumulation of these products introduces mechanical and chemical changes in the nerves ending in or passing through the deranged area, and which respond by at once sending an irritation to the medulla *via* spinal cord. In consequence the medulla coordinates the sensory impulses into a vasomotor impulse, which proceeds along the motor fibers to the seat of irritation, and there, by dilating the caliber of the blood vessels, allows the passage of a larger blood stream. The force of blood-pressure in the circulation, following the dilatation of blood vessels, removes the check of resistance which a high-blood pressure always exerts on the movement of the heart. The latter, being thus momentarily set free, increases its action, resulting in a larger volume of blood flowing into the deranged tissues, and thereby quickening the elimination of the waste products, and, as a natural consequence, bringing about the restoration of normal equilibrium.

Again, the increased rate of oxidation which attends the downbreak of tissue is always accompanied by an increase of heat. Having reached a certain degree, a further increase of heat would endanger the safety of functional activity, and must therefore speedily be eliminated from the body—a process involving the introduction of a new set of mechanical changes. As we have nerves that register qualities of softness, hardness, and weight, so we likewise are provided with nerves registering qualities of heat and cold. Now, when the temperature of the body,. or in a given part of the body, rises above the normal,these nerves become irritated. The irritation of a nerve means the temporary introduction of a change in its constitutional arrangement, and as it proceeds to the central office—the medulla—the character of the response to be initiated must, of necessity, depend on the character of the cause of irritation. If, as in this case, the irritation be caused by heat, the response will be manifested in a reflex irritation from the medulla, conducted on sympathetic motor nerves, which start the operation of a sweat vasomotor mechanism, based on similar principles as the one operating on the blood vessels. The influence of these sweat nerves will dilate the sweat capillaries with which they are connected, thereby permitting the osmotic pressure of the blood stream to cause the flow of perspiration through the pores of the skin. This means the immediate fall of bodily temperature, as the evaporation of sweat, by which is to be understood the process of splitting the sweat-molecule into its atomic constituents, requires a large absorption of heat. A similar ingenious system of levers, based on the mechanic principle, can be traced in the operation of every functional activity of the body.

The phenomena of high pressure, as manifested in the blood, lymph, and sweat, is ultimately due to the presence of a living, dynamic energy in the protoplasmic substratum which supports every manifestation of life. This exhaustless fountain of power, ever ready to burst forth when conditions permit, is regulated and controlled by the coordinating, synthesizing activity of the nervous system. Hence, the ever-present tendency of normal metabolism to accelerate the action of any function as soon as its restraining checks, administered by the controlling nerve, are removed or weakened. Thus the inhibition of the vagus nerve, which acts as a check on the movement of the heart, sets free the latter to follow the protoplasmic impulse resulting in wild, ungoverned beatings. Glandular activity is governed by the same principle. A loosening of the checks by which the vasomotor mechanism governs the glandular functionings results in a virtual bursting forth of the respective secretive fluids.

From this it follows that the maintenance of functional activity involves, primarily, the presence of two factors: the protoplasmic storage batteries of vital force on the one hand, and an elaborate system of conductors on the other; while the successful co-operation of these two factors depends on the perfect workings of a mechanical, inter-structural leverage.

The nervous system holds the bodily tissues in a state of constant tension, and the equilateral distribution of the cerebrospinal nerves renders it possible, in normal cases, for this tension to yield a perfect structural equilibrium. In fact, the facility of muscular movement is due to this steady pull, uniformly exerted on all parts of the structural tissue and permitting them to move as if balanced on a frictionless pivot. So accurate is the poise of this general tension that its presence is perfectly unsuspected, until abnormally interfered with. But the paralysis of, let us say, a facial nerve reveals at once, with appalling severity, the hidden mechanism. A distortion of muscles takes place on the opposite side of the median line, as a result of the failure of the paralyzed nerve to equalize the tension which the corresponding healthy nerve exerts on its muscles. Hence the distortion of a muscle does not indicate the real seat of the disorder.

In the mechanism of the heart we find the same principle at work. The heart trembles in the balance between the ever-fluctuating pull exerted by its pair of opposing nerves—the accellerator, tending to loose the heart strings; the inhibitor, to tighten them. The result is the maintenance of an unstable equilibrium in the cardiac cycles.

The phenomenon, or, perhaps, better expressed, the noumenon, of life which gives to human existence its crowning perfection and transcending purpose, lies in the rise of self-consciousness. While in the animals, and, as some naturalists assert, even in the plants, we find the manifestation of an instinctive consciousness, it is first, however, in the human being that consciousness *per se*, by being rendered capable of exerting the power of self-analysis, is raised to the level of self-consciousness. And even granting to some men of science the accuracy of their statement, that no analysis, however keen and painstaking, can trace in the field of evolution the dividing line where consciousness is turned into self-consciousness and instinct into reason, the concession must nevertheless be made that it is first in man this phenomenal widening of the area of consciousness has become a telling factor in the evolutionary process.

The evolution of self-consciousness, as manifested in the human being is, *sui generis*, and not demonstrable as a product of functional or structural operation. And while the student of embryology has no difficulty in demonstrating the sympathetic system to be an outgrowth of the cerebrospinal, no amount of application to that field of study has so far succeeded in exploring the obscure subject of self-consciousness—its genesis and purpose. The failure of any aspect of physical evolution to solve the problem of self-consciousness lies in the circumstance that the latter seems to be superimposed upon the whole biological output, manifesting in the evolutionary processes, not as effect, but as selective, determining cause. From this it follows that a pursuit of the study of self-consciousness, if it is to be scientifically gauged, must be directed, not toward the past, but toward the future.

The cerebrospinal system, while controlling the sympathetic, is itself operating under the cover of instinctive consciousness and below the reach of individual self-consciousness. The medulla, through its vasomotor mechanism, may administer a checking influence on a hyperæmic tendency of the liver, without a single step of the elaborate process being revealed to self-consciousness. Man, as thinker and reasoner, is a perfect stranger to man as animal or plant. Of his vegetative self he knows only from reports based on more or less successful scientific theorizing. Unable to intelligently identify himself with the sustaining functions of his own being, he depends for his self-knowledge on the power of his imperfect senses to lay bare for him the incidents of the problem. And as the senses, as outgrowths of the vegetative life-process, are themselves a part of the problem, it does not appear likely that through sensation alone we shall ever be able to master the task of self-discovery.

While the paths travelled by sensation are scientifically demonstrable by means of sectioning and isolation of the corresponding nerve-threads, the paths occupied by the movements of self-consciousness remain absolutely trackless—a fact, however, which does not diminish the immense influence which this unique force exerts on man's involuntary career.

The incentive to growth, which the power of self-analysis may impart to the individual, overbalances, by far, every other factor in evolution. The reactions brought to bear on the human being, through the storm of inner and outer impulses assailing his mind, are, by virtue of this silent, invisible, impapable factor, rendered apprehensible and turned into potent elements of mental, moral, and physical growth. Through self-consciousness evolution has received a new source of power. Existence, from being monopolar, has become bipolar. At the one pole the protoplasmic life current, with convulsive energy, pours forth ever new impulses of growth and power into evolution, while at the other self-consciousness adjusts the vital reactions into new combinations of available energy. Below, life; above, light; below, the basis of evolutionary structure, with its Titan masonry of potential, unorganized, world-moving power; above, the towering of a constructing, fashioning, completing architecture. Under the guiding light of self-consciousness, the simple movements of the single cell are transformed into the complex movements of the collective cell. The amœba has expanded into a being of thought and reason; the promise faintly advanced in the mystic movements of mitosis has, in the powers of the human being, received its dazzling fulfilment.

Still the object of life is as yet only partly won. Through the evolution of self-consciousness new fields are opened for evolutionary advances. Self-consciousness is at once both end and means, agency and agent, and its progress must be found along the lines of efforts through which the power of self-conscious identification may be extended to every function of the bodily mechanism. Man is advancing toward a stage of evolution when he shall no longer remain a stranger to life-processes at work in his own being. Perfection of the human creature does not consist in being subject to sensations, but in the subjection of them.

At present the average human being, with all his accomplishments, stands a captive in the midst of a surge of emotions and sensations, over which he is unable to assert self-mastery. Feelings and sentiments fly along invisible and undefinable highways of consciousness, and spring into life and power often as much of a surprise to the subject himself as to those who observe him. Impulses born from emotions of "airy nothings," and moving along trackless pathways, are still capable of initiating structural and functional changes in secretory and circulatory tissue. What physiologist can trace the

Ariadne thread of an emotion from where it emerges, in the "psychic centers" in cortex, to its destination in the secretory mechanism of the lacrymal gland, to manifest in tears? The moods of the mind may be clearly definable in the ebb and flow of purple waves moving across a person's face, yet the stimulating forces which, while in themselves substanceless and impalpable, are still potent enough to bring into operation the leverage of a well-defined blood-regulating, vasomotor mechanism, involves an agency which as yet defies the scalpel and microscope of science. The individual has in his charge a mechanism, over which, to a large extent, he has no control. As a child, carelessly passing through some modern exhibition of mechanical wonders, may introduce startling phenomena by the mere turning of a crank or pressing of a button, so man, as he passes through his span of life, is carelessly playing with his passions and emotions unconscious of the scope and purpose of the forces he is thus liberating.

The genius of evolution is not exhausted in the master efforts wrought in physical forms and structures. Were such the case, man would not find himself advanced beyond the sphere of the animal. In some aspects he would even occupy a position below it. In matters of circulation, secretion, innervation, structural integrity, division of functional labor, general metabolism, etc., the animal is on a perfect level with man. The basis for vegetative life, as represented in the smooth non-striated spindle-shaped, "involuntary" muscle-cell, 40 to 200 mm. long and $\frac{1}{12}$ as wide, which receives the innervation of the sympathetic nerve, has a common significance to man and animal. And, in equal degree, man and animal share the physiological advantage of a striated, highly differentiated, polynuclear, 12 centimeters long and $\frac{1}{1000}$ part as wide "voluntary" muscle-cell, which receives the cerebrospinal innervation and represents the structural basis of instinctive life. It is first in the cranial structures, in the region of cerebral cortex—the functions of which are wholly unknown—that the anatomical distinctions between the animal and man arise. And as these distinctions are principally manifested in the power of self-consciousness, it would be a matter of mere logical deduction, from given facts, to associate self-consciousness in man with an advanced evolution of the unique, non-demonstrable functions of his cortex. If this be so, then man's position as an exponent of self-consciousness receives a biological basis. On the sympathetic system he depends for his vegetative existence; on the cerebrospinal for his instinctive or psychic; while these unexplored regions of the cerebral cortex may form the structural basis for his self-conscious existence.

From this vantage ground the mind of man may be destined to extend its domain of self-consciousness to the strongholds of a powerful sensation. The work of conquest is certainly progressing, slowly but surely. Trackless connections, demonstrable only through their effects, are being established between self-consciousness and physiological centers. The calculated effects which volitional efforts may exert over emotions and sensations are *prima facie* evidences for the view that the forces of individual self-conquest are at present in actual operation.

The crowning glory of human evolution must be found in the attainment of that power through which man may become a master of himself. From being a slave of the moods and fits of a sportive, emotional nature, this power shall make of him the supreme ruler of his existence. And unselfishness of motive, steadfastness of purpose and purity of life are the mighty agents which, infallibly, will lead to the evolutionary goal: Man's conquest of himself.

A New Form of Treatment in Banti's Disease.—Benedetto Schiassi of Bologna reports a case treated in the Ospedale Umberto e Margherita in Budrio, in which the cirrhosis was so far advanced that the splenectomy advised by Banti under such conditions was not considered advisable. The ascites was first relieved by paracentesis, and a little later the operation of grafting the omentum between the muscles and the peritoneum was performed. The wound healed rapidly, but the ascites reappearing, a second intervention was found necessary. The author made a vertical incision, beginning at the border of the ribs, and extending 24 cm. downward. The spleen was found to be greatly enlarged. By methods which are described in detail the author fastened the spleen to the parietal peritoneum with the object of causing new vascular anastomoses. The patient made a good recovery. Some ascites formed, was removed by paracentesis, and has not since returned. Three months later the spleen was found by palpation to be much reduced in size. Hepatic extract was then administered daily, and in three months more the patient's general condition was in every way improved. The author gives his reasons for the treatment, the purpose of which was to increase the powers of compensation and decrease injurious influences. The first organ to be benefited was the liver, as the deviation of the portal blood so affected the hepatic circulation as to nourish the cells of that organ, the uninjured cells responding with hyperactivity. As to the administration of hepatic extract, it was given with the idea of further stimulating the liver cells, and resulted in increased diuresis and excretion of urea. Fresh red bone marrow was also given to stimulate hæmatopoiesis and restore the blood to a normal condition.

The Nicotine Question in Smoking.—Prof. Strauch says that by analysis with the Habermann apparatus, the number of substances which give strength to a cigar will be found to be much lessened. Carbonic acid and nicotine and the minute quantity of sulphureted hydrogen may be left out of consideration. There remains the group of pyridine-like bodies, among which, of course, there may still occur some violent poisons—prussic acid, for example—and finally there is the carbon monoxide. Indeed, it is extremely improbable that any single substance is accountable for the strength of a cigar; most probably a great many contribute toward it whose respective quantities will vary with each cigar, depending, however, on the form of the cigar, the amount of moisture, the rate of smoking, and many other factors. Owing to these considerations, a clear decision of the question is very remote. For the present we must be satisfied with the knowledge that nicotine has not, by far, the dangerous signification which is commonly attributed to it.—*Medical Press and Circular.*

Diagnosis and Treatment of Gastric Ulcer.—Dr. Ewald has been impressed by the large number of cases of gastric ulcer not presenting any hyperacidity. He has observed hyperacidity in only 56.8 per cent. of the cases. Hæmatemesis was present in 203 out of 304 cases, but this accident may be due to other causes. Pain is not typical, loss of flesh and cachexia are comparatively rare. The tongue is usually red and moist, only slightly or not at all furred The anatomical diagnosis of gastric ulcer can be arrived at by the course of the affection. We must ascertain whether the ulceration is primary, or whether it has been developed in the course of another affection; but in such cases the ulcer remains latent and is not of great clinical interest.—*Medical Press and Circular.*

Clinical Department.

A CASE OF MULTILOCULAR DOUBLE OVARIAN CYST, COMPLICATED WITH CARCINOMA OF THE DESCENDING COLON; OPERATION; RECOVERY.*

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Miss M——, aged twenty-three, single; mother died aged thirty-three, with typhoid fever; father living. Her history is as follows: Early in March, this year, she consulted me at my office, and then stated that for about eight or nine months she had had considerable pain in the left lumbar region. The bowels were constipated, requiring laxatives. The movements were frequently followed by fleshy shreds from two to four inches in length, and defecation was frequently accompanied with pain. Her menstrual periods had been quite regular until within two months. Her appetite and general appearance were good, and she continued to follow her occupation as a domestic. Examination revealed considerable pain over the lower region of the abdomen. It was somewhat tender, particularly in the left side and above the region of the ovary. A tumor could be outlined, about the size and shape of a six-months' pregnant uterus. I put her on tonic treatment and tried to regulate her bowels. She continued to see me occasionally for about six weeks, during which time I could notice some growth of the tumor, but not very rapid.

On April 25 I was called to her home. I there found her with a temperature of 104°, pulse 120, obstinate vomiting and retching; the abdomen was distended and extremely painful, and large as a full-term pregnancy. I used stomach sedatives, calomel, high enemas, etc., and after thirty-six hours succeeded in evacuating the bowels, when the patient experienced considerable relief. She remained fairly comfortable for two days, when she was again taken with more violent symptoms than before, and evidence of general peritonitis. After two days' treatment I was unsuccessful in moving the bowels or allaying the symptoms or vomiting. As her condition was becoming alarming, I advised immediate laparotomy, having made the probable diagnosis of a twisted pedicle of an ovarian cyst, or a general peritonitis.

The patient was placed in St. Francis Hospital, and, after the usual preparation, was operated on on April 30. A median incision about four inches long was made below the umbilicus. When the peritoneum was reached it was found dark and congested. On opening it we found the omentum dark, inflamed, and adherent to the anterior abdominal wall on the left side. Considerable hemorrhage was caused by separating it. The abdomen and pelvis were filled with a large multilocular cyst, composed of a great number of smaller cysts. These were emptied, and the sac and right tube were removed in mass. The left ovary had degenerated, and contained a tumor about the size of a baseball, filled with clear fluid; this, together with the left tube, was removed, and the peritoneum was stitched over the stump. The omentum was retracted, thickened, and nodular. We removed of this one nodule as large as a walnut.

After sponging out the abdomen and preparing to close it, my attention was attracted by a hard mass in the left side about the size of a hen's egg. Examination revealed a cancerous mass encircling the descending colon a few inches above the sigmoid flexure. There were several enlarged glands in that portion of the mesentery, one as large as a small marble. The mass was hard, dense, and fibrous, and contracted in the center, so that the lumen of the bowel was nearly occluded.

We decided to remove the mass, so severed the bowel above and below the growth, removing about four inches of gut, together with a V-shaped piece of mesentery, including the enlarged glands. The two cut ends of bowel were then united end to end by a double Lembert suture of silk; the silk ligature was first used to unite the mesentery, then carried around the gut and tied with the mesenteric end. The abdomen was then closed without drainage, and primary union was secured. Thirty-six hours after the operation the patient's bowels moved freely twice, but did not injure the stitches, and the patient made a rapid and uninterrupted recovery.

In four weeks she left the hospital, and has since continued to gain in strength and flesh. Over four and one-half months have now elapsed since the operation, and she has apparently gained ten to fifteen pounds; her general health is good; she has no pain, appetite is good, bowels regular, and in every way she is feeling very comfortable.

A microscopical examination of specimen was made by Dr. A. J. Wolff, and pronounced carcinoma.

An interesting point in this case was the history of two severe attacks, now looked upon as intestinal obstruction. This was, undoubtedly, the principal cause of her trouble, but its existence was never suspected until it was found at the time of operation.

Another interesting point arises: Was the cystic degeneration of both ovaries primarily or secondarily cancer? If not, what produced the shrunken, nodular omentum, with the firm adhesions between it and the anterior abdominal wall?

This case illustrates the advisability and necessity of thorough examination of all the abdominal organs during abdominal exploration. Had we been contented after removing the apparent source of trouble, we might have overlooked the cancer of the bowel, and consequently our patient would have derived but little benefit.

An interesting fact is demonstrated by this case; namely, that we can do several operations at one time, provided we are careful in sustaining the patient by proper stimulation, saline infusion, keeping close watch of temperature, and avoiding undue exposure of important structures. The secret of success in operations on intestinal cancer lies in early diagnosis; therefore the general practitioner is the one who decides the future of a case. I believe cancer of the bowels is a curable disease in a fair percentage of cases if the operation is thoroughly performed at an early date; and even at an advanced period, when we have symptoms of obstruction, we should operate and give the patient relief and prolong life, which it is possible to do in many cases. Many will recall a case of cancer of the cæcum I presented to the society last spring, after removing the entire cæcum, appendix, and greater part of ascending colon. Over seven months have elapsed and this man is still in good health and working daily.

In conclusion, permit me to say that when there are symptoms of intestinal cancer—namely, a granual loss of flesh, obstinate constipation, local tenderness, and periodical attacks of pain, unrelieved in four to six weeks of intelligent treatment—I believe an exploratory incision is not only justifiable, but our patient's best interests demand it.

25 Charter Oak Avenue.

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*Read at a meeting of the Hartford City Society, September 15, 1902.

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ARTERIAL TENSION.

THE rapid increase in the number of instruments of precision, together with the perfection of laboratory methods, has caused a comparative neglect of the study of symptoms which were formerly all important. That this is so is a cause of regret, since both have a place in the practice of medicine, and it is our duty to study the living man as well as to analyze his secretions, or have a record of his temperature.

There can be no doubt that the study of the pulse has, to a great extent, been neglected; many observers being content with merely noting the force, frequency, and regularity, and paying but little attention to other characteristics.

One of the most important clinical points in the treatment of circulatory and renal diseases is to be found in the degree of arterial tension, a condition not readily recognized by the novice, to be sure, but to one who has studied this characteristic faithfully it becomes readily detected even in its more delicate shades.

Only too often is the laboring heart so exhausted by its endeavors to overcome the arterial resistance that it gives the clinician the impression that a stimulant is indicated, and consequently insult is added to injury, and the heart is whipped to work harder instead of having its load lightened. Digitalis often fails to give relief, simply because we forget that it causes the arteries to contract strongly. This property of the drug is a valuable one when the tension is low, and it has honestly earned its reputation as the best drug at our command in the usual cases of chronic valvular disease with failing compensation. It is quite otherwise, however, in those cases of arteriosclerosis, plumbism, gout, and chronic diffuse nephritis in which the tension is high and in which it becomes our duty to lessen the work for the heart to do, and by resting it, strengthen it. Many asthmatic attacks, headaches, attacks of convulsions, muscular twitchings, vomiting, prolonged epistaxis, apoplexies, angina pectoris, etc., can be traced to this cause, and may be relieved or prevented by means which lessen arterial pressure. In very urgent cases, amyl nitrite, chloroform, active purging, and even venesection, become most valued methods of treatment. Chloral, so justly considered a cardiac depressant, may, in small doses, serve our purposes well, simply because it lessens the work for the heart to do by lowering the pressure through its dilating effect on the arteries. Thus a depressant becomes a cardiac strengthener by allowing that organ comparative rest. Nitroglycerin is another valuable agent, and has gained most of its reputation as a cardiac stimulant simply because it opens the arteries. For those cases of less acute character in which the arterial tension remains steadily high, or comes in attacks, much can be done by regulating the mode of life, simplifying the diet, avoiding fatigue and undue exposure and looking after the eliminations. Of drugs, iodide of potash seems to be the most reliable and should be given for long periods.

James Mackenzie, in his recent book on the "Study of the Pulse," thus decribes the pulse of high arterial tension: "The impact of the oncoming wave may be somewhat gradual in attaining its maximum force, and sometimes the tracing obtained presents a sloping upstroke, or may even be anacrotic. If the heart be strong and contracting vigorously, the pulse wave may strike abruptly, as in certain cases of Bright's disease, or in slow pulse with fever, in which the arterioles have not relaxed. After attaining its maximum force the pressure does not fall suddenly away during the diastolic period. In this particular the pulse of increased arterial pressure under discussion differs from that in which there is great increase in the arterial pressure during systole, and a great fall in pressure during diastole, as occurs most typically in aortic regurgitation, and in large otheromatous arteries during febrile excitation of the heart. In the pulse of continuous high pressure the dicrotic wave is not perceptible to the finger as a distinct wave, but is merged in the resistance offered to the compressing finger. The aortic notch is high above the level to which the tracing falls at the end of the diastole—in striking contrast to what occurs in aortic regurgitation. The shock of the oncoming wave in the arteries may be felt by the patient over his whole body when the heart is acting with great vigor. Although the pulse rate may become slower with increase of pressure, it is far from being the rule that a high pressure pulse is a slow pulse. In many cases the pulse rate may continually be ninety and over, with chronic Bright's disease, and yet the pulse retain its peculiar cord-like quality. In cases of recurrent high arterial pressure the pulse rate generally becomes slower."

No instrument has yet been invented which tells us so truly the degree of tension within the arteries as do the trained fingers of the experienced observer, and it behooves us not to be discouraged if at first we are unable to detect the less obvious changes from the normal, but merely by constant comparison gradually establish a standard which we should consider a healthy one, to recognize its normal variations and eventually to know what degree may be considered pathological.

REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES ARMY.

THIS annual report for the fiscal year ending June 30, 1902, has been issued recently. The rates of admission to sick report for disease and injury, the rate of discharge for disability, and the mortality rate for the calendar year 1901 all agree in being considerably less than the corresponding rates of the year 1900. The admissions to sick report in 1901 constituted 1,791.59 per thousand of strength, as compared with 2,311.81 in 1900 and with 1,502.47, the mean annual rate of the previous ten years.

The rate of discharge for disability was 19.95 in 1901, as compared with 22.60 in 1900 and with 16.69 for the decade, and the death rate from all causes was 13.94 per thousand men, as compared with 22.74 and 11.91 respectively. Deaths from disease constituted 9.58 per thousand of mean strength, as compared with 15.79 in 1900 and with 8.49 during the years of the decade, and deaths from injury 4.36, as compared respectively with 6.95 and 3.42. During the year the mean strength of the army consisted of 92,491 men, of whom 81,885 were regulars and 10,606 volunteers.

The admission rate for troops serving in Porto Rico was 1,367.74 per thousand of strength, in the United States 1,550.25, in Cuba 1,557.49, and in the Pacific islands and China, 1,928.14. The death rate from all causes was 5.29 per thousand of strength in Cuba, 6.90 in the United States, 7.81 in Porto Rico, and 17.96 in the Pacific islands and China. Deaths from disease constituted only 3.21 per thousand in Cuba, 4.68 in the United States, and 12.40 in the Pacific islands and China. The mean strength of the commands were: In Porto Rico, 1,153; in Cuba, 5,297; in the United States, 26,515, and in the Pacific islands and China, 59,526.

Referring to clothing, the report says: "For field uniform the present campaign hat is the most satisfactory headgear yet devised. The lightweight flannel shirt is also excellent, but should be made of Khaki color, both as leading to decreased visibility, and because the lighter color would be cooler. High shoes, of the hunting type, are recommended for use in tropical climates, as they prevent infection by dhobie itch.

With regard to the most suitable ration for tropical climates, the report says: "Continued experience tends to disprove belief in the advantages to be derived from a reduced ration lessened in the amount of nitrogen and fats. In the theoretical discussion of this subject claims are made that, as the food in the tropics is not required for the maintenance of bodily heat, it might, with advantage, be reduced, especially in those foods which are heat-producing. Other theorists have gone even further, even to the point of contending that, rice being the staple food of natives, should be adopted to the exclusion of all else by the white man dwelling in the tropics. Heat-production must go on in tropical countries as in temperate climates; in fact, a certain amount of heat-production is essential as long as life lasts. The balance is maintained not by decrease in food, but by increasing heat loss by the use of lighter-weight clothing.

The main factor on which the amount of food needed depends is work. That a soldier's work in the tropics is less than in a temperate climate is not true. The results accomplished may be less, but tissue is used up with much more rapidity in a mean temperature of 85° F. than at 50° F., and an ample supply of good food is required to make good this waste, the effects of deprivation being shown immediately in reduced strength and health.

The most prevalent disease among the United States troops during the calendar year 1901 was malaria, but the death rate from it was exceedingly small. The most deadly malady was tuberculosis. Four hundred and fifty-two cases were reported from the army in the course of the year, equivalent to an admission rate of 4.89 per thousand, the death rate being 1.03 per thousand. Five hundred and ninety-four cases of typhoid fever were reported during the year, with seventy-eight deaths. In the army, as a whole, 125 cases of smallpox were reported, thirty-seven of which proved fatal, all these latter occurring in the Philippines. A large number of cases of measles were reported for the calendar year 1901, while scarlet fever was infrequent. Dengue was very prevalent among American troops in the Philippines, giving 31.67 cases per thousand of strength in the division there. But fourteen cases of yellow fever occurred in the army throughout the year. Since the early part of the current year cholera has attacked a limited number of American soldiers, and there have been some deaths. Alcoholism has kept at much the same ratio among the soldiers of the United States during the past year as in the years immediately preceding. One hundred and sixty-six cases of insanity were reported for 1901. An insignificant number of soldiers suffered from bubonic plague in the Philippines in the early part of the fiscal year, but the disease seems to have disappeared from among the civil, as well as the military, population at present. Two hundred and seven cases of heat stroke were reported, equivalent to 2.24 per thousand.

During the calendar year 1901 there were entered on the reports of sick and wounded of the army, mean strength 92,491, 17,736 cases, or 191.77 per thousand of strength, with 407 men discharged for disability and 403 having a fatal termination, equivalent, respectively, to 4.40 and 4.36 per thousand of strength.

When the fact is taken into consideration that by far the larger part of the United States army was serving in the Philippines at the time the report covers, in a climate unhealthy to white men, and under conditions incidental to the style of warfare pursued there, it must be admitted that the health of the army for the calendar year 1901 has been quite as satisfactory as could have been anticipated.

TREATMENT OF THE WOUNDED IN NAVAL ACTIONS.

This matter is one that is engrossing the attention of most earnest medical naval officers at the present time. It is felt by them that adequate arrangements have not been made, in many of the navies of the world, for the treatment of the injured, either in peace or in war. The treatment of the wounded, under the existing conditions of naval warfare, may be said to be an almost unknown quantity. There have been no battles at sea within the past thirty years—with the exception of the Japan-China and the Spanish-American wars—calculated to give a clear idea as to what would happen in modern naval warfare, and how the wounded would fare. Both the Japan-China and Spanish-American naval battles were so one-sided that the lessons learned from them were of little use. The Chinese gave no medical report of their engagements, neither did the Spanish, and the Americans did not suffer sufficient casualties to make their narration of any practical value. There remains, then, only the report of the Japanese naval medical service, which, while excellent, is too limited in its scope to serve as a guiding light.

At the section on naval and military medical matters, at the last meeting of the British Medical Association, Fleet Surgeon Gilbert Kirker read a paper in which he dealt with this subject at some length. Surgeon Kirker is the inventor of an "ambulance sleigh" for transporting the wounded easily and expeditiously to whatever part of the ship the operating room may be in, and which was referred to in the MEDICAL RECORD of September 21, 1901. Surgeon Kirker, in the paper read by him this year, said, with regard to the surgeon's station during an engagement at sea:

"In most navies there is no position specially designed for them. In each ship the captain and medical officer select what they consider the most suitable locality. . . . To deal at all satisfactorily with the wounded, the surgeon's station should consist of two parts, namely, a place where the wounded could be gathered together, or a 'collecting station,' and a place where surgical operations could be performed. For the first, some protected and sufficiently commodious part of the ship could be selected and the necessary arrangements improvised. On battleships and first-class cruisers there is ample accommodation on the middle and lower decks respectively for this. On these decks there would be few men stationed during action.

"In my former paper I suggested that certain ships should be fitted with an operating room, which could be used both in peace and war. This suggested operating room should be included in the internal arrangements of every modern battleship and cruiser. It need not be large, but it should be fitted up to meet the requirements of asceptic surgery. Neither need it be particularly easy of access, for with the 'ambulance sleigh' injured men can be easily and safely taken down and along all ordinary hatchways and passages. During peace, important surgical operations will be done in it, instead of in the overcrowded sick bay, and in it, also, the valuable surgical instruments would be kept in readiness for use. In time of war the surgeons' surgical instruments and dressings would be protected in this place during action, and after action surgical operations could be done in it with more chance of success than in the constantly-used bathrooms or greasy mess places."

The innovation recommended by Fleet Surgeon Kirker seems, at least to the non-naval man, one that with advantage might be promptly adopted. Doubtless officers of the navy, outside the medical service, will detect in the proposed plan many objections. They will say that the space is wanted for some purpose directly connected with fighting, and that everything must be subordinated to the exigencies of the situation. Others may contend that hospital ships will be present in ample numbers to take on board the injured, and to treat them in the best possible manner. For reasons too numerous to state here, it is by no means certain that the hospital ships will always, or even often, be where they are needed. In the cause of humanity, then, there assuredly should be some portion of a man-of-war set apart as an operating room, although such a course may interfere to a slight extent with the fighting powers of the ship. The most telling argument in favor of this recommendation is the fact that both the German and Japanese navies have operating rooms on board their battleships and large cruisers.

ALCOHOLISM AND INSANITY

The relation of alcoholism to insanity has been freely discussed among medical men almost from time immemorial. The fact has always been admitted that excessive indulgence in strong drinks is a factor in the production of mental aberration. The point of the argument has been as to what extent inebriety is the cause of insanity. Some have held and some still hold that alcoholism as a factor in the causation of brain affections has been and is much exaggerated. On the whole, however, alienists of the present time recognize that drinking is one of the chief means of rendering individuals irresponsible for their actions, and of peopling the lunatic asylums to the degree which now prevails.

Dr. Robert Jones, Superintendent of the London County Asylum, Claybury, writes in the *Lancet*, October 25, on the subject, and says in part: "There are probably at the present time no less than 110,000 certified insane persons in England and Wales alone, of whom, approximately, about 50,000 are males and 60,000 are females. If the Lunacy Commissioners' Blue Book for England and Wales be consulted the proportion per cent. of instances in which alcohol has been assigned as the cause of insanity to the yearly average number admitted into asylums in the five years 1895–1899, inclusive, is 21.8 for males and 9.5 for females. The proportion is much higher in Scotland, and, after allowing for the deaths of those whose form of insanity is more immediately fatal than those caused by alcohol, there are, I believe, upon the lowest computation, remaining in the asylums at the present time no less than 10,900 males and 5,800 females who are mentally decrepit through the effects of alcohol. During the time that the London County Council's asylum at Claybury has been opened, from 1893 to the end of 1901—a period of less than nine years—8,493 patients (3,776 males and 4,717 females) have been admitted thereto, of whom 21.2 per cent. of the males and 12.6 of the females were definitely ascertained to owe their insanity to drink. A total of over 800 men and 594 for women have been thus rendered incapable of productive work through their own acts, and are being, or have been, supported and clothed at the rate-payers' expense."

With regard to the reputed increase of the drink habit among women, Dr. Jones says: "The proportion of women committed to asylums for insanity brought on by alcohol is largely on the increase and especially among laboring classes. The fact pointed out by the Lunacy Commissioners that whereas the proportion per cent. of alcoholic admissions to total admissions into asylums bears a ratio in the private class of 20.8 males and 9.4 females it is 22.7 for males and 9.7 females among the pauper class, seems to show a greater moral weakness, which prefers immediate gratification to ultimate good, among the poorer classes, as also does it show the increased inhibition which education, the influence of public opinion, and the effects of social ostracism may exercise upon the well-to-do. It is a fact which cannot be blinked that secret drinking is more common among women than men, and more common among well-to-do women than among the poor."

From statistics gathered in every country it is plain that insanity is on the increase, and it would seem to be almost as certain that alcoholism is one of the most fruitful causes of the numerous mental breakdowns. As to the increase of drinking among women, this phase of the situation is undoubtedly chiefly confined to Great Britain. The women of the poorer classes here do not, as a rule, drink to excess. Some lay papers a short time ago published sensational articles asserting that the American women, and particularly the young women of the wealthy class, were accustomed to indulge in strong drinks. These statements, however, were not confirmed, and were probably founded on the fact that a few well-dressed women have been seen imbibing stimulants in fashionable restaurants. The custom is not general, and among the wealthy classes here, as among all classes, drinking is less common than in Europe. Nevertheless it is undeniably true that alcoholism and insanity bear a very definite relation to each other.

Disease in the Philippine Islands.

The somewhat belated report of the Bureau of Health for the Philippines, dated June 15, states definitely the fact already made public that cholera has been decimating the native population of Manila during the past year.

The death rate of Manila for May was 65.81 per thousand, while among the native population it reached the portentous figures of 83.24 to the thousand, or about one person in twelve. Of 1,547 deaths which occurred in May among the residents and 112 among the transients, 445 resulted from Asiatic cholera.

The mortality from the disease among Americans was comparatively small, amounting to only 27.34 per thousand. In the middle of May the virulence of the disease showed an appreciable diminution, so much so, indeed, that the Board of Health raised the quarantine on Manila and the provinces along the railroad. Other neighboring provinces also exhibited a decrease in cholera cases, a result which may be largely attributed to the energetic measures practised by American surgeons.

In Manila beriberi and tuberculosis have, during the year gone by, showed a remarkable increase.

The report publishes interesting statistics of the lepers in the Philippines. The various provinces are reported to contain 3,063 persons afflicted with leprosy. Male lepers number double that of female lepers; 2,092 cases are among adults, and 171 among children; 1,097 of the total number are married. Nearly all the cases are among the Filipinos, there being but forty-three Igorrotes and 220 among the Moros sufferers from the malady. The Board of Health of Manila have displayed a commendable activity in sanitary matters, as may be gathered from the fact that in May 262,500 houses were inspected and 123,092 reinspected, while 31,242 were cleaned. The destruction of rats was also carried on in a wholesale manner. Vaccination was widely practised, over twenty thousand people being vaccinated in May, and sixty-four thousand vaccine points being issued. The result of this was a triumph for vaccination, as there were only nine new cases of smallpox and four deaths from the disease in the month.

Tuberculosis in Public Asylums.

The report of the Tuberculosis Committee of the Medico-Psychological Association of Great Britain and Ireland has recently been issued. The committee has investigated and collected evidence with regard to the isolation of phthisical patients in asylums, and has made practical suggestions. On the whole, the members of the committee find that the charges brought against asylums that tuberculosis was very prevalent in them, and which originated the investigation, have been substantiated. The committee finds that phthisis is prevalent in public asylums to an extent which calls for urgent measures. Furthermore, its members have come to the conclusion that large numbers of patients contract the disease after admission to the asylums, and they proceed to treat of the influences that bear on the asylums' death rate—over-crowding, soil, insufficiency of hours in the open air, defects in ventilation and heating, elevation of asylum buildings, and uncleanly habits. The means of prevention recommended by the committee are set forth as follows: "Early diagnosis of phthisis, isolation of all cases of the disease, limiting the size of future asylums, checking overcrowding, increasing day and night cubic space, restricting the number of beds in dormitories, increased and more thorough natural ventilation for patients, care touching promiscuous spitting, and careful supervision of dietary.

Dr. Crookshank, whose paper was one of the causes of the appointment of a committee to investigate into the condition of asylums, mentions three plans which are possible in the interests of the uninfected patients:

1. With due recognition of the value of ample air space and generous dietary, convert the asylums into large consumption hospitals. This is not the best plan, and it would certainly not be the least expensive.

2. Provide a consumptive block in connection with each asylum, as advocated some years ago by Sir J. Crichton-Browne. In practice this plan when adopted, has meant simply an infirmary for such consumptives as keep their bed and are quiet.

3. Segregate every case of tuberculous disease, whatever the mental condition of the patient. For these segregated patients the open-air sanatorium treatment should be provided.

Statistics in Great Britain—though kept with deplorable laxity—would seem to show that the mortality from tuberculosis among asylum inmates is about five-fold or six-fold more than the ordinary death rate.

It would be interesting to learn whether statistics of our State hospitals bear out the conclusions arrived at by the British committee.

The Milk Committee of the Medical Society of the County of Albany and the Milk Supply.

The above-named committee has recently been testing, bacteriologically, specimens of milk obtained from numerous milk dealers of Albany County. The *Albany Medical Annals*, November, contains an account of the results of this investigation. The milk examined was purchased direct from milk wagons, and all the examinations were made at the Bender laboratory by Mr. A. J. Douglas and Mr. Donald Boyd.

Sixty-five specimens were examined from fifty different dealers. Of these, nine contained pus, and the smear from the sediment of one showed streptococci and staphylococci in abundance. Four of the dealers sold milk in bottles. One driver was seen to fill an empty bottle in a wagon from his can, clap on a cap, and, presumably, sold it as bottled milk. Three counts were so low as to suggest the use of preservatives. In each instance the milk was "dipped" from cans none too clean. One specimen showed the bacteria after five days, and there were only a few moulds on the plates. The summer was remarkably cool, and the counts would have been much higher if the weather had been hot. In spite of this, the number of deaths from diarrhœa in Albany has been very great—so much so, that the health officer in his report, commenting on these deaths, says that "some systematized efforts should be made to improve the milk supply of the city."

Some of the specimens contained some 3,000,000 bacteria per c.c.; one contained nearly 10,000,000 bacteria per c.c., while several specimens showed the presence of more than 1,000,000 bacteria per c.c.

The committee came to the conclusion that the milk now supplied to Albany is not at all what it should be, and urge that steps be taken to insure a purer milk. The committee further gave as their opinion that sanitary milk cannot be sold at the current price—six cents a quart.

The committee, therefore, recommended that a permanent milk committee be appointed which shall have authority from the society to formulate certain standards and conditions, and to grant certificates to such dairymen whose dairies and milk comply to such standards and conditions; and that this milk should be sold for ten cents a quart; and that the members of this society, who shall be kept informed of the names of such dairymen, shall recommend and urge its use in the feeding of invalids, small children, and infants.

The conditions, as regards the milk supply are similar in Albany to those prevailing in many other towns. In order to ensure to the public a pure supply of milk, the essential point is to induce the dairy farmers and dealers to use strictly clean methods in housing and in milking the cows, and in putting the article on the market. If this object cannot be effected at the price charged by some dealers, then it will be advisable to warn the public against buying milk at a cheap rate.

The recommendation of the Milk Committee of the Medical Society of the County of Albany that certificates should be granted to such dealers who comply with certain formulated standards and conditions, is a step in the right direction, and might be adopted in the interests of health by the medical societies and health boards in all towns.

Insanitary House Furnishing.

The main object in furnishing a house with due regard to the health of its inmates, is to provide as few receptacles for dust and for the propagation of microbes as possible. Modern hospitals and sanatoriums are constructed upon this principle. Mouldings, ceiling and wall ornamentation and decoration are entirely dispensed with. The floor is smooth without interstices, guiltless of carpet, and made of a hard, highly polished wood. Every endeavor is made to render the interior of the building aseptic.

Although, perhaps, it would be scarcely desirable that private houses should be regulated, as to their furniture and internal decoration, with the sole view of effecting perfect sanitary results, to the exclusion of all ideas of the beautiful and artistic, yet in many respects public medical institutions might be copied with advantage by householders.

The Greeks and Romans were immeasurably the superiors of the present generation in the planning of houses, which, while pleasing to the eye both inside and out, were devoid of the excess of furniture which it is the delight of the modern rich man to encumber his dwelling places.

We need mention but one feature of up-to-date house furnishing which is a potent menace to health and the principal harborer of dirt and microbes, namely, the carpet.

In *Good Housekeeping*, October, Mr. Wilson points out the possible dangers to health resulting from floor coverings when proper attention is not paid to their care. The statement is made that in a carpeted room in a tenement house, seventy-five germs settled on a three-inch saucer in five minutes, while after sweeping there were 2,700 within the same space.

William Morris, the modern apostle of the beautiful and æsthetic in house furnishing, said that the use of a carpet was excusable only when the floor was in bad condition, but Mr. Wilson thinks that even this is hardly a sufficient reason, for a new floor can be laid over an old one, and he goes on to say: "If one must have carpets, let them be tacked down at intervals of not less than six inches, and with long tacks driven in only at short distances."

The same writer is also of the opinion that the modern steam cleaning of carpets is not so good as that of older days, as airing is desirable. In cleaning a carpet it should be laid on the grass, face down, and then well beaten from the back. This causes the dirt to drop out of the loops where it is so deeply embedded. Brushing the surface with a broom removes the lighter particles, and washing with a cloth wetted in diluted ammonia will both freshen and clean the surface.

Carpets, and especially thick and heavy ones, are, in most instances, uncleanly, unhealthy, and unnecessary. In order to keep them in a sanitary condition, they must be frequently and thoroughly cleaned; and in towns, at least, even in the best houses, this is seldom done. In tenement houses carpets are no more nor less than a positive and constant source of danger to health. There is no need in any room to have the floor completely covered. Large rugs placed where necessary on a sound, well-polished floor answer the purpose as well as a large carpet, looks better, and, above all, are decidedly more healthy. The tendency to crowd a house with furniture and works of art is both vulgar and contrary to the laws of health.

Philadelphia Pediatric Society.—At a stated meeting, held November 11, Dr. L. H. Bernd exhibited a patient with a double mitral disease, probably congenital. The patient was a child a little more than two years old, in whom precordial bulging and a certain degree of cyanosis were observed shortly after birth. The mother had had an attack of rheumatism during the pregnancy, but the child had been free from infectious diseases. The heart was greatly enlarged, and a presystolic and asystolic murmur had been audible, with marked accentuation of the second sound, and also with thickening of the ends of the fingers. In the discussion, the suggestion of a deficiency of the interventricular septum was made. Dr. S. McC. Hamill exhibited a child showing cerebellar symptoms following a fall. The little patient was three or four years old, and it had fallen down a flight of five stairs. In a short while it began to vomit and the gait became ataxic, with a tendency to fall to the left. Improvement took place in the symptoms, and had progressed to almost perfect recovery. Accordingly, inflammation of membranes and brain, as well as hemorrhage into the cerebellum, were excluded, and the condition was looked upon as one of concussion without gross organic lesion. Dr. Hamill also read "A Review of Some of the Older Writings on Maternal Nursing," in the course of which he pointed out numerous views as to nursing and weaning that at the present day appear ludicrous. Dr. Theodore LeBoutillier reported a case of chronic intestinal indigestion, with an acute exacerbation and meningismus. Consciousness was lost and convulsions occurred, but recovery ensued as the gastrointestinal derangement and the associated intoxication were relieved.

News of the Week.

Recrudescence of Cholera in the Philippines.—A despatch to *The Sun* from Manila, dated November 12, states that cholera has broken out in the Fifth Infantry, which is quartered in Manila. Seven enlisted men have already died from the disease, and a dozen others are ill. Cholera has reappeared at Maraquina, seven miles from Manila, along the rivershed which supplies that city with water. Orders have been issued reestablishing a military quarantine to guard the sources of supply and prevent infection of the water supply. It is doubted that the recrudesence of the disease in Manila will prove serious.

School Infection.—In the recently published report of the corps of medical school inspectors on their work from the first week in September, when the schools opened, until October 25, it is stated that 1,027,835 inspections were made, and that 19,453 children were excluded—in most cases only temporarily—principally on account of the following diseases: Parasitic diseases of the head, 11,396; contagious eye diseases, 6,667; chickenpox, 19; mumps, 29; whooping cough, 68; scarlet fever, 7; diphtheria, 4; measles, 12; various forms of skin diseases, 443. In Brooklyn, during the week ending November 8, 412 had to be excluded for the following causes: One case of diphtheria, five cases of whooping cough, nineteen cases of mumps, 147 cases of contagious eye diseases, 171 of parasitic diseases of the head, three cases of chickenpox, sixty-one cases of skin diseases. These children were all in attendance at the schools at the time of inspection. The total number of children examined in the parochial and public schools was 97,333.

Combining against Mosquitos.—Some of the residents of Morristown, N. J., have formed a corporation for getting rid of the mosquitos of Speedwell Pond. Most of Morristown is built over heaps of glacial stone, which affords drainage. But some railroad embankments and a partial filling in of the lake have caused the forming of a great swamp near Speedwell, where the mosquito flourishes. Experts report that the only way to make the lake sanitary is to dry it up. The company has been capitalized at $25,000, of which one-half has been paid in. The only dividends looked for are in the shape of increased health and comfort resulting from the absence of mosquitos.

Rush Medical College and Chicago University.—It is said on we do not know what authority that the enormous sum of $8,000.000 will be spent by the University of Chicago for building up Rush Medical College. This will be the result of making Rush an organic part of the university, which will be accomplished at the end of the scholastic year if the Rush trustees raise $1,000,000. The expenditure of the sum mentioned will not be begun immediately, but it will be accomplished within the next decade. Several Chicago multimillionaires are mentioned as probable donors of the million needed by Rush, and the unfailing Rockefeller well is said to be ready to gush up the eight millions.

American Rontgen Ray Society.—The third annual meeting of this society will be held at the Sherman House, Chicago, on December 10 and 11. The president of the society is Dr. G. P. Girwood of Montreal, the secretary, Dr. James B. Bullitt, 205 West Broadway, Louisville, Ky. The Eastern, Western, Central, and Southern Passenger Associations have granted a one and one-third fare rate, provided that one hundred persons buy tickets on this plan.

Christian Science and Contagious Disease.—Mother Mary Baker Eddy is not so big a fool as many of her worshippers, and has advised readers and healers throughout the land to fight shy of contagious disease. "Until public thought," she says, "becomes better acquainted with Christian Science, the Christian Scientists shall decline to doctor infectious or contagious diseases," though how they are going to diagnose a think of pimples from a claim of smallpox she doesn't say. Perhaps the healers will do what many of them have long had the custom of doing—call in a physician to make a diagnosis and prognosis, and then dismiss him and think and protest and fight the claim. In a recent issue of the *Christian Science Sentinel* the editor says healers have a perfect right to treat disease under the constitution which provides for the free exercise of religion, but he orders them not to fool with contagious maladies. When it comes to that, he says "a different phase of the question is presented in the matter of reporting cases of so-called contagious diseases, in keeping with the law or regulation which has been enacted with a view to conserve the public welfare, and so long as the law demands that such cases be reported, Christian Scientists shall be prompt and unfailing in their obedience, and give the public the benefit of any serious doubt which may attend the classification of disease."

Mutter Lecture on Surgical Pathology of the College of Physicians of Philadelphia.—The Mütter Lecture for 1902 will be delivered in the Hall of the College of Physicians, N. E. corner of thirteenth and Locust streets, on Tuesday, December 2, at 8 P.M. by Louis A. LaGarde, Major and Surgeon, U. S. Army. Subject: "Poisoned Wounds by the Implements of Warfare."

Lectures on Orthopedic Surgery.—A course of free clinical lectures on orthopedic surgery will be delivered by Dr. Hibbs at the Orthopedic Dispensary and Hospital, 126 East Fifty-ninth street, on Tuesday and Saturday afternoons, at four o'clock, from November 25 to December 27, inclusive.

Public Lectures on Scientific Subjects at the College of Physicians and Surgeons.—The following lectures on scientific subjects of interest to students and teachers of medicine will be given by officers of Columbia University. On successive Wednesdays at 5 o'clock in the Lower Lecture Hall, College of Physicians and Surgeons, entrance at 437 West Fifty-ninth street, officers, alumni, and students of the College of Physicians and Surgeons are invited to attend these lectures. Admission is without ticket up to the limit of the Lecture Hall. November 26, Bashford Dean, Ph.D., Adjunct Professor of Zoology, on "The Beginnings of Certain Characteristic Structures of Man"; December 3, Edmund B. Wilson, Ph.D., LL.D., Professor of Zoology, on "The Phenomena of Cell Division in Relation to Some Problems of Biology and Medicine" (illustrated); December 10, Lucien Marcus Underwood, Ph.D., Professor of Botany, on "The Relation of Botany to Materia Medica"; December 17, Livingston Farrand, A.M., M.D., Adjunct Professor of Psychology, on "Nervous and Mental Diseases among Savage Races"; January 7, J. Livingston Rutgers Morgan, Ph.D., Adjunct Professor of Physical Chemistry, on "Osmotic Pressure and Ionization" (illustrated); January 14, Edmund Howd Miller, Ph.D., Adjunct Professor of Analytical Chemistry, on "Some Analytical Applications of Ionization"; January 21, Marston Taylor Bogert, A.B., Ph.B., Adjunct Professor of Organic Chemistry, on "Synthetic Organic Medicaments"; January 28, James McKeen Cattell, Ph.D., Professor of Psychology, on "Physical and Mental Fatigue"; February 4, James Furman Kemp, A.B., E.M., Professor of Geology, on "Geological Factors in Problems of Water Supply" (illustrated); February 11, Richard Elwood Dodge, A.M., Professor of Geography in Teachers College, on "The Weather Phenomena of the Eastern United States in Their Relation to Bodily Health" (illustrated); February 18, Gary N. Calkins, Ph.D., Instructor in Zoology, on "The Protozoa in Relation to Modern Problems in Biology"; February 25, Henry Fairfield Osborn, Sc.D., LL.D., Da Costa Professor of Zoology, on "Methods of Exploration for Fossil Mammals and Reptiles in the Rocky Mountain Region" (illustrated); March 4, Frank Leo Tufts, Ph.D., Tutor in Physics, on "Some Recent Researches on the Relation of Electricity to Matter" (illustrated); March 11, William Hallock, Ph.D., Professor of Physics, on "Some Phenomena of the Molecular Mechanics of Liquids" (illustrated); March 18, Franklin Henry Giddings, Ph.D., LL.D., Professor of Sociology, on "Vital Statistics" (illustrated); March 25, Henry E. Crampton, Ph.D., Adjunct Professor of Zoology, on "The Problems and Results of Experimental Embryology" (illustrated); April 1, Alexander P. Anderson, Ph.D., formerly Curator of the Herbarium, on "Starch, Its Properties and Uses" (illustrated).

Coroner's Wisdom.—In a fulness of knowledge, and with characteristic assurance, the Coroner's assistant in the city of Philadelphia has ventured to reject the diagnosis of hydrophobia made by two reputable physicians, stating that "there is no such thing as hydrophobia," and proffering the services of his office for instruction on the subject.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting, held November 10, Dr. Chas. K. Mills presented a patient exhibiting symptoms of brain tumor in whom a blow with a hammer over the angle of the lower jaw was followed by contraction of the risorius muscle. Drs. Wm. G. Spiller and J. H. McKee presented "A Patient with Paraplegia Following Lumbar Puncture for Cerebrospinal Meningitis." The patient was a colored child about four years old and the symptoms of paraplegia developed in such close sequence upon the puncture of the spinal canal that there seemed no doubt that the two were related as cause and effect. Great improvement followed treatment with massage and electricity in conjunction with active movements of the affected members, while the child was placed in a bath of warm water for a short time once or oftener daily, it being believed that such movements are more readily executed in water than on the bed. Dr. Wm. G. Spiller read a paper entitled "Traumatic Lesions of the Brain in Relation to Operation." He related a series of cases of injury to the skull in some of which operation had been performed promptly with brilliant results with regard to both immediate and permanent success, and in others of which disaster of varying degree had followed in consequence of postponement or abandonment of operation. The subject was discussed also by Drs. Mills, Frazier, and Burr. Dr. J. H. Musser presented "Notes of a Case of Leprosy." He reported the case of a young Cuban girl at school in this country who presented symptoms suggestive of rheumatism, but which in the further progress of the case were found on return home and examination by experts to be dependent upon leprosy. Dr. Alfred Stengel read "A Preliminary Report of Two Cases of Pulmonary Thrombosis in Typhoid Fever." In the one case the condition was recognized only upon postmortem examination, while in the other it was diagnosticated during the life of the patient, while after death bronchopneumonia, pulmonary infarction abscess of the lung and pleurisy in addition to characteristic intestinal changes were found, and typhoid bacilli were isolated from all of the lesions. The case was marked further by a notable diminution in the number of leucocytes in the blood.

The Suffolk County (N. Y.) Medical Society.—The annual meeting of this society was held at Patchogue, L. I., on Saturday, November 1. Papers were read by Dr. P. F. Chambers of New York City on "The Gynecologist's Position in Medicine," and by Dr. W. B. Heyman of the Cental Islip State Hospital on "Some Practical Points Relating to Mania." A committee, consisting of Drs. A. H. Terry of Patchogue, W. H. Ross of Brentwood, and M. B. Lewis of Easthampton, was appointed to arrange a tariff of fees. The secretary of the society is Dr. P. Van Benschoten Fowler of Centre Moriches.

A Monument to Esmarch.—The eightieth birthday of Prof. Friedrich v. Esmarch will be celebrated in Kiel on January 9, 1903. In honor of this event a monument will be erected in Tönning, v. Esmarch's birthplace, the unveiling of which will take place some time next summer.

Dr. Herman Knapp has resigned from the chair of ophthalmology at the College of Physicians and Surgeons, Medical Department of Columbia University, and has been appointed by the trustees of the university Emeritus Professor of Ophthalmology.

Popular Lectures on Tuberculosis.—The Committee on Tuberculosis of the Charity Organization Society last night, in the Charity Organization Society's building, Twenty-second street and Fourth avenue, decided to give lectures the first Monday in every month in the assembly hall of the United Charities Building, and also in public school buildings, on the prevention of consumption. The lectures will be in English, Italian, and Yiddish, and possibly also in Chinese. The first lecture was delivered on November 10 by Dr. J. H. Huddleston, the subject being "Germs of Consumption—What They Are and What They Do." Others of the course will be by Drs. Biggs, Janeway, Knopf, Trudeau, Jacobi, and Bryant, and Secretary Devine of the Charity Organization Society.

The New York University Loses Its Laboratory.—The Appellate Division of the Supreme Court has handed down a majority opinion sustaining the decision of Justice Truax in directing the New York University to reconvey to the Medical College Laboratory of the city of New York the premises which were deeded over to the university in 1897 in accordance with a plan for combining the laboratory and the university. The property in question is on the south side of Twenty-sixth street, 150 feet east of First avenue, and its value, as stated in the decree, is from $150,000 to $200,000. According to the findings of the Appellate Court, the transfer to the New York University from the Medical College Laboratory by deed dated February 8, 1897, was a conveyance in trust or upon conditions. Both the property and the entire control of all matters relating to medical affairs were to be vested in a medical committee, and, although not so stated in the deed, such were understood to be the conditions of the transfer. The Appellate Court finds that the New York University violated the conditions of the trust, and directs that the property be deeded back to the grantor.

A New Name for Christian Science.—A Christian Science reader or healer "passed on" from Toledo recently, and the unfeeling "claim" made in the certificate was that death was due to autointoxication.

A Medical Governor of Rhode Island.—Dr. Lucius F. C. Garvin of Lonsdale, the newly-elected Governor of Rhode Island, is a native of Tennessee, he having been born in Knoxville, that State, in 1841. He is a graduate of Amherst College, in the class of 1864, and of the Harvard Medical School in 1867. He was elected on the Democratic ticket.

Increasing Birth Rate in France.—After a long period of steady decline, the birth rate in France is beginning to rise. The report on vital statistics for 1901, recently published, shows an increase in population of 72,398, against a decrease in 1900 of 25,988. There was a slight proportional decrease in the death rate, but the larger population is due mainly to an increase in the number of births.

Faith Healing and Fraud.—A concern in Nevada, Mo., styled the American School of Magnetic Healing, has for some time been conducting an extensive "absent-treatment" business, undertaking, upon payment of the necessary fees, to heal disease in anyone, anywhere, at any distance, by mental process. After an investigation by inspectors, the Postmaster-General issued an order declaring the business a fraudulent one, denied the concern the use of the mails on that ground, and directed the return of all mail matter addressed to the school. The business manager of the concern appealed to the local court against this decision, and being denied there took the case to the Supreme Court. This tribunal has decided that the Postmaster general had not the right to say whether any form of treatment was or was not capable of curing disease, and that therefore he erred in branding the business of the "magnetic healers" as fraudulent and depriving them of the use of the mails. Justice Peckham, who handed down the decision, and those who concurred with him in it seem, from the published reports of the case, to have missed the point of contention. The Postmaster-General did not, in effect, pretend to pass upon the efficacy of any form of treatment, he merely insisted that the business of that particular concern was fraudulent. According to Acting Assistant Attorney-General Christiancy, the principal inducement made in all the advertisements and circulars of the American School of Magnetic Healing was that for the sum of $5 a month Prof. Weltmer would devote fifteen minutes each day in special and particular thought for the patient remitting him the fee in order to effect a cure. But the income in fees amounted to $2,500 a day, which made it an utter impossibility for Weltmer to devote fifteen minutes each day to each person, and, either in despair of carrying out his promise or for some other reason, he went to Manitou Springs for a long vacation, and during other periods of time was lecturing throughout the country, paying no attention to his absent-treatment business. The parties in the scheme were indicted for using the mails to defraud, and Weltmer pleaded guilty to the charge at Kansas City, Mo., April 26, 1901, and was fined $1,500.

The Late Dr. M. J. Asch.—At a stated meeting of The Medical Association of the Greater City of New York held at the New York Academy of Medicine November 10, 1902, the following report was received and adopted: Morris Joseph Asch, M.D., died at Irvington-on-Hudson October 5, 1902, in his seventieth year. He was a native of Philadelphia, where he took his degree in arts at the University of Pennsylvania in 1852, and in medicine at Jefferson Medical College in 1855. Through the civil war he served with distinction on the staff of Gen. Sheridan. For upwards of thirty years, and until his retirement less than two years ago, he was engaged in active practice in New York, where he gained a large following and many friends. In 1872 he became a surgeon and afterwards a consultant at the New York Eye and Ear Infirmary, and he served in similar positions in the throat department of the Manhattan Eye and Ear Hospital from the year 1879. For several years he held a professorship of Laryngology at the New York Polyclinic. He was one of the original Fellows of the American Laryngological Association, and in 1892 received the well-deserved honor of election as its president. His contributions to literature were frequent and valuable, consisting for the most part of clinical reports gathered from his unusually wide experience. He was a member of many social and scientific bodies, in all of which he won the friendship and esteem of a large circle. By those most intimately associated with him in hospital and clinical work he will be remembered for his devotion to duty, his keenness in diagnosis, and his manipulative skill. His chief title to fame with the profession at large rests upon his careful elaboration of an operation for the correction of deflections of the nasal septum, with which his name will always be connected. Whatever may be the general opinion of the Asch operation, whatever improvements and modifications it may hereafter undergo, the fact remains that he succeeded in grasping the principles which underlie the successful management of this obstinate deformity and in proposing certain technical details of marked value. His charm of manner, his amiable disposition, and his kindness of heart combined to endear him to everyone with whom he came in contact, whether patient, friend or colleague. Those nearest to him will always recall his attractive personality. To the world his career and character will stand as models worthy of emulation.

(Signed) Charles H. Knight, Chairman.
H. Holbrook Curtis, } Committee.
Henry Freeman Walker, }

Bucks County (Pa.) Medical Society.—At the annual meeting held at Doylestown on November 5, the following officers were elected for the ensuing year: *President*, Dr. Evan R. Groom of Bristol; *Vice Presidents*, Drs. William S. Erdman of Buckingham, and Charles B. Smith of Newtown; *Secretary*, and *Tresaurer*, Dr. A. F. Myers of Blooming Glen.

The Late Dr. Abel Mix Phelps.—The following is the report of a special committee of the Medical Association of the Greater City of New York. Dr. Abel Mix Phelps, whose death occurred on October 6, 1902, was born as Alburgh Springs, Vt., January 21, 1851, and obtained his medical degree in 1873 from the University of Michigan. After practising a number of years at Chateaugay, New York, he spent some time abroad, devoting himself especially to orthopedic surgery. In 1885, shortly after his return to this country, he was called to the Chair of Orthopedic Surgery in the University of Vermont. Later, he occupied for a number of years the same chair in the University of New York. As a further recognition of his labors in this branch of surgery, he was, in 1894, elected President of the American Orthopedic Association. In 1901 he became President of the Medical Society of the State of New York. At the time of his death he was Visiting

Surgeon to the City Hospital, Blackwell's Island, and was Professor of Orthopedics in the New York Post-Graduate School. Dr. Phelps was a man of enthusiasm and force, great originality, and firm convictions. Lucid in thought and expression, a bold and skilful operator, he was also a successful teacher and leader in his chosen field, operative orthopedics. Early recognized as a pioneer, his name will be held in honorable esteem wherever scientific orthopedics is practised. Those who were associated with him more intimately knew the tender side of his nature. In a wider circle he will be best remembered as an honest and true friend.

(Signed) Thomas E. Satterthwaite, Chairman.
Robert T. Morris, } Committee.
Reginald H. Sayre, }

Obituary Notes.—Dr. Obadiah Newcomb of this city died suddenly of apoplexy on November 14, aged eighty-one years. He was born in New York City on January 23, 1821. He was graduated as Bachelor of Arts from Columbia College with the class of 1840, and later received the degree of M.A. from the same institution. He studied medicine at the Medical College of Castleton, Vt., and was graduated therefrom in 1850. Dr. Newcomb was one of the first physicians of this city to adopt homœopathic practice. For many years he carried on a large practice, continuing up to the day of his death, and gained a reputation for sterling personal qualities as well as for his professional skill.

Dr. William H. Crim of Baltimore, one of the most prominent physicians in Maryland, for many years Surgeon-Major of the Fifth Regiment, Maryland National Guard, and a noted collector of antiques, died suddenly from heart disease on November 15. He was born in Loudoun County, Va., fifty-seven years ago, and was graduated from the University of Maryland School of Medicine in 1870.

Dr. William H. Kimberlin of Kansas City was shot and killed on November 11 by a patient upon whom he had operated for cataract and who had persuaded himself that the operation had injured his sight. After shooting the doctor, the man, a policeman, killed himself. Dr. Kimberlin was fifty-eight years old and was a graduate of the College of Physicians and Surgeons, Kansas City, in 1884, but had previously studied the diseases of the eye in several institutions in this city for several years before taking his degree. He was one of the best known ophthalmologists in the West.

Dr. William Henry Haynes, president of the Brooklyn Society for Neurology, died on Saturday, November 15, at his home in Brooklyn. Dr. Haynes was born in New York City forty-six years ago. He was educated in the College of the City of New York and in the medical department of New York University in 1876. For fourteen years he practised in the old city of New York and then moved to Brooklyn. He was a member of the Kings County Society, the Brooklyn Medical Society, the Neurological Society and the Pathological Society and was attending physician to the Central Hospital and assistant neurologist to the Eye and Ear Hospital.

Dr. Frank Livermore died on November 18, at his home in this city, aged sixty-two years. He was graduated at the University of Paris in 1868, and had been engaged in practice in this city since the early seventies. He was a member of the Medical Society of the County of New York and of a number of social clubs and other non-medical organizations.

Correspondence.

OUR LONDON LETTER.

EARL ROBERTS ON THE PROFESSION—PATHOLOGICAL SOCIETY—CLINICAL EXHIBITION—A NEW SOCIETY—A QUACK CONDEMNED TO PENAL SERVITUDE—ACCIDENTAL POISONING IN DISPENSING—DINNERS—ITEMS

(From Our Special Correspondent.)

London, October 31, 1902.

Earl Roberts yesterday afternoon distributed the prizes at St. George's Hospital. The genial Field Marshall made a characteristic speech, which is well calculated to raise the public estimate of the medical profession, and especially of our army brethren. He asked his audience to remember he was only a simple soldier, not a savant, but no section of the public could be more interested in the work of their noble profession, and none owed a deeper debt of gratitude to those who, by their ,constant study, earnest inquiry, and careful experiments learned and taught how to heal the sick and tend the wounded, to alleviate pain and maintain health in camps and quarters. In a long and arduous campaign there were always more victims to disease than to shot and shell. In proof of this Earl Roberts quoted some figures from Kinglake's "Crimea." In twenty months the French had 23,25 cases of scurvy, over 1,100 a month, and in our own army on the last of February, 1855, out of a force of 30,919, there were 13,608 in hospital. Kinglake also said that, of 48,742 cases admitted to hospital in a certain period, nearly three-quarters were zymotic, and, in a sense, preventable Comparing these figures with those of the late war in South Africa, Earl Roberts said that in two and a half years we sent out 400,000 men, and for some time had an average of 250,000 in the field. The total deaths from sickness up to May 31 were 13,750, and during the war 66,500 were invalided, of whom 500 died, they being included in the 13,750 mentioned; 5,879 were discharged from service as unfit, and 959 are still in hospital, the rest having returned to duty. Those striking figures, his Lordship continued, showed the great improvement that had taken place, and that was due to the march of medical science and the personal devotion of the medical officers and the nurses under them In expressing gratitude for these achievements, he voiced the opinion of the army, and the appreciation of their work by soldiers might be an incentive to their efforts. Many people were inclined to slack off after examinations were over, but if great results were to be obtained there must be no slacking off—least of all in the great profession of medicine and surgery. Real and higher education began when they left their class-room for the arena of the world. Let them take their work in earnest from the commencement, and never loiter. Those who loitered would be left behind, for in their profession there was no finality.

Sir J. Burdon Sanderson opened the session of the Pathological Society with an interesting address on recent discoveries relating to immunity—not such as that of Professor Welch in his Huxley lecture, but rather an attempt to put into language which would have been intelligible to a student twenty years ago the technical language necessarily employed in dealing with complicated experimental data. He sketched the progress made as to the etiology of inflammation and tubercle in the ten or twelve years preceding Koch's discovery of the bacteriological method, and then Nuttall and Buchner's discovery of the anti-infective property of the liquor sanguinis, and Behring's of antitoxins. He passed on to the evidence that bacteriolysis comprises two actions, one of which is specific, the other non-specific, and Bordet's work showing the normal resistance of blood discs and bacteria to the specific is counteracted by the non-specific action. Afterward he touched on the researches of Muir (Glasgow), Roger (Paris), Mallory (America), on the protective action of the bone marrow, the spleen, and the lymphatics. After the address Messrs. Abbott and Shattock recorded in great detail a form of macroglossia, not previously described, in a girl of four years. The tongue protruded from the mouth at one and one-half years. On admission, in August, 1900, there was general enlargement on the left side, and in its posterior part a circumscribed tumor. The whole left side of the face was puffy, as was the neck also, where a large swelling below the jaw extended from the mid-line to the sternomastoid muscle. The anterior two-thirds of the left side of the tongue were removed by V-shaped incisions, but a portion of the circumscribed growth was left behind At a later operation on the neck two masses of worm-like coils of semi-transparent white cords were removed. Facial paralysis followed. When seen last summer the tongue lay in the mouth and was fairly symmetrical, the facial paralysis was less, the eye could be closed. In the neck there had been no recurrence of the cords at the site of the operation, but similar ones had formed in the neighborhood. Dissection of the tongue showed all the nerves to be enlarged and so increased in length as to be in serpentine or transverse folds; in the divided posterior surface the muscular substance was scarcely recognizable on account of the enlargement of the nerves lying in it. Microscopic sections showed that enlarged nerves occupied most of the sectional area, the bundles of muscular fiber being widely separated by them.

Among the cases shown at the Clinical Society were a boy of seven years and his sister of one and a half years with progressive spinal muscular atrophy of the Werdig-Hoffmann type. Both seemed healthy up to about twelve months of age. Dr. Savill's case of leprosy in aboy of sixteen, to show the improvement under chaulmoogra oil. There was a girl of fifteen years with displacement of the heart due to chronic pleurisy; the impulse is most easily felt in the fifth right interspace. A girl of eleven years ten and one-half months, from whom Mr. Malcolm removed a tumor of the right kidney in 1892, thought to be malignant adenoma. She has enjoyed fair health since. A man of forty years, recovering from herpes zoster, which was followed by facial paralysis, shown by Dr. Stanley Barnes.

More than one attempt to establish a therapeutical society here has failed. There is now a somewhat more likely plan in process of gestation. Perhaps I should rather say the infant has been born, though at present it is not very lively, but healthy enough, and promises to grow rapidly. The presidency has been accepted by Sir William Thistleton-Dyer, F.R.S., K.C.M.G., the distinguished director of Kew Gardens. All qualified practitioners are eligible for election as Fellows, as also are other persons interested in the subject. The subscription is a modest one—half a guinea. This is because the expenses will be very low, the Apothecaries' Company providing a room for the meetings in their hall. The company may be congratulated on its decision to do something to promote scientific investigations, for of late years it cannot claim to have been as useful to the profession as it was at one time.

The idea of the new therapeutical Society is to become a center where travelers may come and report any finds they may have met with in the shape of medicinal substances or appliances used in the countries they have visited, and any information as to methods of treatment employed by the races with which they have come in contact. Explorers naturally go to the Geographical Society with the record of their general work, but matters medical are scarcely within its scope. An account of medical plants and other things may well, therefore, be brought to the therapeutical society, which may well be considered as destined to promote the study of materia medica.

Unqualified practice, though so rampant, occasionally leads to serious consequences. A man named Herring took a house and put up a plate calling himself Hoffmeister, M.D. and M.S. An inquest had to be held on a woman he had given drugs to, but who had strangulated hernia. Herring swore he was qualified, but later was prosecuted for perjury and for gross criminal negligence. The evidence was that the prisoner was formerly a clerk, left his employment under unfavorable circumstances, and for years led a life of gross imposture. A verdict of manslaughter was returned, and the judge said "he could not imagine anything more dangerous than that an impostor should take on himself, for the sake of money, the care of the sick and subject them to his mismanagement. As a deterrent to others he must pass a severe sentence, which was that the prisoner be kept in penal servitude for five years." The indictment for perjury was thereupon dropped. The judge's decision in this case is one of the greatest importance to the profession and will be a wholesome warning to quacks.

A sad case of poisoning by error led to an inquest at Birkenhead. A doctor mixed some powders for two children and, while doing so, left for a moment to question the mother. On returning to complete his dispensing, it is supposed that he inadvertently took the strychnine bottle instead of santonine. One of the children died with symptoms of strychnine poisoning, on which the doctor gave an antidote to the other and it recovered. The doctor took one of the doses himself, to make sure that he had not mixed the wrong drug, and suffered severely from the poison. That strychnine bottle ought not to have been near the santonine nor amongst the less dangerous drugs.

In a magazine article Dr. J. Vaughan says that there is a valley in Hampshire where poisonous plants flourish exceedingly—henbane, hemlock, hellebore, bryony, and, above all, belladonna. This last not in single plants here and there, but in thousands. He does not give the precise locality of this "veritable valley of Hinnom," where "rabbits fatten on the leaves and acquire, it is said, a superior flavor." Many have supposed that these dangerous plants were decreasing in England, and certainly the accidents have not been so numerous as formerly, though this may be due to the spread of knowledge among children. Atropa belladonna used to be plentiful in the Isle of Wight, but you never meet with it now—perhaps because the people, aware of its poisonous nature, have intentionally uprooted every plant they met with. This is certainly the case in some localities.

A tablet was placed last week in the public library of Ealing in memory of the late Professor Huxley, who was born in that district.

At the annual dinner of the Society of Anæsthetists, Sir H. G. Howse, president of the Royal College of Surgeons, testified to the great progress made. He said in his student days a mortality of 1 in 200 was spoken of as not remarkable, and now it is not more than 1 in 6,000. Other speakers emphatically testified to the value of the society.

The annual meeting of the Association of Public Vaccinators was held on Saturday. In the evening the members dined together, and Dr. Copeman gave a lantern demonstration of the most recent work on vaccina and variola.

The County Council has prolonged for a further two months the time in which varicella is to be notified. On Tuesday two cases of smallpox were admitted to the hospitals of the Asylums Board, the first admissions for a week. There were then twenty-nine cases under treatment.

AN ARMY MEDICAL SCHOOL.

To the Editor of the Medical Record:

Sir: Referring to the paragraph headed "Shortage in the Army Medical Corps," appearing in a recent issue of the Medical Record, relative to the severity of the examination, etc., I can say that while I am in sympathy with the Army Medical Corps and their desire to regain their former relative standing with other army officers, yet I do not think it proper that good and efficient men should be rejected simply to establish a basis for argument that their are no temptations to enter the service under existing regulations. It seems absurd that out of a class of four presenting themselves for examination not one could be found physically qualified to proceed with the mental examination, and I dare say, according to reports, that other classes have met with the same fate. Notwithstanding a rejection on account of height is a perfectly legitimate one in view of regulations to that effect, still it seems ridiculous to think that a physician of sixty-three and three-quarter inches in height could not administer to the needs of the sick equally as well as his brother physician of sixty-four inches.

As a remedy for the shortage of army physicians, why not establish a military medical college on the same basis as the cadet school at West Point. Admit young men for a course of, say, four years, and after graduation make assignments to the army in the same manner as now done for commissioned officers of the infantry and other branches. This would, in a great measure, obviate the present trouble of securing men for the Army Medical Corps. Competent professors detailed from among the army medical officers, in addition to furnishing the necessary medical education, would tend to better fit young men for military service by their association and preliminary introduction into military life.

W. Newburn, Jr., M.D.

New York

THE MEDICAL MISSIONARY'S WORK IN KOREA.

To the Editor of the Medical Record:

Sir: For those who do not know what a medical missionary is called upon to do, I will say that during the past year I spent five months in answering calls to see Americans and British who were in need of my services, though part of it was spent where I went to rest but had to remain to work, the doctor resident there being sick and forced to leave.

One of the trips was, in midwinter, to see a man with malignant smallpox. I was two days and a night through snow and storm with the temperature from 20° to 27° below zero. The journey was made in a chair carried by four men, with others to change about with them. Another urgent call requiring a hundred-mile trip in a chair was to see a missionary sick with typhoid fever.

Another trip lately was out some ten miles to relieve a native woman of a dead child—arm presentation. From the time that the chloroform was commenced until the work was finished and the woman answering a question was thirteen minutes. The protruding arm was amputated, then the head was cut off, then the other arm was removed, and the body was delivered with the blunt hook. This was done this way because it was the easiest. She made an uninterrupted recovery. There was no internal after-treatment, though the placenta was peeled out with the fingers. A cleansing douche would have been in order, but no clean water was to be had. The uterus and vagina were simply cleaned out with the hand Quinine, morphine, and acetanilid, in small doses, were given. This, with one dose of ergot, was all the medication. I mention this case only as one of several, all with uniform recoveries.

I have a severe case of ephithelioma, involving most of the cheek. It is almost too extensive to operate on with hopes of removing it entire, so I am trying injections of nuclein, together with direct concentrated rays of sunlight. Though the case has been under treatment only a few days, there seems to be a noticeable improvement.

J. Hunter Wells, M.D.

Pyengyang, Korea, Sept. 6, 1902

THE MATTISON METHOD IN MORPHINISM.

To the Editor of the Medical Record

Sir: In a recent number of the Medical Record reference was made to a paper read by Dr. Ivey of Lenoir at the last meeting of the North Carolina State Medical Society on the above topic—a method that, after large experience, I make bold to claim in advance of all others in cases fitted for its use, to effect two leading objects—minimum length of treatment and maximum freedom from pain.

Dr. Ivey treated his cases with larger doses of bromide than I use. In most cases, I think, the smaller initial dose—10 grs. semi-daily, 10 A.M. and 10 P.M. (not four o'clock), and increasing it 20 grs. daily, reaching a maximum of 70 to 100 grs. twice a day—the better plan.

In my book—"The Treatment of Opium Addiction," 1885—the initial dose was 60 grs. with daily increase, as stated, for seven days, but larger experience proved the decimal plan—10 grs. semi-daily, with 10 grs. increase in each dose per day for ten days—to be better. The aggregate amount is much the same, but the longer time of taking—during which the opiate is withdrawn—has been free from any untoward mental effect of the sodium, which, though mild, was sometimes noted under the old régime. Some cases do not require it; others, seven or eight days. Each case is a law unto itself, and in all cases the bromide should be used, as Opie mixed his colors—"with brains."

Dr. Ivey did not use codeine and trional. They are of much value. With them, we do not put patients to bed, and, as a rule, a nurse is not needed. If given with care, there need be no fear of codeine. While not wholly free from risk of tolerance, it is vastly more so than is morphine, heroine, or dionine.

With most patients, a semi-daily dose of the usual opiate—as stated by Dr. Ivey—will not suffice. Three or four are better, and my usual plan is to give at seven, twelve, five, and ten o'clock.

Dr. Ivey said wisely as to the need of post-active care:—It is of much moment: in many cases *a sine qua non*. A system battered by years of morphine excess will not come back to its normal in a few weeks or months. Not the immediate, but the remote future of my patients gives me most concern. Specially true is this of medical men, who constitute 70 per cent. of those who honor me with their care. With the coming of better health, when the opium load is lifted, comes the risk of too early return to work. This is the rock on which the doctors founder. This, with lack of hygenic care and favoring environment—which, continued months, or even years, is essential to a lasting cure—is, I take it, the great factor in recurring morphinism among medical men.

En passant, two so-called methods which have had some vogue, may be noted. One is the giving of bromide in large doses to the extent of an ounce daily, for three or four days, during which the opiate is ended. Dementia—for months—or fatal lung œdema has been known to follow.

The other is the frequent subcutaneous giving of 1-10 c to 1-50 gr. hyoscine hydrobromide. This palsies and crazes, demands constant vigil, and compels strychnine or spartein to avert cardiac failure or death. There is no place in sound therapeutics for such measures, which should be denounced as irrational, unscientific, inhumane, and dangerous. I warn the profession against them.

J. B Mattison, M D.

Brooklyn

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 13, 1902.

A Fatal Case of Mandrake Poisoning.—A. W. Buck, because of the rarity of fatal cases of mandrake poisoning, tells of a case of recent occurrence. A lady was given a dose of what was supposed to be liquorice powder but was subsequently found to be mandrake. Vomiting and purging followed, with chilly sensations. A physician was called, who ordered a small amount of bromide of soda, bicarbonate of soda, and syrup of ginger, of which prescription the patient took three doses. She then appeared to be resting quietly, was drowsy and hard to rouse, but seemed to be doing well. She slept through the night, in the morning could not be awakened, and died at eight o'clock.

A Probable Myxofibroma of the Nose.—Seabury W. Allen reports the case of a man who twenty-two years ago noticed a slight protrusion of the lower left eyelid, a soft, friable, easily bleeding tumor appearing at the left nostril some months later. From that time the growth has been slowly progressing, and has lately emerged from the mouth, having come through the hard palate and separated the upper teeth. The face as shown by illustrations, has lost almost all semblance to the human. There is difficulty in articulation and in eating, and, until recently, there has been a continual discharge of saliva and mucopus, the latter coming from the center of the mass, which has sloughed away, leaving a cavity as large as one's fist. Operation is not possible. Seven *x*-ray exposures have greatly diminished the odor and the amount of the discharge, and the patient and his family think that the mass, as a whole, has shrunken.

Journal of the American Medical Association, Nov. 15, 1902.

Pneumonia; Its Incidence, Mortality, and Prophylaxis.—J. J. Walsh notes the increase of the disease, and believes that while the directly contagious nature of the malady is still a matter of dispute, there is always an element of contagion-danger in a pneumonia case, and that certain protective and prophylactic measures are called for. Practically the same plans now followed with tuberculous and typhoid patients should be carried out in case of pneumonia. He calls special attention to the danger lurking in dust, crowded assemblies, gas leakage, and defective drainage.

Renal Insufficiency in the Tropics.—The views advanced by J. C. Minor are derived from personal experience in the Philippines. He believes that military regulation should be so altered as to allow men to drink as much water as they desire, provided, of course, it is good water. His conclusions are as follows: (1) Whether the systemic disturbance causing the usual disorders peculiar to the tropics be uric acid or faulty metabolism, or both, the kidneys in the tropics do not perform their share of the work of emunction. (2) The reason for this renal insufficiency in the tropics is that the tide of water (the necessary solvent vehicle for urinary solids) pours through the skin so rapidly that the volume of circulation is so correspondingly diminished that waste products are stranded in those tissues most favored by the weakened flushing force for stasis. (3) The remedy is the internal use of water as fast or faster than it is wasted by the skin, in order to force the kidneys to work and to maintain normal volume in circulation, and the external use of water and sun baths systematically for their toughening and contractile influence on the skin.

Pneumonia; Its Fatality and Increasing Prevalence, with Suggestions for Individual and Communal Prophylaxis.—The conclusions of E. F. Wells are as follows: (1.) The fatality of pneumonia has increased but little, if any, during the past eighty years. (2) The prevalence of pneumonia has steadily increased during the past fifty years, and during the past twenty years this increase has been very great (3) For individual prophylaxis the nasal, pharyngeal, and oral cavities should be kept as free as possible from accumulations of mucus, and when it has been demonstrated that such secretion contains the pneumococcus such efforts should be especially well directed and maintained. In addition, care should be taken not to become chilled when overtired. The individual should, as far as practicable, keep out of range of the extruded pneumococcus-laden secretions of infected individuals. The sputum and other secretions of the respiratory surfaces of pneumonic patients, or of other infected individuals, should be destroyed before it has been allowed to become dry. Such persons should cough and sneeze into a moistened cloth. (4) For communal prophylaxis the information and advice above given should be kept before physicians, with the request that, if they can consistently do so, they give it as their instructions to their patients. (5) There may be some comparatively simple means by which pneumonia may be prevented, but the fundamental information on which prophylactic rules may be formulated is not yet at hand; therefore it should be the province and duty of public health officers to seek assiduously for such knowledge, and he would suggest that, as a preliminary step in this direction, pneumonia be placed on the list of notifiable diseases, and that the environment of pneumonic patients be carefully noted and the results analyzed.

Medical News, November 15, 1902.

Uric Acid in the Blood and Tissues as a Cause for Certain Stomach and Intestinal Troubles.—Freeman F. Ward, in speaking of the presence of uric acid in the body in sufficient quantities to cause disturbance, mentions two factors in the treatment of this condition: The use of the drug, sidonal, and the so-called "Spa Treatment." Sidonal is a synthetical compound of quinic acid and piperazin. Its expense is its only drawback. In those cases in which there was an excess of uric acid in the urine, or a tendency to produce it, this drug worked in an ideal way, but in the cases in which very little or no uric acid was found, after repeated trials, the drug was of no avail, although it did no harm. Mineral waters should be used as carefully as drugs. It is generally conceded that mineral water treatment is contraindicated in acute troubles. But it is efficacious in well-selected cases of chronic disease. It should be recommended only after careful chemical and physical examination. The waters at Saratoga probably offer the greatest variety in their number and strength, in this country. In the course of this treatment there should also be facilities for the proper diet of patients.

Lacerations of the Uterine Cervix and Their Sequelæ.—Charles H. Bushong states that the results obtained from local treatment are always more satisfactory than those from operation. When a perfect cure is made the cervix has absolutely no cicatricial tissue left in it. Such a result is rarely seen after operation In cases of bloody leucorrhœa, attention cannot be paid too early to the case. Energetic, timely treatment will save many from danger. Attention to details is necessary, and each case should be carefully studied for itself. The treatment will require time and patience. Douches should be used and the bowels kept regular. The temperature of the water must be regulated according to the case, but on general principles, hot water is more beneficial than warm water. The writer has found Monsel's solution the most satisfactory drug in promoting the absorption and removal of cicatricial tissue. It is freely applied to the cervix and the surrounding vault of the vagina. The parts over the scar tissue should be flooded with it. The tampon is an important factor in the treatment of these cases. Once a week will be often enough for treatment if the patient is very sensitive. The writer has seen numerous cases benefited by treatment in pregnancy.

Medical Treatment of Cholelithiasis.—R. Alexander Bate gives an outline of the prophylactic treatment: This should embrace preventive measures against the acid dyscrasia; care of the menstruating and pregnant female, especially after the thirty-fifth year; the removal of all things tending to produce stagnation of the bile; the use of all means to promote its fluidity and outflow; the use of agents promoting biliary and intestinal antisepsis, and the use of lecithin or other solvents of cholesterin in those from whom gallstones have been removed. An excess of organic acids must be prevented by increasing oxidation in every way, by out-of-door exercise, bathing, massage, etc., and a diet requiring as little oxygen as possible, and free from calcium salts. Thus no red meats, tea, coffee, chocolate, tomatoes, strawberries, bananas, limestone, or carbonated water should be taken. Lentils are especially valuable, for they not only require less oxygen for their assimilation, but even carry oxygen with them. The oxygenated waters should be used. Eggs, milk, especially buttermilk, whole wheat and corn breads complete the requirements of the diet list. They furnish oxygen, phosphates, and lecithin. Counterirritants—especially salicylate of methyl—and hot or cold enemeta are of some service. The ideal prescription for internal medication would contain lecithin, pichi, and dioscorea. Surgery and medicine are complemental, and should be employed in all cases in which there is any opportunity offered. Combined, they accord a scientific and perfect treatment to cholelithiasis.

New York Medical Journal, November 15, 1902.

Depressed Fracture of the Malar Bone, with Report of Three Cases.—The cases are reported by S. L. McCurdy and photographs of all are given. The author advises for reposition of the depressed fragment a gimlet or an ordinary coat-hook, such as is screwed into closets, etc., which acts ond the gimlet principle, and from the double curve of the handle affords an excellent grasp for the surgeon. In operating, care must be taken to avoid the temporomalar canal on the external surface of the bone. There is also danger of wounding the alveolar branch of the internal maxillary artery with the drill point as it passes through the bone, since this vessel passes forward and downward between the malar bone and the maxilla.

A Case of Ringworm of the Face and Two of the Scalp Contracted from a Microsporon of the Cat, with Some Observations on the Identification of the Source of Infection in Ringworm.—The paper of A. D. Mewborn, the scope of which is sufficiently indicated in the title, is illustrated with eleven well-executed drawings. The attention of parents should be called to the possible danger of infection from the prevalent habit children have of caressing domestic animals. Concerning treatment, Mewborn notes that the resistance of all the parasitic fungi to chemical agents is diminished by the use of an agent removing fat from the scalp and hairs. Hence, ointments having an oily base are not as efficacious as are solutions of the same remedies in alcohol and ether. Valuable agents named are salicylic acid in ether, chloroform, sublimate, carbolic acid, iodine tincture, carbon bisulphide and sulphur dioxide. But in every case epilation must be practised. He concludes by saying that differences of soil modify the clinical picture of skin ringworm as well as the microscopical appearance of the fungus. In the fluid of an herpetic vesicle the mycelium of a microsporon may produce external grape-like spores. Finally the yellowish and brownish bands and the tangential fringe on beer-wort agar can be used to identify the source of infection in ringworm of the cat.

Experimental Investigations with Röntgen Rays upon Living Tissue.—J. Rudis-Jicincky recommends to operators the following rules: (1) Know the capacity of the apparatus, remembering that the so-called *x*-ray burns will be produced with a static machine, just as well as with a coil, and that it makes no difference what apparatus is used. (2) Make a thorough examination of your case to be treated. Know your patient well, observe the corpulence and age, the disposition and resistance, and the complexion also. Remember that an *x*-ray effect on the tissues will be produced, whether the rays are grounded or not, through any substance which is not opaque to the rays, whether aluminum, parraffin wax, or what not. Protect the hair and eyes, and the healthy tissue if necessary, with lead and rubber; the latter to prevent shock by induction. Ray all suspicious parts in as large an area as possible. (3) The length of exposure depends not so much on the time during which the tube is in action as on the actual time of best *x*-ray production, tested occasionally by means of the fluoroscope. Exposure is to be made according to each individual case, for five minutes at first, and after a week, for ten minutes. If, two weeks after the first exposure, no reaction has been shown, the patient is not the subject of any idiosyncrasy, and may be irradiated every second or third day, and finally every day until intense reaction shows itself. During the first exposures the distance of the tube should be six inches, later less than that. If a high vacuum tube is preferred, the exposure must be comparatively shorter. If itching of the skin ensues during the course of treatment a pause of a few days should be made, the parts exposed observed, and a static brush discharge with a wooden electrode given; or, if there should be a peculiar irritability of the nerves or tissues, the skin should be washed with alcohol and warm water. When there is too much sloughing, powder the growth itself with little salicylic acid. In internal growths, however, we expect to get tanning of the skin. (4) If it is thought unwise to treat the whole of the diseased surface at once, begin to to treat the growth, etc., at its edges. If it should happen that one or a few isolated nodules remain after the general surface of the growth begins to look better, a change of treatment is indicated, and the nodules have to be attacked most vigorously. (5) Watch the progress and results of the treatment carefully, and see whether the case is one for operation or not, or whether the raying should be combined with a radical operation before and after. Experience in all these and similar cases is the best guide. (6) Protect yourself, and be prepared for all occasions, having in your office or laboratory a sign, perhaps like this: "*x*-ray examinations and treatments at the risk of the patient. All possible and professional skill used."

American Medicine, November 15, 1902.

The Relation between Pernicious Anæmia and Achylia Gastrica.—Harry Adler presents the following summary: We have to deal, in pernicious anæmia, with a toxic process, the stress of the action of the poison or poisons being exerted upon the blood and cord. The resulting hæmolysis is confined chiefly to the portal area. The gastric atrophy is regarded by almost all authorities as the primary condition. The gastric atrophy presents, then, the conditions favorable for the laboration and absorption of the toxins, the atrophy of the stomach acting, in other words, as a predisposing cause. The writer thinks that we are to look upon the anæmia of pernicious anæmia as but a symptom, but from the marked alteration which the blood undergoes, and the vital effects thereof, it is the most important symptom of the disease to which our therapy for the present must be directed.

An Infectious Form of an Eczematoid Dermatitis.—Martin F. Engman has made a careful study of this condition during a number of years. He calls it "eczematoid dermatitis" because, in the course of the disease, there are papules, vesicles, pustules, and a reddened scaly surface, from which oozes a sticky liquid that stiffens linen and forms crusts. The writer then quotes various cases and finally draws the following conclusions from his investigations: (1) The contents of the initial vesicles, serous, and seropurulent discharge, under surface of crusts and scrapings from freshly-denuded surface of eczematoid skin, produce, when inoculated into artificial culture media, pure cultures of the staphylococcus, yellow or white or both. These cocci sometimes vary slightly in the peculiarity of their growth, but are certainly the staphylococcus of the ordinary types. (2) When the apparently healthy skin of a person suffering from an eczematoid dermatitis is slightly irritated, after being rendered sterile by the usual means, and then inoculated with the discharge from the eczematoid surface, there appears thereon a condition similar in its flora and symptoms to the one from which the discharge was taken. Inoculation experiments from individual to individual have not been encouraging, due most probably to the patient's unwillingness to submit or to the reaction of the foreign soil. (3) Inoculations upon individuals from artificial cultures were also not encouraging. The organism must undergo some change in its chemotactic character in artificial media, as inoculations from it produce impetigo or purely impetiginous lesions, which quickly heal; or if the lesion takes on an eczematoid character it heals too rapidly to be of much experimental value. (4) The suppurative conditions with which eczematoid dermatitis is often associated always contains staphylococci. (5) The association with suppurative conditions; history of apparent infection and auto-infection; the exciting factor of traumatism and infection, with the bacteriologic findings enumerated, all indicate and confirm our belief in the staphylogenetic origin of this dermatitis.

Philadelphia Medical Journal, November 15, 1902.

A Case of Severe Dermatitis Following the Use of Mercurial Ointment.—Lawrence E. Holmes reports this case, which shows a very pronounced susceptibility to the influence of mercury. The patient was a negress twenty-seven years old. There was tenderness of the cervical lymphatic glands following a "sore throat," of some weeks previous. An ointment of equal parts of belladonna and mercurial ointment, to be applied at night by rubbing on the glands, was given. After two applications had been made, the neck became covered with a minute vesicular eruption, which extended down in front over the chest. The area of eruption was dark red, and the tissues were tense and œdematous, and tender on pressure. The face was puffy, and the lips and the eyelids were swollen. There were no constitutional symptoms. There was no salivation. A sedative lotion was given for local use, and a saline purge. The condition improved, and disappeared within a few days.

The Diet in Typhoid Fever.—William Egbert Robertson gives as the difficulties confronting us in the dietetic management of a typhoid case: The exhausting fever, and the state of the bowel. Saliva moistens the food, rinses the mouth dilutes injurious substances, and to some extent neutralizes them. This can be brought about by psychical means alone. If the desire for food can be brought about, and this is more likely when a variety of food is allowed, psychical stimulation will aid in preparing the organs of digestion for the reception of food, and digestion will be more thorough than when merely milk and broths are allowed, for these foods grow very tiresome, and thus psychical stimulation is lacking. As to the bowel lesions, the writer believes that the tendency of the ulceration to slough is favored rather than retarded by the devitalizing influence of insufficient nourishment The writer then gives various statistics, which show that the mortality was less among the well-fed. There was also a striking difference in the physical condition of those discharged. Among the foods allowed by some of those who are not in favor of a liquid diet only are bread, rolls, farinaceous foods, boiled eggs (soft or hard), boiled meat, cutlets, chicken, soups, pudding, jellies, milk, tea, and wine. Although milk is an excellent food, it has a tendency to form curds, and patients often refuse to take it The writer does not advocate a full diet, but he is convinced that typhoid patients can be given a variety of foods without harm and even with decided advantage, both as to their condition during the attack, and as a means of effecting prompt restitution of their physical vigor.

Some Points in the Treatment of Postoperative Abdominal Cases.—John B. Deaver and George P. Müller call attention to the great importance of careful postoperative treatment. If the patient has not been saturated with ether, and if the operation has been performed as quickly as was consistent with thorough work, there is little cause for shock. In fact, shock is seldom seen except in cases of severe hemorrhage. In these cases intravenous transfusion of salt solution may be performed. Atropine, 0.00025, is given every 2 hours; strychnine, 0.001, every hour; whiskey, 2.0, every thirty to sixty minutes, and camphorated oil every fifteen to thirty minutes. Two hundred c.c. of saline solution at 110° F. and 30 to 50 c.c. of whiskey are given per rectum every three to six hours. The time, of course, varies and will depend upon the condition of the patient. In cases of shock in which there is an acute appendiceal abscess with absorption of toxins, the symptoms seldom, if ever, respond to treatment. In clean cases the patient is kept on the back from twelve to forty-eight hours. The time will depend upon the length of the incision. If gauze drainage has been used, the patient is gently turned to one side by pillows at the end of seventy-two hours. In cases with glass drainage, no change is allowed, but the alternate raising of the hips on pillows. In clean cases without drainage, asafœtida suppositories are given every three hours. As a rule, no water is given for eighteen hours or longer if nausea is persistent. In the case of backache, only change of posture, as a rule, affords any relief. The passage of flatus will relieve all colic. If no flatus has been passed at the end of eighteen hours, an enema of milk of asafœtida may be given. On the third or fourth day the bowels are moved with a plain enema, or with a glass of citrate of magnesia. Twenty-four hours after operation nourishment is started, beginning with milk and lime water On the second day chicken broth, beef tea, and junket may be given. On the third, wine-jelly and gruel may be added. Later come soft-boiled eggs, milk toasts, custards, eggnogg, etc. If the temperature persists about 100° in supposedly clean cases to the third or fourth day after movement of the bowels, the wound is examined for stitch abscess. In clean cases the wound is dressed, as a rule, on the eighth day, and the stitches removed. In drainage cases the glass is withdrawn in from two to four days, and rubber is substituted. The latter is shortened daily as the wound granulates Boric acid is used for irrigation in the removal of gauze drainage. In nausea due simply to the ether, the only treatment generally necessary is the prohibition of anything by mouth, the use of rectal alimentation, and a small fly blister on the epigastrium. When nausea develops several days after the operation, it can often be controlled by the administration of a powder like this: Calomel, 0.01; cocaine muriate, 0.015, and cerium oxalate, 0.3. This is followed by a little Vichy, hot water or champagne. In certain cases the only treatment of any avail is lavage of the stomach. This may have to be repeated every few hours for a day or two. It is a very valuable treatment. Purgation is the sheet anchor in the treatment of peritonitis, but is impossible in cases of persistent vomiting. In these cases there is resort to lavage.

The Lancet, November 8, 1902.

Note on Nitrous Oxide Gas, Air, and Chloroform as a Mixture.—The method advised by T. Bird is intended for short operations, and the introduction of pure chloroform in cases in which cerebral unconsciousness is quickly desired A Wolf's bottle, such as is ordinarily used for administering chloroform, is fitted to the tube conveying the "gas" from the cylinder to the bag attached to the ordinary face-piece, the object being to mix as minutely and intimately as possible the nitrous oxide gas, the air, and the chloroform. An expiratory valve is the only one ever used, and that is incomplete [illegible]

Tape Worms as a Possible Cause of Diabetes.—J. E. Judson reports two cases in which tape worms were found associated with glycosuria In one case it was impossible to dislodge the head of the worm, and the patient went through the usual diabetic course Autopsy revealed a liver enlarged and with a tendency to cirrhosis. The lungs were tuberculous and the pancreas apparently normal, though no microscopical examination was made. Case 2 had gangrene of the big toe and was not followed to its termination Judson suggests the theory that the head of the tape-worm might very possibly get into the pancreatic duct and become well fixed to the wall by means of its hooklets, and through the inflammatory change which it would produce would cause an occlusion of that duct. We know that extirpation of the pancreas brings on glycosuria in animals, owing to the absence of the internal secretion, the presence of which is necessary in order that the normal assimilative processes can take place with the glycogen. If the duct be occluded, no doubt the gland will in time atrophy, and so become useless. This would then exhibit the same condition as if it had been extirpated.

Case of a Large Dermoid Cyst Complicating Labor.—The patient of B. J. Macaulay was a primipara of twenty-seven years. Labor progressed so slowly that it was decided to apply the forceps. The instrument was easily applied, but the head would not move. On releasing the traction momentarily, without any warning, there appeared extruded from the vulva a cyst rather larger than the fetal head and attached by a long pedicle. A catheter was passed and the urine was drawn off, but the swelling did not diminish and a pedicle could be felt attached. As there were prolapse of the funis and some hemorrhage, the question of placenta prævia was entertained, but the insertion of the cord could not be felt, and the tumor was too cystic. After consultation it was decided to remove the forceps and to puncture the cyst. This was done, and a thick, green, pultaceous material was extruded. An incision was now made and a large quantity of matted hair was removed. The empty cyst with its long pedicle was brought down and retained outside the vulva by means of a ligature. The forceps was again introduced and the child was easily delivered (dead) with the placenta which followed a few minutes later. The pedicle of the cyst was found coming through a rent in the left side of the cervix. The fetal head had during traction with the forceps forced the cyst from within the peritoneal cavity through the cervical wall. Owing to the extreme collapse of the patient, it was not thought advisable to anæsthetize and sew up the rent, but to bring the pedicle through the rent, and trust to formation of adhesions. Patient died on the sixth day from peritonitis. No autopsy was held.

British Medical Journal, November 8, 1902.

The Bradshaw Lecture on Intraperitoneal Hemorrhage Incident to Ectopic Gestation.—Charles J. Cullingworth enumerates the following points upon which he chiefly depends in diagnosing this condition: (1) The fact that at the moment of the attack the patient was in her usual health. This circumstance would render it highly improbable that the symptoms were due to gastric or intestinal perforation, or to rupture of an internal abscess or suppurating cyst. (2) The gradually increasing pallor of the patient, and the gradually rising pulse rate (without corresponding rise of temperature), both being indicative of internal hemorrhage. (3) The extreme tenderness of the abdomen. To this symptom the writer has learned to attach a very special value. It often misleads the medical attendant into supposing that there is acute general peritonitis. It cannot, therefore, be too strongly insisted upon that marked, and even excessive abdominal tenderness, does not necessarily indicate an inflammatory condition. It is met with, for instance, over ovarian tumors when, as the result of rotation of the pedicle, they have become the seat of hemorrhages, intracystic and intramural. It is quite true that peritonitis is a not infrequent later result of this accident; but this marked tenderness may be observed when, on opening the abdomen, there is no visible sign of inflammation. (4) If a menstrual period has been missed or is overdue the diagnosis of the case is greatly facilitated, but it does not follow that because menstruation has been regular rupture of an ectopic gestation may be excluded. For some of the most appallingly sudden cases of rupture occur at a very early stage of the pregnancy, even, it may be, before a single period has been missed. Hence arrested menstruation is not essential to the diagnosis, though when present it is a valuable help to it. If, in addition to the arrested or delayed menstruation, there is morning sickness, the diagnosis is even further facilitated. But, after all, these signs of early pregnancy do not prove very much. They do not even prove that the pregnancy, if present, is ectopic, or that, whether it is or not, it has anything to do with causing the present illness. All that can be said is that when symptoms are present that suggest the possibility of a ruptured ectopic gestation, these signs of pregnancy serve to confirm the suspicion. The signs obtained by vaginal examination are not very definite In these cases of diffuse intraabdominal hemorrhage there is absolute necessity for prompt surgical treatment. Probably a large majority of cases of pelvic hæmatocele are due to ectopic gestation. Pelvic hæmatocele is generally characterized by irregular uterine hemorrhage, and by attacks of pain, more or less severe; these are often accompanied by vomiting, followed by the development of a definitely circumscribed swelling. This may be found on the affected side only in the region or the uterine appendages, or it may more or less fill up the posterior pelvic cavity, and rise to the lower part of the abdominal cavity. In differentiating between pelvic hæmatocele and an ovarian cyst with intracystic hemorrhage from twisted pedicle, the writer suggests two points: An ovarian tumor is seldom as closely connected with the uterus as a tubal pregnancy would be. In twisting of the pedicle, a tumor can be found at once, and can be observed quickly to increase in size; in tubal gestation with hæmatocele a tangible tumor is not formed at once. It is generally several days after the onset before any swelling can be made out. Concerning the etiology of the conditions treated in this paper, the writer states that it has been observed that the ordinary result of tubal rupture is a diffuse and highly dangerous intraperitoneal hemorrhage, while the ordinary result of bleeding from the open mouth of the tube is the formation of a hæmatocele. As to the outcome of pelvic hæmatocele or of a diffuse but non-fatal intraperitoneal hemorrhage, the tendency in both cases is to the gradual absorption of the extravasated blood and to the recovery of the patient. But there are dangers to be considered, and of these the two most important are the liability to fresh hemorrhages and the liability to bacterial infection of the blood already poured out. The writer concludes by saying that gynecology is becoming more surgical, but that is all the more reason why medicine should still keep a hold upon it, to exercise a wholesome restraint upon its surgical enthusiasm and to continue to inspire it with that reverence for accuracy of diagnosis which otherwise it might be apt to lose.

Deutsche medicinische Wochenschrift, October 23, 1902.

Significance of the Meconium Plug in the New-Born.—Hugo Weil thinks that the absence of a typical meconium plug in the new-born is of no significance in determining whether intra- or extrauterine death took place. This is based upon the fact that of 500 births observed by the author in only one was a typical meconium plug found after birth. On the other hand, if in a dead-born child a typical meconium plug is present it is very strong evidence that the death was extra- and not intrauterine, since, in the latter event, it is practically certain that after the death of the fœtus, and before its expulsion from the uterus, the meconium plug would be dislodged.

Palpation of the Pylorus.—W. P. Obrastzon reports nine cases in which it was possible to successfully palpate the pylorus. This, of course, can only be accomplished in those cases in which the pylorus is placed at a lower level than the left lobe of the liver. In instances in which it can be felt the pylorus appears to be of a cylindrical form, running transversely across the epigastrium from 2 to 7 cm. above the navel. The peristaltic motion of the organ may be plainly felt, and in many cases slight murmur heard upon auscultation. Very often spastic contractions of the pylorus may be detected upon palpation. It is doubtful, however, whether such contractions have a definite pathological significance, and, in all probability, they occur in a number of different abnormal conditions. Palpation of the pylorus should not be confounded with that of the transverse colon. It can be easily differentiated therefrom by the fact that in the former the cylindrical form felt always lies above the lower border of the stomach. The chief use of this procedure is the differentiation between real and apparent tumors of the pylorus. The rhythmical occurrence of the spastic contractions renders the latter diagnosis certain.

Berliner klinische Wochenschrift, October 27, 1902.

Hæmolysis in Heterogeneous Serum.—P. Baumgarten' after continued studies relative to this subject, still maintains his original views with respect to the osmotic nature of the process and the identity of the agglutinins and antibodies. Baumgarten has never held that hæmolysis is entirely an osmotic process, but that it is essentially such, the osmosis being favored by the action of the specific antibody. The author, as is well known, founds his view of the essential osmotic character of hæmolysis upon the direct microscopical observation of the process, which shows morphological differences between it and the osmotic changes occurring in red blood cells when placed in anisotonic salt solutions. This view is not in any way antagonistic to the essential features of Ehrlich's theory. In fact, when viewed in the proper light, the only difference between Ehrlich and Baumgarten relates to the mode of action of the antibody. Ehrlich asserts that its action is that of a ferment upon the hæmoglobin, while Baumgarten denies any fermentative action, and says that the antibody merely makes the hæmoglobin more susceptible to osmotic influences. The latter thought at first that the action of the antibody was directed entirely toward the plasma, making it marked anisotonic for the erythrocytes. Further researches, however, have shown that such is not the case, but that the antibody exerts its action mainly, if not entirely, upon the hæmoglobin. Recently considerable discussion has taken place between the identity of the agglutinins and antibodies. Baumgarten takes the affirmative side of this question and regards it as certain that the agglutinins and amboceptors are identical, and as very probable that this also applies to the agglutinins and immune bodies (amboceptors + complements).

Streptococci and Antistreptococcus Serum.—Hans Aronson adds further knowledge along this line by the detailed study of streptococci obtained from various sources, such as scarlatinal, diphthtertic, and follicular anginas, the blood of scarlatinal and rheumatic patients and those suffering from general septicæmia, from phthisical sputum, and from the lymphatic glands of sick horses. Streptococci obtained from these various sources show no characteristic morphological or biological characteristics, and any slight differences in these respects which may be present at the time of their isolation quickly disappear as the result of artificial cultivation, so that after one or two generations the streptoccoci from the various sources cannot be differentiated on morphology or culture characteristics one from the other. Aronson's chief aim was to evolve an efficient antistreptococcus serum. To this end it was necessary that the streptococci should be made as virulent as possible. Great difficulty was at first experienced in this task. Finally it was accomplished by inoculating rabbits at the same time with large doses of the streptococci bouillon cultures and small doses of diphtheria toxin. Animals thus treated die in three or four days, and streptococci obtained from their heart's blood are very virulent for other rabbits, regularly killing them without the aid of the diphtheria toxin. The same result was obtained by inoculating mice with the streptococci. These animals shortly died, and the streptococci obtained from their blood were very much increased in virulence, so that they regularly, upon inoculation into rabbits, killed these animals in from three to four days. The next task was to make an artificial culture medium in which these virulent organisms could be cultivated and preserved without a deterioration in their virulence. For this purpose a bouillon made from horse meat and containing .5 per cent. salt, .5 per cent. peptone, and .1 per cent. glucose was found the most suitable. In order to assure good results, it is very important that this medium should react alkaline to litmus, but neutral to phenolphthalein. In all the endeavors to obtain an antiserum by animal inoculation the streptococci used were increased in virulence by one of the two methods above noted, and inoculated in the form of this horse-bouillon culture. Although in this manner, as above stated, the streptococci could be markedly increased in virulence, it was not found possible to obtain from such, in artificial culture, any large amount of toxin, so that no very marked immunity could be produced in animals by the inoculation of such culture filtrates. If, however, small animals (rabbits) were repeatedly treated with such culture filtrates, it was found that they, upon inoculation with virulent streptococci, lived somewhat longer than animals which had not been thus previously treated, and it seems possible that improved methods may render possible the immunization of rabbits to highly virulent streptococci by the previous inoculation of toxins. Horses were used in the production of an antistreptococcus serum. These animals were inoculated with the virulent streptococci cultures above described. Different horses were immunized, obtained from the various sources above mentioned. The sera thus obtained were tested upon rabbits, when it was found they protected these animals not only against the streptococci with which they were produced, but also against streptococci of other origins; thus a serum obtained from the inoculation of scarlatinal streptococci protected rabbits not only against such streptococci, but also against diphtheritic, rheumatic, tuberculous, etc., streptococci. Such sera also gave interagglutination and precipitin reactions. These facts are very strong evidence in favor of the unity of the streptococci, and are directly opposed to the views of Marmorek, who regards them as a multiple species.

Münchener medicinische Wochenschrift, October 28, 1902.

Ovariotomy During Pregnancy.—M. Graefe says that ovariotomy should be done during pregnancy as soon as a diagnosis of ovarian tumor is established. To support this contention three cases are reported which came under Graefe's personal observation, together with twenty-four which have been reported by various authors since Orgler published his 146 cases. In these twenty-seven cases there was no maternal mortality, and only in six did miscarriage or abortion take place. If these are added to Orgler's cases, the maternal mortality is reduced to 2.3 per cent. and the fetal to 16 per cent. [illegible] therefore, that on the ground of maternal mortality an ovariotomy during pregnancy is not contraindicated. The fetal mortality, while reasonably high, cannot be advanced as a valid objection to an early operation, since it is certain that it would be increased by delaying the operative procedures and allowing the tumor continued growth. It goes without saying that the operation should be conducted with all possible haste, and all manipulation of the uterus restricted so far as possible.

French and Italian Journals.

Stercoraceous Vomiting of Hysterical Origin.—Ferdinando Fazio reports a case, and reaches the following conclusions from a study of the subject: Stercoraceous vomiting may be of purely hysterical origin. It cannot be due to simple antiperistalsis, and there must, therefore, be some morbid and mechanical obstacle; this may be a state of spasm or of paralysis. Spasm is more apt to occur in the cases of rapid onset, without preexisting constipation, and paralysis in the slow cases with constipation. Treatment should be of a psychical suggestive nature.—*La Riforma Medica*, October 29, 1902.

Treatment of Rheumatic, Simple Infectious Endocarditis.—Henri Huchard declares that salicylate of soda ought to be prescribed in large doses from the beginning of rheumatism, especially in children, and be continued even after the complete disappearance of the articular troubles. He does not believe that this medication possesses a direct action on the inflammatory process of endocarditis; it does not cure it, it prevents it, which is still better. The inflammation of endocarditis is a phenomenon of reaction. Although salicylate of soda is a specific antirheumatic, it also possessses an action over the microorganisms of rheumatism, and this fact explains its good effects when it is employed early.—*Journal des Praticiens*, October 11, 1902.

Affection of the Stomach Simulating Cancer.—M. E. Klein reports the case of a man of forty-two years who had suffered for about six months with his stomach. The family and personal history were negative. The trouble began with pain and vomiting. The pain came on in irregular paroxysms which were not modified by eating. Finally, he vomited dark blood about an hour and a half after eating. After that the stools were also often black and liquid. He could eat bouillon, milk, and eggs. He became emaciated and weak, although he continued his work. He looked yellow and cachetic. The liver was not painful. The urine was negative. There were no physical signs of tumor. A milk diet was ordered, and the patient gained in weight and strength till he attained perfect health. The trouble was probably an ulcerous lesion.—*Journal des Sciences Médicales de Lille*, October 11, 1902.

A Case of Postdiptheritic Paralysis of Accommodation and Convergence.—Etienne Ginestous reports this case. The patient was a little girl of nine years. She was treated with antidiphtheritic serum. When she left the hospital her palate was paralyzed, and her sight was poor. The illness occurred in March of 1900, and the paralysis of accommodation has persisted ever since, that is about two years. This differs from the classic descriptions which assign to postdiphtheritic paralysis a rapid evolution and a short duration. In this patient also the paralysis of accommodation seemed to be the last vestige of a diphtheritic infection. The muscles of accommodation and convergence were the last ones affected. This is an interesting fact in comparison with other cases reported.—*Gazette Hebdomadaire des Sciences Médicales*, October 12, 1902.

Asphyxia from Carbonic Oxide.—J. Noir states that the symptoms of intoxication by this gas are characteristic. When there is extreme intoxication, death comes quickly, sometimes with convulsions. In gradual intoxication, the victim suffers first with violent headache, with constriction of the temples, then with vertigo, troubles of vision, shiverings, hallucinations, and a desire for sleep. Then follows a stage of helplessness. There is often vomiting at this time, and sometimes relaxation of the sphincters. Only after all of these disturbances comes the loss of consciousness and coma. If the individual is revived, there is found to be temporary glycosuria. Complications such as pneumonia may occur. There have been noted the development of skin lesions. Also many nervous troubles have been observed, even paralysis. The treatment consists in giving oxygen to the red blood-corpuscles. Artificial respiration should be practised to provoke pulmonary ventilation. Various other methods are in vogue, such as the transfusion of blood.—*La Progrès Médical*, Ocober 11, 1902.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held October 20, 1902.

Alexander Lambert, M.D., President.

Dr. Parker Syms, on retiring from the office of President, expressed his hearty thanks for the coöperation of the members, and complimented them upon the great progress made during the past two years. Much, he said, had been accomplished not only in a scientific way, but in regulating the practice of medicine in this city, and in elevating the profession. It was also a cause for congratulation that the committee on ethics and discipline had had practically nothing to do. He then introduced his successor, Dr. Alexander Lambert.

President's Inaugural Address: "The Present Ideas of Immunity."—Dr. Alexander Lambert delivered this address. The subject was divided into natural and acquired immunity, and this subdivided into the resistance to bacteria themselves, and the resistance to the bacterial poisons or toxins—in other words, into bacterial immunity and antitoxic immunity. There were two principal theories, he said, regarding immunity, viz., (1) The phagocytic theory of Metchnikoff, and (2) the old humoral theory. The latter had been brought down to a common ground with the phagocytic theory. In studying natural immunity, experiments showed that the serum of an animal immune to a certain bacterium was an excellent culture medium for that bacterium; hence, some mechanism in the body besides its juices was the dominant factor in preventing germ invasion. In animals naturally immune against infection the symptoms of heat and swelling, and the symptoms produced by the injection of bacteria were small in amount, but a strikingly large number of leucocytes were attracted to the point of invasion, and the chemotaxic power of the leucocytes was marked. The most striking examples of immunity against toxins were to be found in the hen against tetanus, and in the rat against diphtheria. The rabbit would bear 30 grams of morphine hydrochlorate subcutaneously, but would die from a milligramme of the same injected into the brain. It had been shown in typhoid and cholera that animals immunized by the bodies of the bacteria would succumb to the poisons of these same germs. The chemical bond between the toxin and the antitoxin did not seem to be strong. Mixtures of bacterial toxins and their antitoxins when forced through filters of thin layers of gelatin showed separation of the two components, and the toxins alone appeared in the filtrate. At first the agglutinating and immune substances were thought to be one and the same, but it had since been proved that they were distinct and separate, and that agglutination was the action of infection as well as of immunity. Experiments seemed to show that certain sensitive bacteria, such as those of cholera, were disintegrated, and then absorbed, but this was by no means the general rule. The subject of agglutination was still a question open for discussion. Certain animal serums normally agglutinate certain bacteria and heterogeneous blood. The outside envelope of the bacteria had been found to be the portion containing the agglutinating substance The various theories regarding agglutination were then presented and briefly discussed. The speaker said that the study of precipitins in the blood bade fair to assume great medicolegal interest, especially as the tests were applicable to dried blood stains. However, the reactions were claimed by Nuttall not to be absolutely characteristic. For example, human blood caused cloudiness in the blood of baboons and monkeys, although this partial reaction would not be mistaken for that which would be given by homologous blood.

THE NEW YORK ACADEMY OF MEDICINE.

Section on Medicine.

James K. Crook, M.D., Chairman.

Stated Meeting, Held October 21, 1902.

Symposium on Typhoid Fever.—This was the special subject for the evening.

The Etiology and Prevention.—Dr. Herman M. Biggs read this paper, confining himself chiefly to the disease as it occurred in the Borough of Manhattan. Investigation of the source of the disease was attended with great difficulty and unsatisfactory results, but in New York it was assumed that the water supply was not the source of infection, because of the fact that the general condition of the Croton water-shed was good; that if it was contaminated it would be so relatively slight as to give a very low morbidity or mortality rate from the diffusion. In New York City when a case of this disease was reported an inspector from the Board of Health was sent to the patient and endeavored to learn if the patient had been out of the city, where, and for how long a time; if he had eaten oysters; if he had been accustomed to drinking milk; if he had been in contact with any typhoid-fever patient. Although it had been very difficult to obtain information, still it was found that in from 20 to 30 per cent. of the cases occurring here there could be obtained no definite history of the disease having been contracted out of the city, and that in about 5 per cent. the infection was the result of direct transmission. It was found to be almost impossible to determine the possibility of infection through the ingestion of oysters, except in certain instances. Milk from a dozen or more farms is thrown into a single vat, which made it difficult to trace the source of infection from milk. Bathing in the North or East rivers had been learned to be a source of the disease on account of the proximity of the large sewers. During the past summer the Department of Health would not allow baths at certain points in the river. The speaker related four instances of local outbreaks in which the possible source of infection cast considerable light upon the probable source of infection as it might occur in New York City. With regard to the prevention, two measures, which the Department of Health had under consideration, were: (1) Devising some means to regulate the sale of oysters, and to determine their source; the custom of feeding and fattening oysters on brackish water was dangerous; (2) Devising some means for closely supervising the milk supply to the city.

The Symptomatology and Clinical Diagnosis.—Dr. Charles E. Nammack read this paper, and divided his cases into the following groups: (1) The ordinary typhoid fever with marked enteric lesions. (2) Typhoid septicæmia, a general infection without special local manifestations. (3) Typhoid fever, with marked localized symptoms other than those of clinical typhoid fever; these cases will be masked by the predominance of symptoms referable to the kidneys, spleen, etc. (4) Mixed infection. He thought that the consideration of the source of the infection other than from the water supply was timely. The rash he believed to be the most valuable single sign, and with an enlarged spleen and the fever made a triad of symptoms which were of great diagnostic importance. The absence of leucocytosis in a suspected case was of value. During the first week of typhoid fever it was oftentimes difficult to make a dignosis between typhoid fever, cerebrospinal fever, and miliary tuberculosis. Other diseases with which it might be confused were the exanthems, influenza, tuberculous peritonitis, ulcerative endocarditis, and secondary syphilis.

Laboratory Aids in the Diagnosis of Typhoid Fever.—Dr. E. E. Smith read this paper. He said there were three purposes which corresponding laboratory tests have in view: (1) The detection of characteristic morbid products of the disease; (2) The isolation and identification of the infecting organism, (3) The detection of certain cell products, the agglutinins, or one of the constituents, the presence of which is induced by the infecting organism. The detection of morbid products more or less characteristic of the disease is practically limited to the test for the unidentified substance which gives the diazo-reaction of Ehrlich. Its value was variously estimated by different observers—those of the New York Health Department being most favorable. This opinion was, perhaps, tentative, since it was not based upon the result of the public use of the test. Observers going to the other extreme placed very little value on the test. It was probable that the conclusions of different observers regarding its value were influenced to some degree by the standards adopted as to what constituted a positive reaction. Then, again, the test should only be made with urine to which preservative has not been added. The speaker believed that the test was of sufficient value to warrant its routine use, but that its occurrence was distinctly less frequent than in 90 per cent. of all typhoids from the third to the sixth day, and that it may be present in tuberculosis, scarlet fever, pneumonia, malaria, measles, erysipelas, general carcinosis, and paratyphoid, as found by various observers. It was to be treated as one bit of evidence in conjunction with other symptoms. The isolation of the infecting organism is of clinical value only when it can be expeditiously accomplished. One accustomed to the examination was now enabled, by the use of special media, to accomplish this, in many cases, in from forty-eight to seventy-two hours. A positive result he considered to be pathognomic. Objections to the examination of the rose spots were the uncertainty of the appearance and identification of the eruption, and the absence of the bacilli in some true typhoid spots; also, the inconvenience in private practice of taking the specimen. In many cases, too, the organism was not found in the urine and fæces, but the readiness with which these cases can be obtained rendered their examination worthy of more extended application. Regarding the Widal test, this reaction, in the hands of a competent observer, must now be given great weight in establishing the diagnosis. It was in the absence of a positive reaction that clinicians found the greatest defect in this laboratory aid. The absence of the blood findings assisted in excluding other causes of fever, although their existence did not necessarily exclude typhoid fever, though rendering it much less probable. The agglutination reactions with the intermediate bacteria, the paratyphoids and paracolons, aided in establishing the diagnosis in a small percentage of cases, though not in the typhoids with delayed Widal reaction. The conclusion was reached that, while the laboratory did not offer any one test that was certain at all times and in all cases, it did materially aid the clinician by the means mentioned, at times strengthening an early suspicion in cases that later presented the classical symptoms, and, in some instances, identifying atypical cases that, without its aid, would have escaped recognition.

The Chemical Nature of Bacillus Typhosus.—Dr. Lewis R. Morris stated that chemical studies of bacteria had hitherto been directed chiefly to the products formed by the life processes of bacteria. Believing that the chemical nature of the organisms themselves should be studied, he began, with Dr E. E Smith, over a year ago to collect and study the chemical nature of the bacillus typhosus. As it took a long time to raise and collect enough bacilli to form sufficient material for chemical analysis, the process was slow and tedious Dr. Morris presented on the blackboard a comparison of analyses on bacillus tuberculosis, bacillus malleus grown in broth, and of bacillus typhosus grown in broth and glycerin agar. They found that the bacillus typhosus was not rich in sulphur and phosphorus-containing bodies in comparison with the bacillus malleus. They also found that the same increase of contents of nitrogenous substance occurred in typhoid-fever organism grown in glycerin medium as had been found in tubercle bacilli grown in the presence of glycerin He raised the question whether this may be because the glycerin added to the medium caused a much more luxuriant growth of the bacteria, and so promoted the production of nitrogenous substance in these lower forms of life

The Treatment of Typhoid Fever.—Dr Hobart A. Hare of Philadelphia read this paper He did not know of one malady which better illustrated the axiom *nil nocere*, than this disease, and he would be glad to know of any other disease in which the physician more commonly poured "drugs of which he knew little into a body of which he knew less." He asked if it would not be a good motto if, in every case of typhoid fever, the bed was labelled "let the patient get well." He did not wish to be thought a nihilist as to treatment of typhoid fever; on the contrary, he was convinced that there was no disease in which the skilful use of remedies was so needful for the relief of annoying symptoms, the removal of dangerous complications, and the maintenance of normal functions. Upon the kidneys fell the duty of eliminating the toxins of the disease itself, the toxins of other infecting organisms, and the waste products of the fever; for the maintenance of this function, pure water was to be insisted upon, given frequently and in small quantities, and, if need be, aided by mild refrigerant diuretics.

Intestinal Antisepsis.—The subject of renal excretion was closely related to intestinal antisepsis, about which there was so much difference of opinion. It was closely related because nearly all the chemical intestinal antiseptics were largely eliminated by the kidneys, upon which were thrown increased labor and, perhaps, irritation; he believed this to be the chief argument against the use of these preparations as a class, for they might do harm. The use of intestinal antiseptics should neither be largely relied upon nor ignored. If a drug used for this purpose was surely harmless, if its use seemed to diminish tympanites and fecal fetor, it served a useful purpose as an aid, but no one should think that it could have any effect in aborting or curing the affection *per se*. A new substance called acetozone had been found to render the stools of rabbits receiving it entirely sterile, and he hoped that this might prove a valuable agent to modify some of the annoying symptoms and possible complications of the malady. That intestinal antisepsis was a curative agent, very few of its ardent advocates would claim.

Antipyretics and the Cold Bath.—Dr. Hare believed that antipyretic drugs should rarely, if ever, be used in enteric fever. An antipyretic drug he considered utterly unfit for use with the cold bath. The dominant influences of the latter were to equalize the capillary circulation, to redistribute the stagnant blood, to counteract the depressing influences of poisons on the nervous system, to increase the elimination of these poisons, and to bring about their rapid destruction by increased vital activities of the body All of these influences the antipyretic coal-tar drugs prevented. In other words, they prevented that *sine qua non* of the cold bath in health and disease, namely, reaction In the majority of cases, he found that cold rubbing was far better than the cold plunge.

Modified Cold or Hot Baths.—Not only did Dr Hare believe that in the modified cold bath we had the best measure of benefiting our patients, but that very extraordinary modifications of it might be advisable extending from actual hot water to the direct application of ice to the patient; for, if it was true that the chief effect of cold bathing was the production of reaction, then it was conceivable that conditions might exist in which a reaction produced by the use of heat would be better than one caused by cold After many thousand warm baths, Hirschfeld concluded as follows. (1) The average fall of temperature obtained through these baths was 1.5° to 2° F.; (2) In the large number of cases a bath of 85° will bring about a greater reduction than one of 80° of the same duration; (3) In a small number of the patients (principally the aged, weak, and children) a bath of 90° is more effectual than one of 85°; (4) There are a few cases that offer considerable resistance to refrigeration through tepid baths. From the result of experiments, Hirschfeld concluded that: (*a*) The first reason which may be assigned for this apparently paradoxical fact, that tepid baths will bring about a greater reduction in temperature than a cooler one, was that the patient did not part with his heat so readily in the cold as in the tepid bath, because the initial contraction of the blood vessels in the skin in the cold bath allows less blood to pass through the skin, and, consequently, less heat was dissipated. (*b*) The colder the water the more frequently shivering followed the bath. Shivering raised the temperature of the body rapidly through lessening the circulation of the skin and through the involuntary action of the muscles, in consequence of which less heat was being produced. (*c*) The temperature of the body was the result of two factors, the production and the dissipation of heat. It was an undoubted fact that the cold bath stimulates the production more than a warmer bath. Dr. Hare did not think that this subject of baths had received the attention it deserved.

Use of Drugs.—Dr. Hare regarded turpentine as of great value when the tongue was dry and coated and the belly tympanitic. Aside from the favorable effects of the bath, he believed that alcohol was the stimulant *par excellence* in this disease, and that cold over the præcordium was a valuable means of slowing a too rapid heart. He believed that the use of strychnine was often detrimental to the patients. It had always seemed to him that strychnine was essentially an irritant stimulant, which should be applied in a crisis, only a few doses at the most being given, and that its continued employment was like applying a whip constantly to a tired horse, with the result that, in the end, less energy was developed.

Diet.—Most cases of typhoid fever needed not milk alone, but easily-digested starchy foods, or foods of this type helped in the digestive process by appropriate remedies. He also allowed two eggs a day, soft boiled.

Hemorrhage from the Intestines.—Dr. Hare had never heard of any remedy which appealed to him as part of rational therapy in the treatment of this complication unless it was calcium chloride or gelatin. Application of the ice-bag he considered to have little or no effect, and it often deprived the patient, already shocked and anæmic, of vital heat. When a hemorrhage was really active, no drug which acted as a styptic could get to the bleeding spot soon enough to effect a good result.

Mortality Rate.—Dr. Wm. H. Thomson did not think the death rate from typhoid fever should exceed 2 per cent. During the past few days, at his request, the house staff at Roosevelt Hospital had gone over the list of deaths which occurred in that institution from June 1, 1901, to October 11, 1902. The death rate occurring in patients who had been received in hospitals could not be compared to the death rate of patients elsewhere; sometimes these patients were received in the second, third, or fourth week of the disease, and even at the point of death; therefore he drew the line at the fifth day, because he did not believe that any amount of hospital treatment could be considered as effective unless the patients were under care for more than five days. During this time, in the medical wards, he treated 108 patients with eight deaths; of these eight deaths, five could not be included, for reasons given.

Treatment.—Dr. Thomson believed in stimulating the kidneys from the beginning, and, for this purpose, he used rectal irrigations of salt solution. Intestinal antisepsis should be borne in mind from the beginning to the end. He employed calomel, 5 grains; compound jalap powder, 35 grains, every night until the fifteenth day. Bismuth, in 10 to 30 grains, was employed as the only intestinal antiseptic, and this was repeated every three hours. As a diet, he employed milk and lime water, half-and-half, until the third week, when gruel was admitted, with pepsin in in 10-grain doses every three hours. The cold baths were employed whenever the temperature was 103° or over, and he never allowed a patient to have a temperature beyond that point. The cold bath greatly increased elimination by the kidneys; the toxicity of the urine has been shown to be doubled by a cold bath within two hours after its administration. The death rate should not exceed 1 or 2 per cent.

Dr. R. Van Santvoord got along without the tub bath, relying chiefly upon sponging. He referred to the difficulties attending the use of the cold bath in private practice. He spoke of the first patient he had seen troubled with cold baths while he was an interne at Bellevue Hospital. The bath was given under the direction of Dr. Welsh. When the patient was removed from the cold bath he said "Dr. Welsh was not fit to be a savage." He deprecated the cold bath on account of its severity.

Dr. Andrew H. Smith said that the elevation of temperature in these cases was from three sources, viz., (1) the typhoid infection, (2) absorption of putrefactive food, (3) constipation. During the third week of the disease there were numerous points in the intestines through which infection might take place, such as may occur in any open wound.

Dr. A. Jacobi said, with regard to the use of strychnine as a cardiac stimulant in typhoid fever, that, if given in small doses, there would be no influence; if given in large doses, it would be injurious. In every case of myocarditis, it was not the whole heart that was degenerated, but only localized spots in it; these were more or less normal and abnormal tissues. If strychnine acted upon the whole heart, it must act differently on the healthy and diseased parts. When strychnine was given in a case of chronic myocardium degeneration, the pulse became more irregular; when it was left off, the heart became more regular. Strychnine should not be used indiscriminately as a cardiac stimulant. He usually gave one dose of calomel at the commencement of the disease. He was afraid to give it toward the end of the first or second week, because most of the hemorrhages occurred during that time, the majority of them occurring on the ninth day, at a time when the scurf of the ulceration will fall off. Every purgative administered at that time increased the possibility of hemorrhage. Rectal injections were good for many things; for the purpose of relieving constipation, which was so frequent in this disease; for the purpose of relieving diarrhœa; for the purpose of relieving not only the diarrhœa, but the fetid diarrhœa. For this latter purpose he employed thymol, 1-3,000. He never fed his patients on solid food during the course of this disease, although he was aware that well-known clinical teachers said that solid food should be given. The diet should be fluid in character, such as milk, mixed with lime, barley, or rice water. Milk was made more digestible by the addition of cereals.

Dr. James K. Crook did not think that sufficient attention was paid to the disinfection of the urine. Unless properly disinfected, the urine was capable of transmitting the infection for one year after convalescence.

Scarlet Fever Arising after Operations on the Throat.—J. W. Washbourn records seven cases in which, after operations for adenoids, enlarged tonsils, cleft palate, and turbinal enlargements, etc., a typical scarlet rash supervened, followed by desquamation. It may have been that the operator introduced the scarlet-fever virus on his instruments or fingers, or that the virus was present in the throat at the time of operation. While we do not know the exact cause of scarlet fever, it may be that it is present in the mouth more or less of the time, just as is the diphtheria germ, ready to effect an entrance through any solution of continuity.—*Clinical Journal.*

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Annual Meeting, Held October 27, 1902.

Frank Van Fleet, M.D., President.

This being the annual meeting, most of the session was devoted to routine business and receiving the reports of standing committees. The report of most general interest was that of the Milk Commission.

Report of the Milk Commission.—Dr. Rowland G Freeman presented this report. He said that since the reorganization of the commission eleven months ago the scope of its work had been considerably enlarged, and the commission was now on a self-supporting basis. The duties of the individual members had not been permitted to become very onerous, and this division of labor had given very satisfactory results. There were two grades of milk produced under the supervision of the commission, viz.: (1) The higher grade, called "certified milk"; (2) That grade designated as "inspected milk." While the latter must be produced in a cleanly and scientific manner, the commissioner refrains from imposing upon the producer any expensive conditions which are not considered to be absolutely necessary. For the production of the first grade, or certified milk, the barn-yards must be kept clean and free from smell and moderately free from flies during the summer. The stable must be clean and well ventilated, and as free as possible from dust, and the manure must be removed daily. Of course, the water supply must be pure. The cows are examined by a skilled veterinarian, to exclude tuberculosis and other diseases, and the animals are not fed on such things as would impart a disagreeable flavor to the milk. The animals are groomed daily, the long hair near the udders being clipped, and the udders are washed or wiped with a damp cloth before each milking. Wet milking is forbidden, and the milkers are required to wear washable overalls during milking, and they must not be sick or have been exposed to contagious disease. As a further precaution against contamination, young children, as well as cats and dogs, are excluded from the milking place, and the first milk expressed from the teats is discarded. The dairy building must be separate from the house, the utensils must be thoroughly sterilized, and the milk must be rapidly cooled to below 45° F. The bottles of milk are stopped with pasteboard disks and covered with metal caps, though in the near future it is intended to substitute a sealed tin cap. In addition to all these precautions, the milk must be examined at the laboratory every week, and it is subject to examination at any time. The average bacterial content must be less than 30,000. The farms are inspected at intervals. This certified milk is sold by the dealers at prices verying from ten to twelve cents per quart. The inspected or second-grade milk must have 4 per cent. of butter fat, and must not have an average bacterial content exceeding 100,000 in summer, and 60,000 in winter. In general, the care of the dairy and the cows and the precautions in milking are the same as for certified milk. These farms are inspected, and the milk examined at the laboratory, once a month. This milk usually sells for eight cents per quart, the usual price of milk produced without sanitary supervision. While, therefore, inspected milk is guarded by many sanitary regulations, it is not subjected to the same frequency of inspection and examination as certified milk, nor is the prescribed maximum bacterial content nearly so low as in the latter. At the present time, the speaker said, ten barns, representing 800 cows, were producing certified milk, and nineteen farms, representing 700 cows, were producing inspected milk. The inspector employed by the commission had made eighty-six visits to farms, fifty-eight of these farms being at places where it was necessary to remain over night in order to see the milking and bottling. Of the fourteen farms regularly visited three were within thirty-five miles of New York, one was sixty-five miles distant; nine were from seventy-five to ninety miles away, and one was 200 miles from this city. Since January of the present year a monthly charge had been made to the milk dealers in order to defray the expenses of the commission. The charge for the certified farms was based upon the number of cows, and varied from eight to fifteen dollars per month, while for the inspected farms, which are usually situated in groups around a creamery, the charge was one dollar per month and certain expenses. This made the income of the commission about $100 per month. Dr William H. Park had cooperated with the commission, directing the inspections and bacteriological examinations.

Officers Elected.—The following officers were elected at this meeting: *President*, Dr. Charles N. Dowd; *First Vice-President*, Dr. Wendell C. Phillips; *Second Vice-President*, Dr. Rowland G Freeman; *Secretary*, Dr. John Van Doren Young; *Treasurer*, Dr. John S. Warren; *Censors*, Drs. Frank Van Fleet, Henry S Stearns, William H. Park, Floyd M. Crandall, and Joseph Brettauer.

Surgical Suggestions.

Dirty Hands have destroyed more lives than all the implements of warfare. The most important part of the successful treatment of Colles' fracture is perfect reduction. The normal bladder is difficult to infect; the paralyzed and diseased bladder, on the other hand, is very susceptible to infection. Muscular rigidity is a prominent clinical feature of appendicitis, and, as a rule, it is proportionate to the severity and extent of the complicating peritonitis. Enterostomy is a life-saving effort, and as such, no patient should be allowed to die without giving him the possible benefits of the operation.—Senn, in *Practical Surgery for the General Practitioner.*

Sterilization of Catheters.—Nancrede and Hutchins (*American Journal of Surgery and Gynecology*) say: (1) It requires four and one-half minutes to sterilize, by boiling, an infected soft-rubber catheter; (2) Elastic catheters and soft rubber catheters can be boiled repeatedly for five minutes or more without producing roughness or reducing their elasticity; (3) Immersion in bichloride (1-2,000) will not sterilize an infected catheter; (4) Formalin vapors will sterilize infected instruments in twenty-four hours; (5) All methods of sterilization commonly employed should be continued for a longer period than the minimum time required for the destruction of germs in the laboratory.

Mastoid Operations.—The goal in all mastoid operations is the antrum, and this should always be found and entered, and is done by means of the chisel, hammer rongeur-forceps, and spoon. In recent cases it may be sufficient merely to drain the antrum, but ordinarily there has been quite a destruction of the bone, and all the soft bone, granulation tissue, etc , should be removed, and this will often mean the removal of the whole cortex, and all mastoid cells extending down to the tip, at which place there is generally a large cell, and it will often occur that the only pus found will be in this most dependent cell, and it is important that exit be afforded it.—T. H. Halstead in *Philadelphia Medical Journal.*

Tonsillotomy.—I consider operative treatment necessary when the tonsils are so large that they mechanically cause some obstructive symptom, even if otherwise healthy—when they are the centers for frequent or prolonged catarrhal or acute inflammatory attacks; when they are the cause of lymphadenitis; when the crypts and recesses are filled with caseating secretion, which does not yield to treatment; when they are the probable cause of a troublesome reflex cough. I consider it advisable when an adenoid operation is necessary, even if the hypertrophy is not very marked.—F Marsh in *Medical Press*, June 11, 1902.

New Instruments.

A NEW BIVALVE UTERINE DRAIN FOR THE TREATMENT OF UTERINE RETENTION AND STERILITY.*

By A. ERNEST GALLANT, M.D.,
NEW YORK.

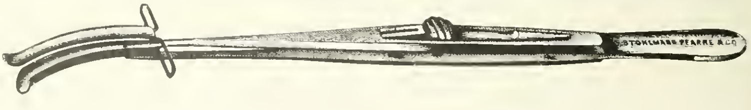
PROFESSOR OF GYNECOLOGY, NEW YORK SCHOOL OF CLINICAL MEDICINE, ETC.

The damming up within the uterus of its normal or any abnormal secretion is generally spoken of as retention. This condition may arise from one or more of several causes, which may be congenital or acquired. Among the former class we find stenoses—vulvular, vaginal, or cervical; displacement, retroversion, and flexions—anteflexion of the cervix or retroflexion of the body. Either of the above conditions may be met with as an acquired condition, and with laceration cicatrices, or neoplasms may interfere with the free exit of uterine secretion.

As might be expected, retention is but rarely met with until menstruation has begun, and but infrequently persists after that function has ceased.

Normally, the uterus lies upon the fundus of the bladder in such a position as to be comparable to a bottle lying obliquely with its mouth downward, so that its fluid contents run down and out (practically oozing drop by drop). But when, as in retroversion, the mouth of the bottle is uppermost, the cavity fills to overflow, the stagnant blood coagulates and, as a foreign body, irritates the uterus to contract, forcing the accumulated blood out, and the woman suffers from uterine colic, and suprapubic and sacral pain.

If, however, the retention be due to flexion, the condition differs in that the mouth of the uterus points downward, but the flexible neck has been bent like a kinked garden hose, and the kink must be straightened out or overcome ere any fluid can pass that point. The menstrual blood soon fills up the small uterine cavity, and thereby excites contractions, which must be strong enough and continue long enough to dilate the cervix—especially the internal os—sufficiently to allow the retained blood to escape. If a clot of sufficient size is passed, the canal will remain patent until menstruation ceases without further pain, but if the dilatation is only partial, the organ will refill and colicky pains recur throughout the greater part of the menstrual period. As a result of this repeated retention, we have prolonged congestion and menstruation, later menorrhagia, metrorrhagia, thickening of the uterine wall, and enlargement of its cavity with all the discomforts incident thereto.



Infection after miscarriage is always associated with deficient drainage. Puerperal uterine infection will but rarely be met with when the uterus is freely discharging its secretion and the fundus is firmly contracted. After-pains indicate retention and insufficient drainage.

Uterine drainage consists of any means whereby the patency of the cervical canal is maintained to facilitate the free exit of normal or abnormal uterine secretions. Primarily a well-drained uterus will but rarely, if ever, be a painful or septic uterus. Thorough uterine drainage depends upon (*a*) proper position of that organ; (*b*) patency of the cervical canal; and (*c*) the maintenance of its patency.

In most instances of simple retroversion, replacement and support of the uterus will give relief from pain, and when no other abnormal condition exists, will be followed by pregnancy. On the other hand, when the displacement has been of long standing, the uterine wall is thickened and its cavity ballooned out, it will be necessary to curette and drain ere the uterus will return to its normal dimensions.

After abortion or miscarriage, whenever the hemorrhage increases rather than diminishes, or the flow continues off and on from day to day, curettage and drainage are imperatively indicated.

In all flexions, whether anteflexion of the cervix or retroflexion of the body, the chief difficulty is found at the internal os, which presents as a thick, tight, hard, inelastic ring, very difficult to dilate to any practical degree. This obstacle has been overcome by inserting a long-handled, blunt-pointed bistoury within the internal os and making shallow incisions in front, behind, and laterally, the dilatation being continued by the introduction of cervical or male sounds up to 36 or 40 F., thus avoiding any danger of cervical rupture.

An efficient drain must be long enough to reach within the internal os, must conform, in a measure, to the shape of the canal, must be rigid enough to prevent the cervix from contracting, and, most important of all, must not plug up and interrupt the outflow.

The bivalve drain represents a split cylinder, and is made open at the sides to overcome the plugging always met with in cylindrical drains, by allowing the cervical mucus to enter the drain through the open sides of the tube and commingling with the other discharge, to prevent coagulation and to wash the cavity clean. Furthermore, cervical mucus is an essential medium in the drain for the entrance of spermatozoa into the uterus.

The bivalve drain has for its foundation the Outerbridge wire stem, the anterior and posterior sections being bridged over to form corresponding halves of the cylinder. By this means the wire does not become imbedded in the cervical tissue, the cervical canal cannot contract to less than the caliber of the drain, nor can the mucous membrane of the canal project into its lumen to occlude it or interfere with perfect drainage. The drain, as made by Stohlman, Pfarre & Co., is one-quarter inch in diameter, and one and three-quarter inches in length; straight or somewhat curved to conform to the cervical canal. The upper ends are flanged and tapered off, and are spread wider apart than the lower part, to prevent the drain from slipping out, and to keep up moderate, spring-like pressure on the internal os. Being made of silver, it can be polished and, after boiling, be used in a series of cases. For use during the puerperium, the drain is made considerably larger—three-eighths inch in diameter and two and one-half inches long. We have made use of only the curved variety in this class of cases.

After dilatation of the cervix, the drain can be readily introduced in the grasp of an ordinary dressing forceps, or any forceps which will enter the lower end of the tube. When the drain has been inserted, before withdrawing the introduction forceps is withdrawn, the drain should be steadied by means of a tenaculum to prevent its dislodgement. It is always well to pack the vagina with sterile gauze after dilatation and introduction of a drain, to maintain the uterus in good position, to steady the drain until the cervix contracts, and to absorb any purulent secretion rather than allow it to be absorbed from the vagina. This packing can, in non-septic cases, remain in the vagina for forty-eight hours, but when any infection is present, it must be changed every day. If the purulent discharge is excessive, the gauze should be removed, and the vagina irrigated every three hours with a solution of potassium permanganate (1:2,000). If the infection has not reached the veins, under this treatment, the temperature will soon subside and the pulse diminish in frequency, both indicating that the patient is improving.

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*Presented to the Society of the Alumni of the Sloane Maternity Hospital, January 24, 1902.

Initial pain following dilatation, curettage, and insertion of a drain is due to uterine contractions, and is beneficial in that it thereby reduces the size of the uterus; it will subside in a day or two. This fact must be impressed on the mind of the patient.

In cases of constructive dysmenorrhœa or sterility, the drain can be retained in the cervix for several months, but it is well to remove, clean, and replace it after each menstrual period. That portion of the drain at the external os being bathed in the acid vaginal secretion will turn black (oxidation), but this can do no harm.

The bivalve drain has given excellent results: (*a*) in sterility due to flexions, retroversions, and stenosis; (*b*) for the relief of obstructive dysmenorrhœa; and (*c*) for drainage after curettage for endometritis, abortion, miscarriage, retained puerperal products, and the relief of after-pains.

It may not be out of place to utter a warning against the use of the curette and drain in the presence of gonorrhœal vulvitis, urethritis, vaginitis, or endocervicitis, as it is liable to facilitate the introduction of the gonococci into the uterus, tubes, and abdominal cavity.

The Anti-Malaria Campaign in Agro Grossetano.—Giambattista Mariotto-Bianchi describes the methods adopted by a commission appointed by the Government for the extermination of malaria. It has been found utterly useless to attempt to destroy the fully-developed mosquito. For the destruction of the larvæ and the nymphæ in pools, marshes, etc., petroleum in the required amount is too costly, and requires too frequent application, and, moreover, prevents the use of the water by domestic animals. Various other larvacides used possess the same drawbacks, and are in addition easily altered in their composition and lose their effect. Closing all wells, draining the soil, and removing vessels filled with water are efficacious means of relief, but are extremely difficult of application over any extensive area. Individual methods of protection against the mosquito, such as the wearing of veils and gloves are valuable, and were successful in the case of the soldiers who, accustomed to obeying orders, carried out faithfully the instructions given them. But the ordinary populace and the peasants, finding the methods tiresome and inconvenient, could not be prevailed upon to give them a fair trial. Where screens and nets were placed at doors and windows, they paid no attention to them, leaving the doors wide open, removing the springs which closed them automatically, and destroying the nets. It is therefore evident that while, theoretically, malaria can be averted by protection from mosquitos, practically there are so many obstacles to be overcome that protection is not to be obtained.—*Giornale Medico del Regio Esercito.*

Book Reviews.

Diseases of the Nose, Throat, and Ear. By Charles Prevost Grayson, A.M., M.D., Lecturer on Laryngology and Rhinology in the Medical Department of the University of Pennsylvania, etc. Philadelphia and New York: Lea Brothers & Co. 1902.

This book is an attractive one in its make up, with good letter-press work and very few misprints. A serious fault is the use of glazed paper, which makes it trying to the eyes to read by artificial light, and while such paper is necessary for good results in illustration, it should not be used in that part of the text not illustrated. The subject matter is good, and it is, as the author intended it to be, a *practical* book, telling, as he says in the preface, "not only what to do, but how to do it." It is not a reference book, nor an exhaustive academic treatise, attempting to say all that there is to be said, on all branches of the subjects treated.

The parts devoted to anatomy, physiology, and history are brief, and give only the important points; the spaces devoted to pathology might, however, have been increased with advantage.

Under "treatment"—the most valuable part of the book—the author is very evidently and sincerely giving, not compilations from other men's work, but his own experiences—and it is proportionately valuable. Many details of the "how to do it"—just such details as the beginner wants to know and usually has to learn by his own experience and mistakes—are given in a clear and practical way easy to understand; and while some of those details of manipulation and treatment are such as many men, including the present reviewer, have not found entirely satisfactory, the author is, as was stated above, so evidently sincere in his statements of the results of his own experiences, that the differences would be ground for argument, rather than for adverse criticism. One important and welcome feature throughout the book is the insistance upon the value and importance of *general* treatment of the *patient*, as well as the local treatment of the condition in nose, or throat or ear, as the case may be. The author is also to be commended for his conservative and cautious position on the question of operative interference in all cases.

The book is well written and is a serviceable and practical addition to the literature of the subjects treated.

General Paresis, Practical and Clinical. By Robert Howland Chase, M.D., Physician in Chief, Friends Asylum for the Insane; late Resident Physician State Hospital, Norristown, Pa. Pp. 291. Philadelphia: P. Blakiston's Son & Co., 1902.

This book has been written for the general practitioner, especially for the family physician "upon whom," as the author states in the preface, "must rest the responsible decision of diagnosis and early treatment, which, in so many ways, may mean much or little."

The history of the disease is first described, and the succeeding chapters deal systematically with the symptomatology, diagnosis, etiology, pathology, and treatment. It is an admirable compilation, with brief histories of recorded cases abstracted from current literature, portraying the different types of general paresis. The reader will thus gain a comprehensive idea of our present knowledge upon this important subject, as well as much information of practical value.

The book also contains numerous illustrations showing the physiognomy of patients in the various stages of the disease.

Practical Obstetrics. A Textbook for Practitioners and Students. By Edward Reynolds, M.D., Visiting Surgeon to the Free Hospital for Women, Fellow of the American Gynecological Society; of the Obstetrical Society of Boston, etc.; Formerly Instructor in Obstetrics in Harvard University, and Senior Physician to Out-patients of the Boston Lying-in Hospital; and Franklin S. Newell, M.D., Assistant in Obstetrics and Gynecology in Harvard University, Physician to Out-patients, Boston Lying-in Hospital; Assistant Visiting Physician to the Boston City Hospital in the Department of Diseases of Women, etc. Illustrated with 252 engravings and 3 colored plates. Philadelphia and New York: Lea Brothers & Co., 1902.

One begins a review of a new work on Obstetrics with some doubt as to its *raison d'être*. This doubt is speedily dispelled on turning the pages of this admirable guide to practical midwifery.

It is impossible to do justice to it in a short notice. The interest excited by the chapters on the diagnosis and treatment of normal pregnancy, and the management of normal labor, culminates in Part III, which is devoted to Obstetric Surgery. When we state that twelve pages are given to minute directions for the management of posterior positions of the occiput, the expert will infer that at last this much-neglected subject has received the attention which it deserves. We have read this portion of the book, as well as the sections on forceps and version, with interest and profit. Labor in deformed pelves, hemorrhage, eclampsia—all are treated in a thoroughly modern and satisfactory manner. There is no smell of the lamp about this book; it is wholly the product of experience in the lying-in chamber.

The style is clear and forcible, sufficiently dogmatic, but modest and impersonal withal. It is sufficient to add that the book is a worthy exponent of a school of obstetrics noted for its careful, scientific work. We are confident that the profession will be prompt to recognize its singular excellence, and will receive it as the best of its class.

Psychopathological Researches in Mental Dissociation. By Boris Sidis, M.A., Ph.D. New York; G. E. Stechert, 1902.

These researches of 325 pages and ten plates, tracing pulse and respiration, were made in zealously-studied cases, one of mania, one of alcoholic amnesia, two of melancholia, and two of pseudoepilepsy. The work is based on the neuron-theory and the recorded psychomotor manifestations are attributed to dissociation of the neuron-groups. The chief experimental agent used was hypnotism, and the conclusions were reached by introspective and subjectively speculative methods. The generic term, "functional psychosis," is appropriated to indicate a host of phenomena subconscious and not personally conscious. This hypothesis of a cleavage of consciousness into subconscious and personally conscious systems separated by neuron-dissociation, inadequately supported by anatomical or other tangible evidence, enters as a major premise into all the main deductions. Personality also is represented as split in twain or into several effective personalities by functional severance of neuron-aggregates, and like the conscious and subconscious systems is synthetically reunited by hypnotic means.

The author should have given some clear ideas or definitions of the main subjects of research, but he neither analyzes the all-important elements of personality nor the core of the whole matter, viz., the modes and degrees of consciousness. Of hypnotism, his chief agent of research, he describes neither the essential nature, the artificial varieties nor the constant modifications through the personal equation of subject and operator.

With the whole range of urgent and practical psychiatric material at hand, it is a pity that a subject of relative obscurity and inconsequence should have been chosen, and that this work of long expectancy and great promise hould have furnished meager positive results.

Diseases of the Rectum and Anus. Designed for Students and Practitioners of Medicine. By Samuel Goodwin Gant, M.D., L.L.D. Second Edition Rewritten and Enlarged, with 37 full-page Plates, 20 of which are in colors, and 212 smaller Engravings and Half-Tones. Philadelphia: F. A. Davis & Co., 1903.

This work can hardly be described as *multum in parvo*. The considerable bulk of over 700 pages painfully lacks the science of elimination. The essential facts, even when discovered, are smothered in collateral literature of the specialty. In many cases the methods of surgical procedures are so multiple as to be rather confusing than instructive.

Other factors contributing to the ponderability of the book are the 37 plates and 212 illustrations. Some of these latter are new and interesting, and give evidence of original ideas in Anatomy as well as in the Surgery of the part, as, for instance, the relations of the sigmoid colon to the rectum, as shown in fig. 2, p. 6. Other illustrations are of less interest. Fig. 42 shows a very ordinary bedpan, and about half of page 114 is devoted to a rather poor sketch of a Kelly's pad.

The chapter on "Railroading as an Etiological Factor in Rectal Disease" is unique, and treats of new hardships hitherto untouched by Warman, Spearman, and other chroniclers of the vicissitudes of the trainman. The remedy of these evils is not, however, very apparent.

The book, as a whole, is admirably adapted to fill pleasantly the idle hours of the young practitioner. The author has undoubtedly been at the greatest pains to elaborate clearly every detail of his specialty.

Photographic Atlas of Diseases of the Skin. By George Henry Fox, A.M., M.D. Parts VII–XVI. Philadelphia and London: J. B. Lippincott Co., 1900.

This "physician's edition" of the author's larger hand-painted photograph-album has now reached the advanced stage from which the whole work may be fairly judged. That it is highly commendable goes without saying. The author's well-known artistic tendencies and accuracy of reproduction assures work of a high order. The designation attached to particular conditions depicted may not be invariably in accord with the nomenclature usually employed, but the text makes clear the writer's views concerning some of the pityriasic states and scaly dermatites. Especial attention is called to a striking illustration of lichen ruber squamosus, showing the scaly patch in an elongated band, which Hutchinson regarded as so characteristic of this condition, which he called lichen-psoriasis. If the text had been printed smaller, so that the chief points of diagnosis and at least some treatment could have been given for each disease illustrated, it would have made the atlas of much greater value to the majority of subscribers. Even with shortcomings the work stands as an ornament to American Dermatology.

Physical Diagnosis of Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By Egbert Le Fevre, M.D., Professor of Clinical Medicine and Associate Professor of Therapeutics in the University and Bellevue Hospital Medical College; Attending Physician to Bellevue and St. Luke's Hospitals; Consulting Physician to Beth-Israel Hospital; Member of the New York Academy of Medicine, etc. Illustrated with 74 Engravings and 12 Monochrome Plates. Philadelphia and New York: Lea Brothers & Co., 1902.

Although there are many works on similar subjects, the author has given us a volume which will no doubt meet with the popular approval of teachers and students of physical diagnosis. Having had a large experience as an instructor, he has incorporated in the text many explanations not ordinarily given by most books, and in so doing answers questions sure to arise in a class-room. We think that his descriptions of the pathological conditions present, and their consequent influence upon physical signs, are especially good, and will serve to make the student a better diagnostician. There are many original illustrations, the importance of which cannot be overestimated in a subject of this kind. The radiographs also are useful to those who have the opportunity of using *x*-rays in their work. The text is particularly well arranged, and is a model of system, which in itself is an excellent example to those who deal with the obscure diseases of the chest and abdomen.

Progressive Medicine. By Hobart A. Hare, M.D., Assisted by H. R. M. Landis, M.D. Vol. III. September, 1902. Philadelphia and New York: Lea Brothers & Co.

This quarterly of advances in the medical sciences contains contributions from Ewart (Thorax and Viscera), Gottheil (Skin and Syphilis), Spiller (Nervous System), Norris (Obstetrics). The general character of abstract work is that usually presented. The illustrations in dermatology are above the average.

Diseases of the Organs of Respiration. A Treatise on the Etiology, Pathology, Symptoms, Diagnosis, Prognosis, and Treatment of Diseases of the Lungs and Air Passages. By Samuel West, M.A., M.D., F.R.C.P., Assistant Physician and Lecturer on the Principles and Practice of Medicine at St. Bartholomew's Hospital; Senior Physician, Royal Free Hospital; Consulting Physician to the New Hospital for Women; Member of the Board of Faculty of Medicine of the University of Oxford; Formerly Physician to the City of London Hospital for Diseases of the Chest; Lettsomian Lecturer at the Medical Society of London; Radcliffe Travelling Fellow of the University of Oxford. In two volumes. With numerous Diagrams and Illustrations. London: Charles Griffin & Company. Philadelphia: J. B. Lippincott Company, 1902.

Although there are many treatises on diseases of the respiratory organs, we feel sure that the two volumes before us will be read with pleasure and profit by all who wish to obtain a complete knowledge of the subject in hand. To those who are making a specialty of the organs of respiration the work is really indispensable. Realizing the importance of a full knowledge of the physiology, anatomy, and mechanics of the lungs, the author begins with a brief but eminently practical exposition of these fundamental principles, together with some accurate definitions of the terms used in physical diagnosis, thus avoiding confusion so often growing out of an uncertain nomenclature. Specially valuable to the clinician are the excellent descriptions of the lymphatics of the lungs, and pleuræ. Following the introductory section are the usual clinical descriptions of the diseases of the larynx, air tubes, lungs, and pleuræ. but these are unusually good, and show the knowledge of a long and faithful experience of a practical worker. Many cases from the note books of the author make the articles more graphic, and give practical illustrations to the text. The sections on treatment are most satisfactory and full. Where a difference of opinion exists, the writer willingly records them, at the same time stating the reasons which have led him to adopt his preferences. The larger sections are given to the ordinary diseases, while the less common affections, at the same time, are afforded sufficient space. High praise is due the diagrams, illustrations, selected statistics, and particularly an almost irreproachable index.

Genito-Urinary Diseases and Syphilis. By Henry H. Morton, M.D., Clinical Professor of Genitourinary Diseases in the Long Island College Hospital; Genitourinary Surgeon to the Long Island and Kings County Hospitals and the Polhemus Memorial Clinic. Philadelphia: F. A. Davis Company, 1902.

New works, in the field of Genitourinary Surgery, are demanded from time to time quite as much as in any other department of special medicine. Advances of the past ten years are not unimportant, making older works and editions incomplete. New works should be better than any that have gone before, both in subject matter and in utility of illustrations. While the ground has been here well covered, and all modern methods and appliances have received due attention, still the lack of artistic merit in the illustrations and the oft-times inadequacy of them to convey the impression sought, makes an unfavorable impression. Devoting a whole page to two small lesions about the nose, which have undoubtedly been touched up before or after being photographed, as on page 301, is a waste of space, which authors should endeavor to avoid. Ten essential lesions of syphilis should have been demonstrated in this same space.

La Prostitution Réglementée et Les Pouvoirs Publics. Par Louis Fiaux. Paris: Felix Alcan, 1902.

This is one of the well-known publications of the *Progrès Médical*, written by a former member of the Municipal Council of Paris, and gives a résumé of methods of control and the powers possessed by public authorities in the principal countries of the two hemispheres. The work is one of especial interest to sanitarians and reformers, as well as to all interested in public morals.

The Practical Series of Year Books. Vol. X. Skin and Venereal Diseases, Nervous and Mental Diseases. By W. L. Baum, M.D., and Hugh T. Patrick, M.D. Chicago: The Year Book Publishers, 1902.

There is some little connection between skin and nervous disorders, and also between venereal and mental, but that is probably not the reason for the combination found in this little year book. This is Vol. X of the series, and maintains, by the character of its abstracts, the standard set by its predecessors, covering the special fields well if not fully. It makes a handy little book to carry about with one, and is vastly more attractive than some of the overweighted year books.

Handbuch der Krankenversorgung und Krankenpflege. Von Dr. G. Liebe, Dr. P. Jacobson, und Dr. Meyer. Berlin: August Hirschwald, 1902.

In the second volume of the first part of this important work the authors present *in extenso* (1078 pages), the novelties, modern appliances, and methods for contributing to the comfort, care, and cure of medical and surgical cases in and out of the hospital. Numerous American devices, hospital equipments, etc., are referred to, and hospital interiors, including some of this country, are depicted. The work abounds in interest and wealth of detail in all matters pertaining to maintenance and care of the sick.

The Dietetic Management of Typhoid Fever.—F. X. Walls says that "milk alone" is objectionable as a typhoid diet: Because it is intolerable as a sole food to the adult in health or disease; because it contains a large amount of poisonous filth; because in digestive tract infections it feeds the parasitic intestinal flora rather than the host; because the systemic intoxication from milk poisoning is so often serious and often fatal; because we have abundant other substances that are without these objectionable features, and are more palatable, equally abundant, as economic, very nutritious, easily digested, and readily assimilated. The author discusses the nutritive and stimulative value of gruels, jellies, broths, egg, etc. He warns against overfeeding, and advises watching the abdomen for gaseous distension of the bowels, and the stools for evidence of indigestion or food putrefaction. If present, the diet should be corrected in preference to the administration of antiseptic or antifermentative remedies.—*The Chicago Medical Recorder*

Medical Items.

Contagious Diseases Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 15, 1002

	Cases.	Deaths.
Measles	92	6
Diphtheria and croup	354	43
Scarlet fever	109	6
Smallpox	2	. .
Varicella	76	. .
Tuberculosis	241	136
Typhoid fever	109	28
Cerebrospinal meningitis	. .	2

Rudolf Virchow's Accident and Sickness.—W. Körte, who attended Professor Virchow from the date of his accident (January 4, 1902) until his demise, publishes the first complete authentic account of his last illness which has as yet appeared. Korte first examined the injury in less than one hour after it had been received. The left lower limb was in a position of external rotation and shortened about 3 cm. The region of the left trochanter was very susceptible upon pressure, and all movements caused intense pain. Crepitation was easily elicited, and a diagnosis of fracture colli femoris sinistra intertrochanterica was made. The injured limb was at first laid upon pillows, and, on January 6, a plaster extension bandage, with König's apparatus, was applied, with eight pounds' weight. This relieved the pain to a great extent, and in a few days the patient was able to sit up in bed. The general condition, with the exception of a slight weakness due to shock, was excellent. After three weeks the formation of callus had progressed so favorably that the weight could be removed at intervals with great comfort to the patient. On January 27 and 28 he complained of a stitch-like pain in the left side of the chest. Careful physical examination failed to show any abnormal signs, and, under the application of dry heat, the pain soon disappeared. On February 2 the extension bandage was entirely removed, and the shortening of the limb found to be between 2½ and 3 cm. Massage and resistance movements were instituted, with the result that in about six weeks the patient could use the limb to walk about the room with the help of an attendant and a cane. Despite the favorable course of the injury, the same was not without serious effect upon the patient. During the first few days after the injury mental symptoms appeared. He did not appear, at times, to realize his condition. During such periods he desired to take up his routine work, and made many unreasonable requests. As time progressed, his sleep during the night was very much disturbed, while during the day he lay for quite a portion of the day in a half slumber. These symptoms, however, improved, and on March 23 he went out of doors for the first time. On May 1, during very unfavorable weather, he journeyed to Teplitz, where he took the baths with, apparently, very good result, so that he was able to move about much more freely than before and even to take short walks in the park. He became restless, however, desiring to return to work, and on June 14 proceeded to Harzburg, where he was received with marked honor at the Villa Rautmann. Here, for several weeks, he enjoyed himself greatly. On July 6 he developed quite suddenly an attack of heart failure and dyspnœa. Treatment with digitalis, caffeine, and alcohol did not give good results. The patient gradually weakened and became apathetic, the pulse being small and irregular. No cardiac murmurs were present The urine wrs cloudy and contained some pus. On August 30 he was brought back to Berlin, where he died on September 5, during an attack of heart failure. The primary cause of death was myocarditis, and it is probable that inflammatory renal complications were also present.—*Berliner klinische Wochenschrift*

A Felon. once established, demands only one treatment, thorough and early laying open of the finger with an incision: and, since it has been seen that it is with difficulty that the particular variety is not always easily determined, unless it is, without doubt, a cutaneous or tendinous felon, the point of the knife had better be carried through the periosteum to the bone, thereby giving exit to the pus, infective and destructive material, and giving the greatest relief from pain. Not infrequently this procedure can be done under local anæsthesia, yet, in many instances, it is found more advisable to use a general anæsthetic, thereby relieving the patient of the mental worry, and lessening the shock. The anæsthesia being of such short duration, little or no shock from it would be expected. Necrosed bone, a destroyed joint or tendon, and slough of gangrenous superficial tissue will have to be removed, adding a little time and severity to the operation.—Robert Carothers in *Cincinnati Lancet Clinic*, July 19, 1902.

Anal Fissure.—In pain, confined to any region related, connected, or adjacent to the rectum, look carefully for anal fissure; in severe vesical tenesmus without apparent cause, be on the lookout for the same condition.—*Wisconsin Medical Recorder.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 15, 1902:

		Cases	Deaths
SMALLPOX—UNITED STATES			
California, San Francisco	Oct. 25–Nov. 2	6	..
Colorado, Denver	Oct. 25–Nov. 1	3	.
Florida, Jacksonville	Nov. 1–8	1	.
Lamont	Oct. 18–Nov. 8	4	
Mayport	Oct. 18–Nov. 8	1	
Pensacola	Oct. 18–Nov. 8	1	
Illinois, Chicago	Nov. 1–8	5	1
Freeport	Nov. 1–8	4	
Indiana, Indianapolis	Nov. 1–8	2	
Kentucky, Lexington	Nov. 1–8	13	
Massachusetts, Boston	Nov 1–8	8	1
Cambridge	Nov. 1–8	1	.
Bedford	Nov. 1–8	1	.
Michigan, Detroit	Oct. 25–Nov. 8	20	
Grand Rapids	Nov. 1–8	4	
Missouri, St. Louis	Nov. 2–9	10	
Nebraska, Omaha	Nov. 1–8	1	
New Hampshire, Manchester	Nov. 1–8	2	
Nashua	Nov. 1–8	20	.
New York, New York	Nov. 1–8	4	1
Ohio, Cincinnati	Oct. 31–Nov. 7	4	
Cleveland	Nov. 1–8	12	5
Hamilton	Nov. 1–8	1	
Toledo	Oct. 4–Nov 8	14	2
Warren	Oct. 25–Nov. 1	1	..
Pennsylvania, Altoona	Nov. 1–8	1	
Erie	Nov. 1–8	8	
Johnstown	Nov. 1–8	5	1
Philadelphia	Nov. 1–8	3	
Pittsburg	Oct. 25–Nov. 8	52	8
South Dakota, Sioux Falls	Nov. 1–8	1	
Utah, Salt Lake City	Nov. 1–8	1	
Wisconsin, Milwaukee	Nov. 1–8	20	.
SMALLPOX—FOREIGN			
Austria, Prague	Oct. 18–25	8	..
Belgium, Antwerp	Oct. 18–25	1	1
Brazil, Bahia	Sept. 27–Oct. 18	4	..
Chile, Pisaqua	Oct. 13	6	
Ecuador, Guayaquil	Oct. 18–25		3
Great Britain, Bristol	Oct. 11–18		1
London	Oct. 18–25	1	1
Manchester	Oct. 18–25	1	..
Russia, Moscow	Oct. 11–18	3	..
Odessa	Oct 11–18	1	.
Switzerland, Geneva	Oct. 11–18	1	..
YELLOW FEVER.			
Colombia, Panama	Oct. 27–Nov. 3	6	.
Costa Rica, Port Limon	Oct. 25–Nov. 1	2	2
Ecuador, Guayaquil	Oct 18–25	.	2
Mexico, Progresso	Oct. 17–24	1	1
Tampico	Oct. 2[illegible]–Nov. 2	.	5
Vera Cruz	Oct. 25–Nov. 1	7	5
CHOLERA—INSULAR.			
Philippine Islands, Manila	Sept. 14–20	40	30
Provinces	Sept. 13–20	[illegible]	2,454
CHOLERA—FOREIGN.			
Egypt	July 12	[illegible]	32,377
Egypt	Oct. 25–Nov. 1	225	22
Alexandria	Oct 11–18	58	55
Japan, Kobe	Oct. 4–11	40	22
PLAGUE—UNITED STATES			
California, San Francisco	Oct. 28	1	1
PLAGUE FOREIGN.			
India, Karachi	Oct. 5–12	13	8
Russia, Odessa	Oct. 18–25	47	16

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Clinical Methods. By Robert Hutchison, M.D. 16mo. 612 pages. Illustrated. Fifth Edition. W. T. Keener & Co., Chicago, Ill.

A Nurse's Guide for the Operating Room. By Nicholas Senn, M.D. 130 pages. Illustrated. W. T. Keener & Co., Chicago, Ill.

Transactions of the Medical Association of the State of Alabama, 1902. 8vo. 488 pages. The Brown Printing Co., Montgomery, Ala.

Über die Behandlung der Kinderkrankheiten. By Dr. med. H. Neumann. 8vo. 452 pages. Oscar Coblentz, Berlin, Germany.

How Can I Cure My Catarrh? By J. R. Tillinghast, Jr., M.D. 16mo. 150 pages. The Contemporary Publishing Co., New York. Price, $1.00.

A Manual of Surgery for Students and Practitioners. By Wm. Rose, M.B., B.S., and Albert Carless, M.S. Fifth Edition. 1223 pages. Illustrated. 8vo. William Wood & Co., New York. Price, extra muslin, $5.00 net; leather, $5.75 net.

A Text-Book of Anatomy by American Authors. Edited by Frederic H. Gerrish, M.D. Second Edition royal octavo. 944 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

A Manual of Medical Treatment of Clinical Therapeutics. By I. Burney Yeo, M.D., 12mo, two volumes, 696 and 818 pages, Tenth edition. W. T. Keener & Co., Chicago, Ill.

A Manual of Gynecology, By Henry T. Byford, M.D. Third edition. 8vo, 598 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price $3.00 net.

The American Text-Book of Obstetrics, in two volumes. By various authors, Richard C. Norris, Editor, 554 and 545 pages. Illustrated. 8vo. W. B Saunders & Co., Philadelphia, Pa.

Diet and Food, 16mo. By Alexander Haig, M.D., Fourth Edition. 127 pages. P. Blakiston's Son & Co., Philadelphia. Price $[illegible].00 net.

Transactions of the State Medical Society of Wisconsin, 1902, Volume XXXVI. 8vo, 474 pages. State Journal Printing Co., Madison, Wis.

A Text-Book of Pathology and Pathological Anatomy, By Dr. Hans Schmaus. Royal octavo, 602 pages. Illustrated. Lea Brothers & Co., New York.

An Introduction to Dermatology. By Norman Walker, M.D. 8vo, 301 pages. Illustrated. Second edition, William Wood & Co., New York, Price $3.00 net.

The Public and the Doctor. By a Regular Physician. 16mo, 149 pages. Published by Dr. B. E. Hadra, Dallas, Tex.

Directions for Laboratory Work in Physiological Chemistry. By Holmes C. Jackson, Ph.D. First edition, 62 pages. John Wiley & Sons, New York.

Genito-Urinary and Venereal Diseases. By Louis E. Schmidt, M.D. 12mo. Illustrated. Lea Brothers & Co., New York.

Diseases of the Skin. By Drs. Joseph Grindon and B. B. Gallaudet. 8vo, 377 pages. Illustrated. Lea Brothers & Co., New York.

The Practical Medicine Series of Year Books, Vol. I, General Medicine. By Frank Billings and J. H. Salisbury, M.D 12mo, 358 pages. The Year Book Publishing Co., Chicago, Price $1.50.

Taschenbuch der Massage. By Dr. Erich Ekgren. 12mo, 96 pages. Illustrated. S. Karger, Berlin, Germany.

Anleitung zur Diagnose und Therapie der Kehlkopf-, Nasen- und Ohrenkrankheiten. By Dr. Richard Kayser. Royal octavo, 178 pages. Illustrated. S. Karger, Berlin, Germany.

Diseases of the Bronchi, Lungs and Pleura. By Prof. Dr. Friedrich A. Hoffman and others. 8vo, 1,029 pages. W. B. Saunders & Co., Philadelphia, Pa.

The Elements of Bacteriological Technique. By J. W. Eyre, M.D. 8vo. Illustrated, 371 pages. W. B. Saunders & Co., Philadelphia, Pa.

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Original Articles.

PARATYPHOID FEVER.*

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ON December 1, 1897, I read before the Society of the Alumni of Bellevue Hospital a paper[2] dealing with the clinical aspects of a disease which was similar to typhoid fever, and yet differed from it, chiefly in that its subjects did not show the Widal reaction. There were likewise clinical differences, to which we shall allude later, sufficient distinction existing clinically between the two types of fever, so I believed at that time, to enable a differential diagnosis to be made. For a year preceding the presentation of this disease, of which I had studied seventeen cases, I had been busy with the investigation of the agglutination reaction to which Widal had in that year called attention. An unfortunate endemic of typhoid fever among the nurses at the Training School at Mount Sinai Hospital afforded me the opportunity in the autumn of 1896 to make this study, which was continued, with the assistance of the pathologists at Mount Sinai Hospital, during the summer of 1897, when the typhoid fever cases in my service and in that of my colleagues were unusually numerous. As the result of this investigation, I became early convinced of the specificity of this reaction, and was thus prepared when a number of cases appeared in my wards which presented an analagous picture, clinically, to typhoid fever, but did not show the agglutination reaction, to give these aberrant cases special consideration and thought. Thinking that we had in these aberrant cases a specific infectious disease, we proceeded to conduct a search for the offending organism, and to discover, if possible, its nature. The resources of our laboratory, at that time, were inadequate and insufficient, and the methods of differentiation of these organisms almost unknown. We tried to isolate the infectious agent from the fæces, the urine, and the aspirated blood from the spleen. Our efforts had a decided negative value, in that they established the *absence* of the typhoid bacillus in these cases. The presence of a bacillus which we regarded as a variety of the colon group, but which did not react to the serum of any of the cases, was noted. This organism we did not regard as the *causa morbis.* Notwithstanding the disappointing results of our inquiry, I insisted that the cases under review were not typhoid-fever cases, but were examples of an infection similar to typhoid fever, though this view was opposed by all who, having had occasion to read or hear the published report, had discussed the subject at the various society meetings in which I presented these views. The reasons for maintaining them have been published, and need not now concern us.

This was the first attempt to establish clinically an infectious disease in our nosology which simu- hoid fever, and yet was not due to the Eberth bacillus. Had it not been for the absence of the Widal reaction in such a large number of these cases occurring during the typhoid-fever season, and for the fact that one of these seventeen cases had recovered only six months before from a severe typhoid-fever infection, during which this patient showed the agglutinative reaction, and which was not present during the subsequent disease, I might have passed these cases by without further inquiry, and have classified them as aberrant types of typhoid fever. Permit me, though, to say here that cases of typhoid fever do occur in which the Widal reaction cannot be demonstrated, and to insist that we are not justified in concluding that such cases are not typhoid fever because we cannot elicit the agglutination reaction. The subjection of the blood, urine, and fæces to cultural procedures, and the isolation therefrom of the infectious organism, is the only absolute test.

Since the publication of my paper similar cases have been reported, having the advantage of being supplemented by full bacteriological studies, in which organisms related to the intermediate groups, between the typhoid and the colon bacilli, have been isolated. The most important of these are described by Gwyn,[12] Cushing,[6] Shottmüller,[23] Kurth,[17] Buxton and Coleman,[5] Libman,[18] Brion and Kayser,[3] Hume,[14] Strong,[24] Johnston,[16] Hewlett,[13] Longcope,[19] Hünermann,[15] and de Feyfer and Kayser.[9] The clinical aspect of these cases, however, has received but scant attention, the endeavor of each of these observers being mainly directed to the bacteriology of the disease. Sufficient data have been collected to enable us to form some judgment as to the nature, the morbid anatomy, pathology, and symptomatology of this disease, to which the name of paratyphoid fever has been given.

Nomenclature.—The term paratyphoid fever is unfortunate, as it neither indicates the infectious agent nor the clinical aspects of the disease. Bacteriologists are not yet agreed as to the classification of the bacillus, or whether the organisms isolated from all the cases do not differ greatly among themselves. Some call the bacillus group paracolon, some paratyphoid, hence the former term would have as much claim for the designation of the disease as the latter. If the term paratyphoid is intended to express the idea that, clinically, the disease is like or similar to typhoid fever, the term is etymologically incorrect. From this point of view the affection ought to be called *pseudotyphoid* fever. The term paratyphoid was given to the infection first by Acharde and Bensaude,[1] again by Schottmüller,[23] and Meltzer,[20] and as such the infection has become known.

Bacteriology.—All are agreed that this disease is the result of an infection with a bacillus the position of which is intermediate between the typhoid bacillus on the one hand and the colon bacillus on the other. There are a number of groups or varieties of bacilli between these two extremes. Gilbert suggested the term paracolon to these intermediate groups. Durham,[6] whose exhaustive study of the allied groups cannot be too highly praised, considered that they belonged to the Gärtner[10] enteritidis group (the bacillus of meat poisoning, described by Gärtner in 1888) and its allies. Certain members of this group are pathogenic to man. The one which concerns us being the so-called paracolon or paratyphoid group, of which more than one form, differing among themselves culturally, has been reported. These species are, morphologically, like the Eberth bacillus, from which, in that regard, they cannot be distinguished, and they possess the same motile characters. Unlike the bacillus typhosus, their reaction in milk presents, after a temporary initial acidity, an early alkalinity in the presence of air. Milk is never coagulated by them. They ferment glucose, with the production of gas. They do not ferment lactose, nor do they produce indol.*

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*Read before the New York State Medical Association, October 22, 1902.

In their reaction to milk they differ among themselves, some producing a less degree of alkalinity than others, after the initial slight acidity, which is common to all, but which itself varies among them as to duration. The main distinguishing features between the intermediate groups, the bacillus coli communis and the bacillus typhosus, are as follows: The intermediates and typhosus do not coagulate milk, the communis does; the intermediates, the paracolon group and the communis, ferment glucose, with the production of gas, the typhosus does not; the bacillus coli communis ferments lactose, with gas production, the paracolon or paratyphoid group and the typhosus do not; the communis produces indol, the intermediates do not, as a rule,* and typhosus does not. The communis and intermediates never react to typhoid serum in high dilutions, whilst the typhosus does in a very large percentage of the cases. In the cases reported where the patient's serum, in high dilutions, gave a specific reaction to both the bacillus typhosus and the specific intermediate isolated from the patient, it is our belief that the cases were double infections, to the possibility of which Meltzer[20] first called attention.

The fact that the intermediates differ among themselves to a great extent culturally, and also in their serum interactions, leaves the matter of their classification still in dispute and *sub judice*. It is for the bacteriologists to further investigate these intermediates before their classification can be settled and before appropriate names can be bestowed upon them. When this is done an appropriate name may be given to the disease induced by them.

History.—The first cases of infection in man by the paracolon group to be reported appeared in France in 1896, the investigators being Achard and Bensaude,[1] who, under the name of Paratyphoid Infections described two cases of continuous fever, the first clinically resembling typhoid fever, with a relapse, a subsequent femoral phlebitis, from the purulent urine of which they isolated a so-called paratyphoid bacillus on two different occasions, though a blood culture was negative. The second case was that of a seven-months' old infant who, after a febrile illness of not quite three weeks' duration, had a suppuration of the right sternoclavicular joint, from the pus of which they isolated an organism resembling that found in their first case. They regarded these organisms as closely resembling the bacillus psittacosis, an organism found in a diarrhœal disease of parrots and communicable to man, and which Nocard[21] first isolated. In man this organism produced a bronchopneumonia with typhoid-fever symptoms

In 1897 Widal and Nobécourt[25] isolated from the pus of an abscess of the neck in a phthisical patient a paracolon bacillus. This patient was thirty-one years old, and had typhoid fever when nine years old. He suffered whilst in the ward of the hospital with only slight constitutional symptoms, and was not regarded as a typhoid-fever suspect.

At the end of the same year I[2] publicly reported my cases, though I was unsuccessful in isolating the disturbing organisms, but I proved that the infection in my cases was not due to bacillus typhosus, though clinically the cases were similar to such an infection. The publication of these occurred on January 8 and January 15, 1898. They may be regarded with a great probability as being cases of infection due to a paracolon bacillus.

Later in the year 1898, Gwyn[12] reported, from Osler's ward at Johns Hopkins, the case of a male who had the classical symptoms of typhoid fever, complicated by three intestinal hemorrhages, in which the Widal reaction was absent, and from whose blood he separated a paracolon bacillus.

Cushing,[6] also of Johns Hopkins University, followed, in 1900, with the next case—that of a man twenty-seven years old, who was supposed to be suffering from typhoid fever, and in whom a chostochondral myelitic abscess developed six months after the fever. The abscess, breaking open, left a sinus, from which, nine months after the fever, Cushing obtained a bacillus belonging to the paracolon group, which he called the bacillus O. The patient's blood never gave the Widal reaction. Cushing's report forms the most thorough and complete study of all reported cases up to this time, and is a splendid example of careful and detailed investigation.

During the same year, Schottmüller[22] reported a case of a patient with a twelve-day fever, roseola and enlarged spleen, but absent Widal reaction, from whose blood he obtained a paracolon bacillus.

In the following year, 1901, he[23] reported a series of five cases occurring during a typhoid-fever epidemic. In these five cases no Widal reaction could be obtained. From cultures made from the blood of each, he isolated similar bacilli. Clinically, his cases were like typhoid fever, though none presented complications or relapses.

In his study of these bacilli, Schottmüller,[23] owing to slight cultural differences, divided them into two groups, Group A and Group B. Those of the former group (two cases) produced a slight amount of acid in litmus whey, while those of the latter (four) did the same, with a subsequent development of alkalinity. The former group grew only indifferently on potato, the latter abundantly.

On the basis of the agglutination reaction with the paracolon bacillus, Schottmüller[23] included a seventh case in his series, the patient being his assistant. This patient's blood readily produced a reaction with the organisms isolated from the other cases, the clinical picture being similar, the Widal reaction being absent.

Kurth,[17] in making serum examinations for the Widal reaction in sixty-two cases of supposed typhoid fever in Bremen, found five that gave no reaction. The bacteriological examination of these five cases showed a bacillus from the urine of one and from the fæces of another which differed from the typhoid bacillus, and which gave agglutinative reaction with the serum of the patient. The serum of the patient from whose urine the bacillus was isolated was not preserved, though the bacillus reacted to the other seven.

On account of the clinical aspect, which, Kurth[17] remarks, was like the old cases described as gastric fever, he called the organism bacillus bremensis febris gastricæ. It was most probably a similar bacillus to the group under discussion, as they were morphologically similar to typhosus, were decolorized by Gram, produced visible gas in the fermentation of glucose, did not coagulate milk, and produced no indol.

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*The indol reaction cannot be relied on, as Cushing[6] obtained an indol reaction in two members of the intermediate group, and Libman[18] slight reactions with almost all the members of the group he analyzed.

During this year—1902—reports on paracolon infections have multiplied.

Brion and Kayser[3] reported a case in a young girl, in whom they isolated a paracolon bacillus from the blood, urine, fæces, and rose spots. The clinical history of this case, at first, was not like typhoid fever. The girl entered the hospital with a vaginal discharge due to gonococcus, and gave a history of loss of appetite, abdominal pain, and constipation, with slight fever. The spleen was palpable. After two weeks she was discharged, but returned in three days with a renewal of the former symptoms, with a palpable spleen and roseola. This patient had a second relapse, and, during convalescence, a left femoral thrombosis. Her fever lasted nine days, sixteen days, and fifteen days respectively. After the first relapse the fever fell by crisis, and after the second by quick lysis (three days).

Coleman and Buxton[5] report the next case, one from Bellevue Hospital, with a subsequent special complete report on its bacteriology by Buxton;[4] a colored girl of twenty-eight years, who was taken suddenly with a chill, followed by fever, anorexia, and vomiting, subsequently epistaxis and severe headache and a tendency to diarrhœa; later palpable spleen and epigastric tenderness and constipation. Fever broke by crisis on the fourteenth day, and, after the critical fall, showed exacerbations and remissions for another week, when it remained normal. Blood taken from the arm on two occasions gave the paracolon bacillus—Widal reaction was negative.

Following them came a most complete and detailed report, with a bacteriological analysis of all the previous reported cases by Libman,[18] whose work was especially accurate and careful. His case was probably a typhoid-fever case in which a subsequent paracolon infection occurred. Libman[18] isolated from the patient's blood, from the contents of the gall-bladder, and from his urine during life a paracolon bacillus. This bacillus was agglutinated by the patient's serum, and his serum likewise agglutinated bacillus typhosus. Clinically, the case resembled that of a cholecystitis, or liver abscess, with a negative Widal reaction at first, which later became positive in high dilutions. No typhoid bacilli were found. The case terminated fatally, and furnished the first case of paracolon infection which came to autopsy. At the autopsy, healed ulcers in the ileum, as well as ulcers showing a reparative process, were found.

Strong[24], from the Philippines, isolated, post mortem, from the spleen of a soldier who came to autopsy, having died with a supposed typhoid fever, a bacillus similar to Cushing's bacillus O. The organs showed signs of an acute infection, the report of the intestines indicated that they were normal, there being no ulcerations of the ileum.

From Liverpool comes the report of a case by Hume[14] of a man twenty-nine years old, with a clinical history of typhoid fever of fifty-three days' duration, including a relapse, hemorrhage from the bowels, and cystitis, occurring as accompaniments. The Widal reaction was negative. Three weeks after the fever subsided, Hume isolated from the stools a similar bacillus—Bacillus L—which was agglutinated by the serum of the patient. The same was subsequently isolated from the urine. This organism did not produce a late alkalinity in milk. Hume regarded it as belonging to the Gartner enteritidis group.

Next came, in rapid succession, four cases from Johns Hopkins Hospital, reported by Johnston,[16] a case from the New York Hospital, reported by Hewlett,[13] two cases from the Pennsylvania Hospital, in Philadelphia, reported by Longcope,[19] one case being with autopsy protocol.

Finally, Hünermann[15] reports two cases and an endemic of fourteen cases in Eibergen, Holland, described by de Feyfer and Kayser,[9] completes the list to date. They number, in all, sixty-two cases, in at least twenty-five of which the organism was isolated.

		CASES
Acharde and Bensaude	Paris	2
Widal and Nobecourt	"	1
Brill (probable cases)	New York	17
Gwyn	Baltimore	1
Cushing	"	1
Schottmüller	Hamburg	7
Kurth	Bremen	5
Brion and Kayser	Strasburg	1
Coleman and Buxton	New York	1
Libman	"	1
Strong	Philippines	1
Hume	Liverpool	1
Johnston	Baltimore	1
Hewlett	New York	4
Longcope	Philadelphia	2
Hünermann	Saarbruck	2
De Feyfer and Kayser	Eibergen	14

Morbid Anatomy.—The changes in the tissues indicate an acute general systemic infection, without specific localization. Of course definite conclusions cannot be established from three autopsies, of which even one was of a case of probable double infection. In Strong's and Longcope's cases the large and small intestines showed no ulcerations such as are common to typhoid fever; in fact, they were stated to be normal throughout. Libman's case, which may be regarded as a typhoid-fever case with a subsequent paracolon infection, showed healed and healing ulcers in the ileum. The rest of the organs show the usual changes due to toxæmia and continuous pyrexia; these include cloudy swelling, fatty degeneration and necrosis of their cells. The spleen is enlarged in all cases, its pulp is soft, and the color dark.

The mesenteric glands were enlarged and some hemorrhagic, in Strong's[24] case, while they were normal in Longcope's.[19] The large and small intestines, with the exception of a moderate catarrh and a few superficial hemorrhages in Strong's[24] case, are reported by both these observers to be normal. In the small intestines the solitary follicles and the Peyer's patches showed no changes whatever in either case, a distinctive difference from the characteristic lesion of typhoid fever.

Symptomatology.—An analysis of all these cases will show that the symptoms present mark two groups of cases—the one showing the usual signs of an infection or toxæmia, with so-called typhoid-fever symptoms, accompanied by an involvement of the nervous system, the other beginning more abruptly, with gastrointestinal symptoms, marked chiefly by repeated vomiting and diarrhœa, with fever, which may or may not show the typhoid-fever type. The first group is the more common. It corresponds with the symptomatology of the forms of typhoid fever so closely that it is no wonder that these cases, before the use of the Widal-reaction test were classified as typhoid fever. Yet close clinical observation will detect marked deviations, sufficient, in many cases, to separate the disease from typhoid fever. Whether these deviations from the clinical type of typhoid fever are sufficient, without cultural tests, to identify early this disease remains to be determined. The most of the cases described which belong to this group are almost identical to the clinical picture which I drew from my cases five years ago. This is especially true of Schottmüller's, Kurth's, and Hünermann's cases. My description was as follows:

"A period of three to four days in which the patients complained of loss of appetite, malaise, general weakness, headache, and general body pains, succeeded in many instances by either a distinct chill or chilly sensation, and, in a few, by epistaxis. The patient is feverish, the temperature, as taken in the rectum, rapidly rising to 104° or even 105° F. The period of temperature rise to its acme is within five days. The morning and evening temperature of each successive day of this period being higher than that of the preceding day. On the fourth or fifth day—that is, when the patient's temperature is highest—the following objective signs are present: sensorium dull, the patient apathetic, face flushed, cheeks reddened, *there being a zone of whiteness about the mouth*; eyes dull and expressionless, conjunctivæ congested, the tongue in the greatest proportion of the cases moist and always furred. The fur is thick, *white*, and covers the dorsum of the entire tongue, only the edges and tip of that organ being free from the coating. There are contraction and wrinkling of the brow, owing to the intense headache of which the patient complains. The skin of the body is hot and dry; that of the back, especially over the loins, and the skin of the abdomen are covered by an eruption of rose-red papules. These papules have a diameter of two millimeters, are only slightly raised, disappear, as a rule, completely on pressure, and reappear when the pressure is removed. The papules are not numerous, are lenticular in shape, sometimes acuminated, with a minute vesicle on top, and, while present both over the skin of the back, chiefly between the scapulæ, and over the loins, they are, as a rule, more numerous over the abdomen. Sometimes the eruption is absent.

"The abdomen is slightly distended and rigid, owing to a slight degree of tympanites. There is usually abdominal pain, but little tenderness.

"The spleen is enlarged, and its free border is palpable.

"The bowels, as a rule, are constipated, and can only be moved by some laxative agent. Diarrhœa is only exceptionally present.

"The mental condition of the patient is disturbed. He is apathetic, he does not want to be molested, and lies in a state of drowsiness or semistupor the most of the time. When the fever is highest, toward evening, a few patients become delirious.

"The pulse is full and rapid, occasionally dicrotic.

"The temperature is continuously high, with morning remissions, as a rule reaching 103° to 104° F. in the evening, and falling off two to three degrees therefrom in the morning. The temperature shows these exacerbations and remissions for ten to twelve days from the beginning of the disease, when it suddenly drops, in the large majority of cases, to normal. In a few cases it shows a steplike descent, like the typical typhoid temperature of the fourth week, the descent to normal, however, not taking more than three days. When the degradation of the temperature occurs the symptoms disappear, and the patient feels well but weak. His appetite returns, his headache has disappeared, his tympanites has vanished, he regains his mental composure, and takes acute interest in his surroundings. The bowels now move regularly and without difficulty.

"During the progress of the disease emaciation has developed, and, while not as extreme as it is in true typhoid fever, it is still considerable.

"One of the earliest features of this group of cases is the prostration. It appears earlier, and is more intense, than in unquestionable typhoid, and is often the subject of the patient's complaints. As a rule, these patients are unable, after they take to bed, to sit up without assistance.

"The urine is high-colored and scanty. When subjected to Ehrlich's diazo-reaction, it responds in some cases, and in others not at all. Indican was not present in excess, and was sometimes entirely absent, and acetone and diacetic acid were absent in the cases examined." Some cases show an albuminuria with and others without granular casts.

The blood shows no leucocytosis, a tendency to leukopenia occurring in a number of cases.

The temperature falls by crisis in about 28 per cent. of the cases. This occurs, hence, more frequently than it does in typhoid fever. A short lysis seems to be the rule.

The Gastrointestinal Form.—The second group is marked by cases which begin suddenly with chilly sensations and vomiting, accompanied by general abdominal pain, seldom tenderness. The pain is referred to the right hypochrondrium and the epigastrium. A distinct chill may precede or follow the pain. After the chill, fever develops, the temperature rapidly rising to 104° or higher. Soon diarrhœa supervenes, the movements being thin and watery and rarely accompanied by tenesmus; they contain mucous and sometimes slight traces of blood. Some of these cases develop into the typhoid-fever type, and others continue as above outlined, with a continuous fever showing marked morning remissions until convalescence is gradually established. The diarrhœa may cease gradually or abruptly, and be replaced by a constipation. Weakness and prostration are dominant symptoms. The apathy is not a marked feature in this group as it is in the typhoid form.

It does not seem that the clinical types depend upon the identity of any of the groups of organisms which have been isolated. This may be seen from the fact that Libman's organism, which is practically identical to one of Schottmüller and Gwyn's, was present in a case belonging, clinically, to the second group, while the others were cases of the first group.

Duration.—The duration of the disease varies, the average being a little over two weeks; the limit being ten days and eighty-four days.

Relapses are not infrequent, and occur in about 10 per cent. of the cases. There may be one or two relapses. They are milder than the original attack, and of much shorter duration.

Age.—The youngest case was seven months of age, the oldest sixty years. The age of the greatest number is between twenty-five and thirty-five years.

Sex.—Males are more frequently affected than females.

The time of appearance may occur in any month; the most of the cases have appeared during the months when typhoid fever is most prevalent. Fewest cases appear in the winter.

Geographical Distribution.—Thus far France, Germany, Holland, England, America, and the Philippine Islands have furnished examples of this infection.

Source of Infection.—This cannot, as yet, be determined. It is possible that a few of the cases come from infected meat (meat-poisoning cases). Water may be the means of transmitting it, as is proved by Hünermann's cases.

The severity of the disease varies from mild to intense. When death occurs, it seems to be due to a pure toxæmia.

The complications thus far noted have been venous thrombosis and phlebitis, bronchitis, intestinal hemorrhage, furunculosis, a monarticular arthritis, and a cystitis. As sequelæ have been reported a costochondral osteomyelitic abscess and bacilluria.

Differential Diagnosis.—Five years ago I wrote the following (reserving what has been said whilst describing the symptomatology, the most of the differential data remains true):

"From a general point of view these cases present almost the typical picture of typhoid fever, yet they differ in the following respects:

"In typhoid fever there are premonitory symptoms of a few days' duration· in this group of cases there were none. Our cases show a history of from three to four days' standing before they came under the observation of the physician.

"In typhoid fever there are lassitude and loss of energy; in the other cases there are general body pains of a severe type associated with these.

"In typhoid there is no intense early prostration, as a rule, whereas such is common in these.

"Typhoid is characterized by a gradually increasing daily rise in temperature. In the other group the rise is more sudden, and reaches its acme in from four to five days. In typhoid the highest temperature is reached in the second week of the disease. At the fastigium the temperature in typhoid makes but slight remissions, whereas in these cases there are excursive morning remissions of from two to three degrees Fahrenheit. In typhoid the temperature begins to fall at the end of the third or beginning of the fourth week, or later in protracted cases. The fall is then gradual, the descent, as marked on the chart, being steplike. In these cases the fall, in the largest proportion of those suffering, is sudden, and only in a few was the descent by lysis. In the latter the normal was reached on the third day after the fall began.

"The tongue in typhoid is dry, brown, and furred, while sordes is not uncommon. In these the rule is that the tongue is moist and covered with a white coating. No sordes was observed." Herpes about the lips have since been noted in two cases.

"Abdominal tenderness is common in typhoid, and was not present in any marked degree in these cases. Nor is the tympanites as extensive, neither is it as distressing as in typhoid.

"While the pulse in typhoid is, as a rule, dicrotic, this special quality of the pulse was observed only occasionally in these cases, and that not to a marked degree.

"The most notable difference between the two classes of cases is the length of the disease.

"Emaciation is more extreme in typhoid fever than in this group."

The blood serum in these cases does not react to bacillus typhosus.

Serum Diagnosis.—The question arises, in view of the fact that some observers have suggested the advisability, for diagnostic purposes, of having two varieties of this group as stock cultures for sera tests, whether the serum diagnosis is sufficient to establish the identity of the infection. Inasmuch as Durham[7] has shown many difficulties and variations concerning the rules of agglutination for the ordinary colon group, in this respect differing from the fixed rule for bacillus typhosus, and Cushing and Libman[illegible] similar variations in the intermediate and paracolon groups (thus, serum from Cushing's case would not react with Gwyn's bacillus, though the organisms were apparently identical), it may be said at present that such tests alone are insufficient to establish an absolute diagnosis. Such a diagnosis must, hence, depend upon the recovery of a paracolon bacillus from the blood or from the excretions, or from each.

It is wise to make cultures from the blood early in the disease; that is, as long before the crisis as possible, as, in our experience, in cases in which this infection has been suspected late blood cultures were attended by negative results. The experience of others shows that the bacillus may be obtained from the urine even as long as three weeks after the subsidence of the fever.

Conclusions.—Paracolon infections are not very rare. Thirty-eight cases have been reported during the past year. The infection is a systemic one, and its symptomatology is like that of typhoid fever, from which it can only be differentiated absolutely by the agglutination and cultural tests. The differentiation clinically between the two infections most likely depends upon the superimposed localization of the typhoid infective agent in the intestines in typhoid fever, and its probable absence there in paracolon infections.

The belief that typhoid fever is a specific disease has existed so long that it would be iconoclastic to disturb its place in medical nosology. The fact, however, remains that typhoid fever is not clinically a specific entity; that organisms besides the Eberth-Gaffky bacillus may produce the clinical symptoms of typhoid fever.

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*Since writing the above, the subsequent publication of the original article has come to hand. Evidently, Levy and Jacobsthal had knowledge of these cases before their publication, which occurred in the *Munchener medicinische Wochenschrift*, No. 41, October 14, 1902, p. 1692, and No. 42, October 21, 1902, p. 1752. They relate to an endemic, as noted in the text. There were fourteen cases, which occurred in four families, the numbers being, respectively, 5, 5, 2, 2. There were no blood cultures made. The diagnosis was made from the absent Widal reaction and the positive agglutination of Schottmüller's bacillus, Group B, by the serum of one case out of each family. Case 13 reacted to this bacillus, as well as to bacillus typhosus (a double infection, the authors claim), and ran an afebrile course. The transmission of the disease to the various families was by infected water.

48 West Seventy-sixth Street.

Philadelphia County Medical Society, North Branch.—At a stated meeting held November 10, R. H. Bradbury, Ph.D., C.E., presented a communication entitled "Illuminating Gas in Relation to Disease." He pointed out the danger to health and life from the use of gas stoves that do not insure the perfect consumpton of the gas, particularly in small and ill-ventilated rooms. As a result of such imperfect combustion, carbon monoxide is given off, and this is poisonous in a proportion as small as one-tenth of 1 per cent. Carbon monoxide is especially dangerous because it does not manifest its presence by an odor, and it may cause insensibility and death without premonition. The subject was further discussed by Drs. Seneca Egbert, A. B. Hirsh, and Henry Leffman, and the use of oil for heating purposes was commended in preference to gas. Dr. Albert M. Eaton delivered the "Address of the Retiring Chairman."

A REPORT OF A CASE OF SUCCESSFUL SUTURING OF THE HEART, AND TABLE OF THIRTY-SEVEN OTHER CASES OF SUTURING BY DIFFERENT OPERATORS WITH VARIOUS TERMINATIONS, AND THE CONCLUSIONS DRAWN.

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Henry Myrick, negro, thirteen years of age, of rather delicate appearance, was stabbed at five o'clock Sunday afternoon, September 14, 1902. About six hours after the injury Drs. Parker and Wilkerson were called, and, perceiving the nature of the case, advised that I should be sent for, and upon my arrival I urged an immediate operation. To this the parents readily consented, and I was assisted in the operation by Drs. Wilkerson, Parker, Michel, R. S. Hill, Robinson, and Washington. The knife blade entered the fifth intercostal space about a quarter of an inch to the right of the left nipple, and penetrating the apex of the heart passed into the left ventricle. The wound was about three-eighths of an inch in length, and from it came a stream of blood at every systole. There was no external bleeding, but his general condition was very unfavorable. The radial pulse was almost imperceptible, and the heart sounds were heard with difficulty. There was a triangular-shaped area of dulness. He had dyspnœa, and was very restless. His extremities were cold, as were his lips and nose. When aroused, he answered questions intelligently, though his countenance showed great distress. Securing two lamps, I removed the boy from his bed to a table, at one o'clock at night, eight hours after the stabbing, and proceeded to cleanse the field of the operation, and place the patient in as favorable a condition as my surroundings in the negro cabin would allow. Commencing an incision about five-eighths of an inch from the left border of the sternum, I carried it along the third rib for four inches. A second incision was started at the same distance from the sternum and carried along the sixth rib for four inches. A vertical incision along the anterior axillary line was made, connecting them. The third, fourth, and fifth ribs were cut through with the pleura. The musculo-osseous flap was raised, with the cartilages of the ribs acting as the hinges. There was no blood in the pleural cavity, but the pericardium was enormously distended. I enlarged the opening in the pericardium to a distance of two and one-half inches, and evacuated about ten ounces of blood. The pulse immediately improved, and was commented upon by Dr. L. D. Robinson, who so successfully and skillfully administered the chloroform. I had my brother, Dr. R. S. Hill, to pass his hand into the pericardial sac and bring the heart upward, and, at the same time, steady it sufficiently for me to pass a catgut suture through the center of the wound in the heart and control the hemorrhage. I cleansed the pericardial sac with a saline solution, and closed the opening in it with seven interrupted catgut sutures. The pleural cavity was also cleansed with a saline solution, and drained with iodoform gauze. The musculo-osseous flap was brought down and stitched in position. The operation lasted forty-five minutes. The patient's pulse on reaching his bed was 145° and respiration 56. I injected strychnine hypodermically, and employed hypodermoclysis and autotransfusion. The following morning, September 15, the boy's pulse was 130° and temperature 102°, and he was slightly delirious. On September 16 there was but slight change in the temperature and pulse, though the delirium was much worse. On September 17 he commenced to improve, and his recovery has been uninterrupted. I allowed him to sit up on the fifteenth day. Dr. E. C. Parker, who assisted me in the subsequent management of the case, examined the urine frequently, but was only able to find once a trace of albumin.

Wounds of the heart may be either non-penetrating or penetrating, injuring the cardiac wall or opening a cavity. The chief dangers from the former are shock and injury to a coronary artery. Ninety per cent. are penetrating, and of these only 19 per cent. are immediately fatal. The right ventricle is most frequently injured, and the left auricle is least so. Auricular wounds are more fatal than ventricular ones, and injuries to the apex are less dangerous than either. A needle puncture will rarely cause hemorrhage from a ventricle, but excessive bleeding, which is mostly systolic, is liable to follow a like injury to an auricle. A wound inflicted during diastole is less dangerous than a similar injury during systole, perpendicular wounds are more fatal than diagonal, and those of the right heart bleed more profusely than those of the left. The presence of the foreign body in the heart, the size of the wound, the location of the wound, the number of wounds, the connecting cavities, the attending syncope, and the involvement of Kronecker's coordination center are important factors in determining the outcome. Pericarditis, myocarditis, endocarditis, cerebral embolism, and empyema are frequent secondary complications. When the wound heals there is a possibility of cicatricial stretching, and

	OPERATOR AND YEAR.	LOCATION OF EXTERNAL WOUND.	CHAMBER WOUNDED AND SIZE OF WOUND.	TIME OF OPERATION AFTER INJURY	ANÆSTHETIC.	RESULTS AND REMARKS.
1	Farina 1896	Just above the margin of the left sixth rib, near the sternum.	R. V., ¼-inch; 3 stitches	....	....	Death on sixth day, from bronchopneumonia.
2	Cappelen 1896	Fourth left intercostal space in mid-axillary line.	L. V., ⅘-inch.	1 hour.	....	Death after several days, from pericarditis: branch coronary artery cut.
3	Rehn. 1896	Fourth left intercostal space near sternum.	R. V., 3 stitches.	Following evening.	....	Recovery, empyema.
4	Parozzani ... 1897	Seventh left intercostal space in mid-axillary line.	L. V.; ¾-inch: 4 stitches.	5 hours.	None.	Recovery
5	Parozzani	Third left intercostal space.	L. V.; ⅜-inch; 2 stitches.	½ hour.	None.	Death on second day from anæmia(?) Interventricular septum had been cut.
6	Fumni 1898	Under left nipple.	Apex; cavity not opened, 1 stitch.	Several hours	....	Recovery; empyema.
7	Ninni.... ... 1898	Fifth left intercostal space.	L. V.; 3 stitches.	Quickly.	None.	Death on table.
8	Parlavecchio 1898	Fifth left intercostal space.	L. V.; 1½-inch, apex. 4 stits.	8 hours.	Chloroform	Recovery.
9	Giordano . . 1898	Second left intercostal space	L. V., ⅘-inch; 4 stitches.	½ hour.	None.	Death on nineteenth day from empyema; abscesses of right lung.
10	Nicolai 1899	Fourth left intercostal space, middle way between margin of sternum and nipple	R. V.	1½ hour.	Y .	Death after twelve hours.
11	Tuzzi.	Fourth left intercostal space.	Two wounds; one non-penetrating.	....	None.	Death on twenty-second day from empyema; pericarditis.
12	Longo	Fifth left intercostal space; ⅜-inch internal to nipple.	L. V.; 3 stitches.	At once.	None.	Death in fifteen minutes.
13	Ramoni..........	At third left cartilage; ⅜-inch from sternum.	R. V.; two wounds; one non-penetrating; 4 stitches.	....	None.	Recovery.
14	Marion 1899	Shot through breast.	R. V.; catgut sutures.	....	....	Death.
15	Rosa........ 1899	Fifth intercostal space.	L. V.; ⅜-inch; not certain it penetrated ventricle.	....	None.	Recovery.
16	Horodynski . 1899	....	R. V.; 1½ cm. long.	....	....	Death.
17	Maliszewski 1899	....	....	....	....	Death.
18	Maliszewski . 1899	....	....	....	....	Death.
19	Bufnoir. 1899	Sixth left intercostal space.	R. V.; gunshot, 22 caliber.	....	....	Death; necropsy showed perforation of ventricle and the anterior opening only had been sutured.
20	Pagenstecher. 1899	Fourth left intercostal space beneath the nipple.	L. V.; 1⅔ inch; near apex; 3 celluloid stitches.	16 hours.	None.	Recovery.
21	Nanu. 1900	Third intercostal space, 4 cm from edge of sternum.	R. V.; 2 cm. long; 2 interrupted sutures.	....	....	Death on fifth day from infection of pericardium and pleura.
22	aselli.. . . 1900	Below and internal to left nipple, cutting sixth rib.	L. V.; near apex; 2 stitches.	1½ hours.	None.	Death in twelve hours.
23	Fontan...... 1900	Six wounds with scissors between third and seventh ribs in cardiac regioa	L. V.; 12 mm. long; continuous catgut sutures; 3 stitches.	6 hours.	Chloroform.	Recovery.
24	Nietert 1901	....	R. V.; penetrated; 3 silk sutures.	....	....	Death after thirty-six hours.
25	Vaughan 1901	Fifth left costal cartilage divided.	L. V., 2½ cm. long; continuous silk sutures; 7 stitches	¼ hour.	Ether.	Death on table from hemorrhage about completion of operation.
26	Nietert 1901	Left of sternum.	L. V.; not sure cavity was penetrated; 2 stitches.	....	....	Recovery.
27	Nini. 1901	Left of sternum.	R. A.	....	....	Death in four days; sepsis.
28	Mignon et Sieur 1901	....	R. V.	....	....	Death.
29	Fontan 1901	....	L. V.; catgut sutures.	....	....	Recovered; had empyema.
30	Brenner.... 1901	Left of sternum, near sixth cartilage.	R. V.; 7 cm.	Following day.	Yes.	Death on table; degenerate heart muscle.
31	Watten 1901	Fourth right intercostal space.	R. V.; 3.5 to 4 cm.	....	....	Recovery; right pleura wounded; pneumothorax.
32	Lastaria 1901	....	L. V.	....	....	Died soon.
33	Zulehner. .. 1901	....	L. V.; ½ cm. long.	....	....	Suture tore out at once, and patient bled to death on table; heart showed fatty degeneration.
34	Zulehner. . . 1901	....	R. V.; 1 cm long, sutured with catgut.	....	.	Recovery.
35	Stern 1901	....	L. V.; pistol shot; unable to suture on account of location of wound on posterior surface; closed the opening with gauze.	....	...	Death in thirty minutes.
36	Launay .. . 1902	....	L. V.; anterior and posterior walls, pistol shot; catgut sutures in each	..	...	Recovery, no complications.
37	J H Gibbon . 1902	....	R. V.; one suture	...		Died on table
38	L. L. Hill . 1902	Fifth intercostal space, a little to the right of left nipple	L. V., ¾ inch; one catgut suture.	8 hours.	Chl'form.	Recovery.
39	Stewart. 1902	Fourth intercostal space, half-inch to left of sternum.	L V; ¾ of an inch; six catgut sutures.	At once.	Ether	Death on third day

subsequent rupture, as in a case reported by Izzo, of a man stabbed in the left ventricle, who was conveyed to the hospital, from which he was discharged cured on the twenty-eighth day; a few hours afterward, while lifting a heavy body, he fell and quickly died. At the autopsy the cicatrix of the left ventricle was found ruptured. In addition to injuries of the heart caused by bullets, daggers, knives, needles, and various implements of war, it may be wounded by a fractured rib, by a foreign body that has perforated the œsophagus, or by blows upon the chest. Traumatic ruptures are more frequent after a full meal, as the distended stomach pushes the heart upward and forward, and causes a large area of the organ to be in contact with the thoracic wall and receive the impact.

Newton and Gamgee have collected forty-five cases in which traumatisms caused rupture of the heart without opening the pericardium. All were fatal. Only one of Gamgee's cases survived the injury fourteen hours. The fatality is easily understood, for, there being no exit, as soon as the accumulation of blood exceeds the limit of pericardial distensibility, the cardiac movements are mechanically stopped. The surgeon not only would be justified, but it is his bounden duty to operate upon every one of these cases, for it is more important, if possible, to rescue a drowning heart than to relieve a strangulated hernia. It is possible for a foreign body, as a gun missile, to remain quiescent for years in the myocardium, as in the case of a British officer, reported by Stevenson, who carried a bullet encapsuled for eleven years, or the still more remarkable case of Beers (*Cincinnati Lancet-Clinic*, 1898), of an American soldier who survived the lodgment of a bullet in the wall of the left ventricle for thirty-seven years.

Symptoms.—There is no certain cardinal sign by which an injury of the heart can be denoted, but when we consider the location of the external wound, and the usually profuse hemorrhage from it, if it is large, in connection with other signs and symptoms, it can generally be recognized. The pulse is weak, irregular, and intermittent, and often imperceptible in the extremities. There are pain, pallor, restlessness, and general dyspnœa. Frequent attacks of syncope are common. The mind is clear, but the countenance depicts an anxiety and distress that seemingly would welcome death, with the wintry sterility of the grave, as a sympathizing friend. If there is much blood in the pericardium the heart sounds are indistinct, and percussion elicits increased dulness. With the pulsation of the heart a foreign body, as a needle, may be seen to move under the skin.

I have adopted the convenient tabular form of Prof. Vaughan in presenting the following thirty-nine cases, one of which was not sutured, but Professor Stern attempted to close the opening with gauze. Nine were collected by Professor Vaughan, seven by Professor Sherman, and the remainder by myself, chiefly from Italian literature.

From my own experience, and a careful review of the cases reported above, I have drawn these conclusions:

First.—That any operation which reduces the mortality of a given injury from 90 to about 63 per cent. is entitled to a permanent place in surgery, and that every wound of the heart should be operated upon immediately.

Second.—Whenever the location of the external wound and the attending symptoms cause suspicion of a wound of the heart, it is the duty of the surgeon to determine the nature of the injury by an exploratory operation, as is recommended by Professor Vaughan.

Third.—Unless the patient is unconscious, and corneal reflex abolished, as in Pagenstecher's case, an anæsthetic should be given, and preferably chloroform. Struggling is liable to produce a detachment of a clot, and renew the hemorrhage, as occurred in Parlavecchio's patient.

Fourth.—Never probe the wound, as serious injury may be inflicted upon the myocardium.

Fifth.—Rotter's operation renders access to the heart extremely easy, and should be generally adopted.

Sixth.—Steady the heart before attempting to suture it, either by carrying the hand under the organ and lifting it up, or, if the hole is large enough, introduce the little finger, as Parrozzani did, which will serve the double purpose of stopping the bleeding and facilitating the passage of the stitches.

Seventh.—Catgut sutures should be used, as wounds of the heart heal in a remarkably short time. The sutures should be interrupted, introduced, and tied during diastole, not involve the endocardium, and as few as possible should be passed, commensurate with safety against leakage, as they cause a degeneration of the muscular fiber with its tendency to dilatation and rupture.

Eighth.—In cleansing the pericardium it should be sponged out, and no fluid poured into the sac.

Ninth.—It hardly seems necessary to accentuate the fact of the necessity of perfect cleanliness in these operations whenever the urgency of the case does not require instant intervention, as in the patients of Longo and Ninni.

Tenth.—The wound in the pericardium should be closed, and should symptoms of compression arise, reopen the wound and drain as Rehn did.

HYOSCINE IN THE TREATMENT OF DRUG HABITS.

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In view of the recently published article by Dr. H. A. Hare on the use of hyoscine in the cure of drug habits, I wish to record the history of a case I have recently treated. During the whole time that this man was under observation, he suffered no well-defined pain; in fact, there was very little evidence, at any time, that he was even uncomfortable; and I am of the opinion that he had been taking more of the drugs than he admitted, rather than less. In spite of the well-known tendency of these cases to relapse, I think that this man is permanently cured, as he seems to be devoutly thankful for his escape and entirely rid of his desire for the drugs.

G. G. A., aged thirty-three; nativity, Georgia; white, single, has been going to sea for the last twelve years as an oiler. The family history is negative. The man has had malaria several times; gonorrhœa once, about ten years ago; otherwise his personal history is negative.

He commenced the use of morphine about five years ago, being induced to begin by his mistress, who was a constant user of the drug. In October, 1901, he added cocaine to the morphine. At one time, he was taking at least sixty grains of morphine *per diem*. Since he began the use of cocaine the morphine has been reduced. At the time of admission to hospital he stated that he used at least thirty grains of each daily. For the last two years he has had no sexual desire. He was in a private sanatorium for thirteen weeks for treatment of his drug habits, and has taken various advertised "drug cures."

Physical examination showed the heart and lungs to be normal; the man was of good frame, and much better nourished than would be expected, considering the amount of cocaine used. Trunk, arms, and legs were more or less covered with the marks left by the injections.

August 27, 11 A.M.—One one-hundredth of a grain of hyoscine was given hypodermically. The patient fell asleep in about half an hour, and did not awaken until 7.30 P.M. Pulse full and strong, about 50. On being questioned he said he felt sick, but did not know how to express himself exactly. If let alone, he would fall into a state of semi-consciousness; if questioned, he would answer rationally, but wanted to be left alone.

8.30 P.M.—Hyoscine, $\frac{3}{200}$ grain, and strychnine $\frac{1}{20}$ grain, were given hypodermically. Pulse 66, good and strong. The pulse fell to 54 in half an hour; the man was not asleep, but in a condition resembling coma.

August 28.—Has been quiet all day up to 4 P.M. Since that time has been restless and wants to go out. Had an attack of vomiting about 7.30 P.M. Another injection was given of hyoscine $\frac{3}{00}$ gr., and strychnine $\frac{1}{20}$ gr.

August 29.—A.M.—The man felt pretty good; pupils were beginning to dilate. Muscles of legs have been twitching a little, but these were relieved by an alcohol rub. Bowels were freely moved with salts. The patient complained of weakness. The pulse had been slightly dicrotic. Digitalin $\frac{1}{100}$ grain, hypodermically, was ordered three times a day, and strychnine $\frac{1}{60}$ every four hours.

August 29, 4 P.M.—The patient rested quietly up to to this hour. The pupils have contracted a little. He complained of pains in his legs and abdomen; but, in spite of his statements, he did not act as though he were uncomfortable. It was strongly suspected that he had obtained morphine in some way, but both nurses positively stated that he had not taken any. He wanted to know how long he had been in the hospital. A hypodermic injection was given of digitalin $\frac{1}{200}$ grain, strychnine sulphate, $\frac{1}{20}$ grain, and hyoscine hydrobromate, $\frac{3}{200}$ grain, and the legs were rubbed with alcohol. The patient fell asleep about twenty minutes after the above dose was given.

11 P.M.—Complained of a dull, heavy sensation in his legs. Did not act as if at all uncomfortable. Hypodermic injections were repeated at 4 P.M.

August 30, 9 P.M.—Rested well after 11.39 P.M. The hypodermic injection was repeated. The patient was very comfortable.

August 31.—Has been sleeping since the last visit.

September 1.—The patient's mind was entirely clear, and he said he had no desire for either drug.

September 2.—Was given $\frac{1}{100}$ hyoscine at 12.30. Rested well.

September 3.—Stated that he did not sleep last night, owing to the cramps in his legs. Was placed on regular diet to-day.

September 5.—Was given twenty grains of trional last night at 8 P.M. Slept well all night. The mind was perfectly clear, but the man felt weak.

September 10.—Since last note, the patient has been up and assisting more or less with the regular ward work. States that he has absolutely no desire for the drugs he has been taking. No medicine has been given since last note. He sleeps naturally.

September 13.—Has improved markedly mentally and physically. Says he never felt better in his life.

September 15.—Was allowed to leave the hospital on a pass. Gone four hours; on his return there was no evidence of his having used either drug.

September 16.—The man was so much improved that he was discharged.

INFLAMMATION AND PERFORATION OF MECKEL'S DIVERTICULUM AS A CAUSE OF SEPTIC PERITONITIS, WITH A REPORT OF TWO CASES OF TYPHOID PERFORATION OF MECKEL'S DIVERTICULUM.

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PERSISTENT omphalomesenteric remains may produce symptoms in a number of ways, depending upon their degree of completeness. Of the pathological conditions arising from these remains, the most important are:

1. Intestinal obstruction, either acute or chronic.
2. A free diverticulum—that is, one attached to the intestine alone—may descend into a hernial sac, and then, by its presence, complicate this condition.
3. The intestine above an attached, patent diverticulum may become invaginated into the diverticulum, or its mucous membrane may become prolapsed, forming a tumor at the umbilicus.
4. When, as in the most complete form of this defect, the diverticulum forms a tube opening freely at the umbilicus, we have a fecal umbilical fistula.
5. Cysts of diverticular origin are at times formed in the abdominal wall, in the vicinity of the umbilicus, or intraperitoneal, either connected or disconnected with the intestine. Those that develop in the abdominal wall are usually properitoneal or subcutaneous, within or near the umbilical scar.
6. In addition to these cystic tumors, solid adenoid growths are occasionally found about the umbilicus, which are no doubt related in their origin to remains of the vitelline duct. These have been termed, by Lannelogue, diverticular adenoid tumors.
7. A Meckel's diverticulum may become the seat of an acute or chronic inflammation. Acute inflammation may lead to perforation, with local or general septic peritonitis. When the inflammatory process is chronic, thickening of the diverticular walls with circumscribed peritonitis will result, as in chronic inflammation of the appendix and gall-bladder.

In this paper cysts of diverticular orgin and acute and chronic inflammations of this structure will alone be considered. Cysts merit consideration in this connection because, when intraperitoneal, they are often connected with the intestine and become infected, and in this way originate a septic peritonitis.

False or retention cysts of diverticular origin are intraperitoneal, and may be divided into two classes, as their cavity is continuous or discontinuous with the intestinal lumen. Their walls are in every respect like those of the intestine; their contents vary. In those communicating with the intestine, the contents are generally fluid, or hard fecal matter. In closed cysts the contents are often fluid, and vary greatly in character, frequently resembling mucus. In a case described by Tiedemann[1], a pear-shaped, pedunculated cyst, attached to the convexity of the ileum, was found in a full-term fœtus. The cyst measured fourteen and one-half lines in length and seven and one-half lines in width. Its lumen communicated with that of the intestine through an opening that would just admit a small probe. It contained a yellowish-white, flocculent fluid. In another case reported by Housten,[2] a closed cyst, the size of a turkey's egg, was found, filled with what appeared to be hardened fæces. Hennig[3] reports an interesting case of what would appear to be a diverticular cyst. This was found in a new-born infant, and filled the entire abdominal cavity, measuring 8½x5½x4 inches. It lay between the leaves of the mesentery, but did not communicate with the intestine. It contained a pale red, viscid fluid. In its walls were found intestinal glands. Cysts having the structure of intestine are occasionally found in the anterior abdominal wall, somewhere near the umbilicus. Their structure and location suggest their origin from the omphalomesenteric duct. Roser[4] reports a case in which, in a male, a tumor developed near the umbilicus. This was incised, and there escaped a watery fluid. A fistula persisting, a free incision was made, exposing a cavity 6 cm. deep, lined with epithelium. The lining membrane was excised, and in it was found Lieberkühn's glands. The wound healed by granulation.

Inflammation of Meckel's diverticulum, although receiving scant attention by writers and clinicians, nevertheless occurs often enough to warrant consideration as a cause of septic peritonitis. Etiologically, the same agents that excite an inflammation of the appendix will determine nearly the same pathological condition in a Meckel's diverticulum. The difference in the form accounts for the slight variation observed in the effect of an inflammation in the two.

In structure the walls of both are practically the same as intestine. In shape and size they differ greatly from each other. In the appendix the lumen is small compared to the length of the tube, thus rendering it difficult for foreign bodies to enter, and also offering a hindrance to the escape into the intestine of a foreign body, or of the products of inflammation which result from an infection of the mucous membrane of the appendix. On the other hand, the large lumen, frequently equaling that of the ileum, of a Meckel's diverticulum, while permitting easy entrance of fecal matter or a foreign body, also facilitates the escape of the same into the intestine, thus lessening the risks of obstruction and infection. The value of Gorlach, which is by some looked upon as an important factor in preventing the escape of the contents of the appendix into the intestines, has no counterpart in a Meckel's diverticulum.

Inflammation of Meckel's diverticulum may result, (1) from participation of the mucosa in a general inflammatory process involving the mucous membrane of the intestine; (2) from local causes, as obstruction of the lumen from twisting or kinking of the neck, or from foreign bodies and fecal concretions which may lodge in this pouch. Trauma also appears to have been the exciting cause of inflammation in some of the reported cases.

Tuberculous ulcers of Meckel's diverticulum have been observed in two cases. In one the small intestine was also the seat of numerous tuberculous ulcers. In a specimen in the Warren Museum, described by Fitch,[5] a diverticulum two and a half inches long, situated five feet from the ileocæcal valve, shows upon its mucous surface three tuberculous ulcers. In a second case, reported by Dixon,[6] there was found on post mortem examination, in a male who had died of septic peritonitis, a Meckel's diverticulum with two tuberculous ulcers, one of which had perforated, allowing the contents of the intestine to escape into the peritoneal cavity. Other ulcers were found in the ileum. Specific infections of the intestinal mucosa, particularly typhoid fever, may produce inflammation and ulceration of a Meckel's diverticulum. Chauffard[7] details a case of a child of nine years who died from diphtheria complicating typhoid fever. Post mortem examination showed a diverticulum the shape of a glove finger, free at its distal end, in the middle of which was a Peyer's patch, tumefied, but not ulcerated. In the small intestine numerous typical typhoid ulcers were found. In the following case, which occurred in my service at the Cook County Hospital, perforation of a typhoid ulcer in a Meckel's diverticulum, in the fifth week of the disease, was the cause of a fatal peritonitis. The history of this case is as follows:

G—— R——, male, aged twenty-six years, had been treated in the medical wards of the Cook County Hospital for typhoid fever for four weeks. During the last two weeks the disease had pursued a very severe course, with high fever, excessive tympanites, and intestinal hemorrhages. On November 16, 1901, he was suddenly seized with severe abdominal pain and vomiting, and quickly passed into a state of collapse. In this condition he was transferred to my service for operation. The abdomen was opened under spinal anæsthesia five hours after the onset of the symptoms of perforation. The peritoneal cavity was filled with liquid fæces and pus. On examination of the intestine, a deeply-congested loop of ileum was seen in the right side of the abdomen. This was brought out and attached to its convex border; about three and one-half feet from the ileocæcal valve was seen a Meckel's diverticulum two inches in length, and having a diameter equal to that of the ileum. In the tip of the diverticulum was a perforation large enough to admit the tip of the finger; from this escaped intestinal contents. This was closed with silk suture, the abdominal cavity was flushed with decinormal salt solution, and, after search for other perforations, the abdomen was closed, with drainage. The patient's condition appeared to improve during the operation and for a short time afterward, but later the heart began to fail, and he died eighteen hours after the operation. Autopsy showed numerous typhoid ulcers, but no other perforation.

An unpublished case of perforation of a typhoid ulcer of a Meckel's diverticulum occurred in the practice of Dr. Wm. E. Schroeder of this city. To him I am indebted for the following history: A male, aged forty-five years, having a moderately severe attack of typhoid fever, developed symptoms of perforation in the second week of the disease. Immediate laparotomy revealed general septic peritonitis. A perforation was found in the tip of a Meckel's diverticulum. The diverticulum was given off from the ileum about three and a half feet above the ileocæcal valve. Adhesions had formed about the perforation, attaching the diverticulum to the anterior abdominal wall to the right of the median line and half way between the umbilicus and anterior superior spine of the ileum. The diverticulum was free from its attachment to the abdominal wall and the perforation closed by suture. The patient died some hours later. Autopsy showed no other perferations.

In a fairly careful search through the literature, only two cases of typhoid perforation of a Meckel's diverticulum were found recorded. The first was reported by J. H. Galton.[8] The patient, a child aged twelve years, died on the eighth day of typhoid fever, with symptoms of peritonitis. At the autopsy two perforations were found—one of the ileum and a second at the extremity of a Meckel's diverticulum. The diverticulum was one and one-half inches in length, with its distal end free. A second case, reported by Boinet and Delanglade,[9] was that of a female, aged thirty-five years, who, in the early stage of typhoid fever, developed symptoms of intestinal perforation. On opening the abdomen, the peritoneal cavity was found filled with a foul-smelling fluid. The perforation was found in the tip of a Meckel's diverticulum. The diverticulum was 10 cm. long and had a diameter equal to that of the ileum. Treatment consisted in cutting off the diverticulum and closing the opening in the intestine by suture. The patient died six hours later.

In connection with perforations of ulcers of Meckel's diverticulum, it is of interest to note that examination of the tube has shown that the muscular layer is frequently defective at its distal end, thus permitting easy perforation of any ulcer of the mucous membrane at this point.

Perforations following gangrenous inflammation from twisting or traction of the neck of a diverticulum are more common than those from specific ulceration of the mucosa. In these cases there frequently occurs, coincident with the inflammation of the diverticulum, a kinking of the intestine, with obstruction more or less complete at the point of attachment of the diverticulum. Here the symptoms of intestinal obstruction may predominate, and the case is then considered one of obstruction, rather than of diverticulitis. Most of the cases in this group have been reported as obstruction from Meckel's diverticulum.

A typical case of gangrenous diverticulitis is described by Roth.[10] A child, sixteen months of age, suddenly developed symptoms of septic peritonitis, from which it died. At the autopsy a diverticulum was seen attached to the ileum, twenty-six inches above the cæcum. Torsion of the neck had occurred, resulting in gangrene of the diverticulum, with general septic peritonitis.

Other cases of gangrenous diverticulitis have been reported by Ragner,[11] Cazin,[12] Korte,[13] and Fox.[14] In a case recently reported by Swkonski,[15] a child four days old died from acute peritonitis. On post-mortem examination a gangrenous Meckel's diverticulum was found to be the cause of the peritonitis.

While in most of the cases of gangrenous diverticulitis reported the symptoms have been those of intestinal obstruction of a moderate degree of acuteness, in some the onset has been so sudden, and of such a character, as to lead to the diagnosis of obstruction from internal hernia. In these cases the ileus was due to rapid paralysis of the intestine from infection, and the great depression, subnormal temperature, and extremely weak pulse, to the intense toxæmia. In other cases the symptoms of acute, gangrenous diverticulitis closely simulated those of appendicitis, the diagnosis of appendicitis having been based upon the history, which is quite common, of preceding light attacks of abdominal pain, vomiting, tympanitis, and a moderate degree of obstruction. In a case reported by Taylor,[16] a child of six years had had several previous attacks of what was considered appendicitis, and was seized with what appeared to be an attack of acute intestinal obstruction. At the operation an acutely inflamed Meckel's diverticulum, with partial obstruction from kinking and pressure upon the intestine, was found. The diverticulum, which was enormously distended, was gangrenous in places. Other cases of this kind are reported by Hohlbeck,[17] Malgagne,[18] Kramer,[19] and Makens.[20] In the latter case, reported as one of obstruction from a Meckel's diverticulum, there was a typical acute, septic peritonitis from perforation of a gangrenous diverticulum due to twisting of the neck of the diverticulum. The obstruction was the result of the peritonitis.

Foreign bodies lodged in a diverticulum constitute a relatively frequent cause of infection and perforation (of a diverticulum). As in the appendix, the presence of a foreign body or fecal concretion soon leads to a lesion of the mucous membrane of the diverticulum; the entrance of pathogenic microorganisms through these lesions leads to inflammation, and, if the infection is sufficiently intense, to necrosis of the diverticular wall. In the reported cases of diverticulitis from foreign bodies, seeds seem to be commonly found. In a case reported by Korte,[13] an adult male died from acute, suppurative peritonitis. The cause was found at autopsy to be a diverticulum filled with cherry-stones that had perforated. Other cases of diverticulitis from the presence of cherry-stones are reported by Demice[21] and Best.[22]

In Housten's[2] case, besides cherry-stones, hard bodies, probably fecal concretions, were found. These had caused recurring inflammation of the diverticulum, with the formation of adhesions and local peritonitis. Fecal concretions were also found in the case of Galeazzi.[23]

Intestinal round worms were the cause of diverticulitis in the cases of Hohlbeck[17] and Escher.[24] In a case of acute perforation diverticulitis, reported by Henry Blanc,[25] a fishbone, lodged in the diverticulum was the cause of ulceration and perforation.

Trauma seems to be a rare cause of inflammation or rupture of a Meckel's diverticulum. A case is reported by Cramer[26] in which acute, suppurative peritonitis followed a kick from a horse. When the abdomen was opened, a ruptured, inflamed diverticulum was found to be the source of the peritonitis. A similar case, with partial obstruction, is reported by Gaely.[27]

The pathological changes incident to an inflammation of a diverticulum are practically the same as those that occur in appendicitis. In cases in which, from constriction of the neck, free communication between the lumen of the gut and that of the diverticulum is prevented, infection, with swelling of the follicles and round-cell infiltration, marks the initial stage. When the infection continues, ulceration, with perforation at times of all the tunics, or, when the inflammation is sufficiently virulent, diffuse gangrenous inflammation may result. If more chronic in character, formation of new connective tissue, with thickening of the walls, takes place. In a still more advanced stage of the diverticular inflammation, destruction of the entire mucous membrane, with obliteration of the lumen of the diverticulum, may occur, as in one of Cramer's cases. Foreign bodies or fecal concretions usually cause ulceration, which may become the starting point of a diffuse inflammation.

In reviewing the histories of the reported cases of inflammation of Meckel's diverticulum, we find that in none was the cause of the symptoms recognized before the abdomen was opened. In the cases operated upon, the diagnosis of appendicitis or of intestinal obstruction was made. At the present time no symptom or group of symptoms are sufficiently characteristic to permit of a diagnosis of diverticulitis. In the majority of cases the disease runs a course closely simulating appendicitis. In many the diverticulum occupies a position in the right iliac region, close to the appendix. The onset is usually sudden, with vomiting, muscular rigidity and pain, as in appendicitis. In a few cases the symptoms have been those of recurring appendicitis, with the interval between the attacks free from any evidence of disease. In those cases in which the diverticulum is attached to the umbilicus, periumbilical pain and tenderness is some evidence of the disease being located in a Meckel's diverticulum. The presence of an umbilical fistula, tumor, or cyst, is presumptive evidence of other omphalomesenteric remains, which may be the source of infection in circumscribed or diffuse peritonitis.

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The Production of Immunity against Tuberculosis in Cattle through "Jennerization."—E. Von Behring inoculated more than twenty grown cattle with bouillon cultures human tubercle bacilli, and in no case was such an inoculation followed by a single symptom of general tuberculosis. Young cattle became seriously ill when the intravenous injection contained more than 0.02 gr. of tubercle bacilli grown on solid media; but intravenous injections of not more than five milligrams of dried bacilli, in the form of a well-prepared emulsion, can be given without hesitation for a first inoculation. The animals thus treated with protective inoculations develop resistance against infection with dried human tubercle bacilli and with a bovine virus. Animals thus treated have also been exposed to natural (epidemiological) infection, without thus far showing any signs of having acquired the disease. The author does not positively assert that the primary inoculation with dried human tubercle bacilli may not need to be followed by an inoculation with modified bovine virus. Neither is he in favor of an extensive application of this method of Jennerization until it has been definitely elaborated and confirmed.—*The Journal of Tuberculosis.*

Definition of Progressive Paralysis; Its Differentiation from Similar Forms of Disease.—Vladimir Tschisch says that general paralysis is a parasyphilitic affection of the entire system; the disease depends on a special state of the syphilitic poison (parasyphilitic): the latter decomposes and diffuses its virulence into every tissue of the body. Anatomico-pathologically, as well as clinically, general paralysis is characterized by a proportionate diffusion of the poison in, and a destruction thereby, of the whole organism: not one organ or tissue is more affected than is the other during the progress of this disease. The functions of the organs are similarly attacked in equal proportions. In progressive paralysis the lesions are of a generalized nature, while in other syphilitic affections (dementia ex luesiane cerebri organica, lues cerebro-spinalis) they are of a focal nature. When some functions seem to be normal we are justified in excluding the presence of general paralysis. The apoplectiform and epileptiform attacks in general paralysis are dependent on temporary exudates. The proper treatment of this dread disease can never be judiciously applied until the nature of the disease is intelligently understood.—*The Journal of Mental Pathology.*

Suicides in France.—The statistics of suicides in France for the last twenty years are summarized in the following little table:

Years.	Total No. of Suicides.	Persons in 100,000
1881–85	7,339	19
1886–90	8,226	21
1891–95	9,237	24
1896	9,260	23
1897	9,356	24
1898	9,438	24
1899	9,952	25
1900	8,926	22

It appears that the normal number of 24 suicides in every 100,000 materially decreased in 1900. During the period 1896–1900 the average number of suicides was 9.086—7,069 men and 2,017 women, or 37 per 100,000 men and 11 per 100,000 women. If we divide the data according to condition, we find the proportion in 100,000 to be unmarried men and women, 33; married men and women, 25; widowers and widows, 62. The liberal professions and the public functionaries, that is the more intelligent classes, furnish the greatest number of suicides, 138 per 100,000, while in the class of industrials the number is but 25.—*The Sun.*

Chronic Enteritis and Enteroptosis, with Special Reference to Treatment.—J. A. Lichty gives directions for the hygienic, dietetic, and medicinal treatment of these conditions which are so closely allied etiologically that he considers them together. If there is a gastric hyperacidity with constipation, magnesia usta, and bicarbonate of soda may be prescribed; or, if there is diarrhœa, calcium carbonate with bismuth subcarbonate or bismuth betanaphthol are indicated. If there is hypo- or anacidity, with constipation, a stomachic tonic like nux vomica, with fluid extract of cascara sagrada, if indicated, before meals, may be all the medication required; or, if there is diarrhœa, dilute hydrochloric acid and pepsin may be used with excellent results. If the symptoms do not yield, it becomes necessary to prescribe symptomatically. The author prefers sulphocarbolate of zinc when there is much intestinal flatus. To this he adds bismuth subgallate if there is in addition a looseness of the bowels. Sodium salicylate is to be preferred to calomel or any other cholagogue. Hydrotherapy, massage, and electricity are beneficial, and in some cases surgery may have to be resorted to.—*International Medical Magazine.*

The Typhoid Bacillus in the Blood in Typhoid Fever, with a Preliminary Report of a Study of Fifty-six Cases.—Ellis Kirk Kerr and F. G. Harris report that in their study so far they have merely determined the presence of a motile bacillus that agglutinates with the blood serum of a patient who has given a good Widal reaction. The bacillus was found in 57 per cent. of the cases. The advantages of this aid to diagnosis are: (1) It is certain, the occurrence of a bacillus that reacts to known typhoid blood being absolutely diagnostic of the presence of an active typhoid infection. (2) It is of value early, before the Widal reaction occurred in twelve of the cases reported; perhaps, even, it may be of use before the roseola appears and the spleen enlarges; its early appearance in relapses bears out this possibility. (3) Finally, it is fairly easy, the most important factor being the avoidance of contamination. The limitations of the method are, unfortunately, such as to limit its application to cases under observation in hospitals. Here, however, an incubator and a plentiful supply of culture material and flasks are all that is needed.—*The Chicago Medical Recorder.*

MEDICAL RECORD:

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A EUROPEAN VIEW OF THE TREATMENT OF APPENDICITIS.

In a recent issue of a Continental publication (*Journal de Médecine de Bruxelles*, No. 37, 1902), Broca has given us his ideas upon the treatment of appendicitis, based chiefly on his own experiences with the disease. We may infer that these views are also those of most French and Belgian surgeons, and, as such, must prove interesting in this country. According to Broca, his cardinal principle in handling this disease is to diminish as much as possible the indication for immediate operation, and to increase the chances for what he designates as an *operation à froid*. He does not, of course, claim that appendicitis is a disease in which operation may, in many instances, be avoided entirely, as is done by some advocates of what the surgeon justly considers the dangerous medical treatment of the disease. Broca claims, and supports the claim by figures from his own practice, that, by a careful choice of the time of operation, the mortality may be reduced almost two-thirds, but, admitting this, his mortality rate is still left at the somewhat unsatisfactory figure of 13 per cent. He calls attention to some of the dangers of operating during the acute attack, but we think that he expresses too much fear of interfering with adhesions. In very many cases of acute appendicitis no adhesions have formed by the time operation is clearly imperative, and, in those cases in which the operation shows the infectious process enclosed by peritoneal adhesions, it has long been the practice of American surgeons to exercise great care in sparing these barriers to infection, and to avoid any extended search for what may be left of the appendix. When once the source of infection has been removed and good drainage established, the pelvis peritoneum will take care of itself, unless systemic infection has proceeded so far that phagocytic and eliminative processes have been embarrassed. It is just the condition found in operating upon these acute cases in which there is a localized intense peritonitis, which induces surgeons in this country to believe that early operation is the only rational plan of treatment, and we believe that it is acting upon this principle which has made the general results of the American treatment of appencitis so good. To wait for an *operation à froid* in most of these cases would ensure an *autopsie à froid* a very little later.

Broca expresses the opinion that, in very many instances, the surgeon, by careful watching of the progress of the disease, can judge pretty exactly if and when an operation becomes imperatively necessary, and he is evidently willing to treat many of his patients upon this plan. It would certainly, in a number of cases, require superhuman knowledge and foresight to decide when to operate, and most of us would not care to take the chances when we know by experience how rapidly septic processes sometimes advance, and, above all, how much symptoms may be masked until there is a sudden development and signs of a hopeless general sepsis. This writer thinks, furthermore, that, without signs of pus, we may justifiably postpone operation, hoping that the inflammation will subside, so that an operation may be done under more favorable local conditions at some future time. This reasoning would be more forceful if it were not for the fact that it is almost impossible to judge with accuracy when pus has begun to form, and if Broca himself did not admit that, in most cases in which there is swelling and resistance in the iliac fossa, there is pus present.

With one point made by Broca we cannot agree. He believes that, in some cases, even when a certain amount of pus has formed, it is possible, by proper care and watchfulness, to tide the patient over the necessity of an operation, and that the pus will eventually become innocuous and will be absorbed. It is undeniable that pus will sometimes undergo such changes, but in appendicitis certainly the risk of trusting to the occurrence of such a process is very great—much greater, we believe, than that of a timely operation. When pus is formed in the neighborhood of a diseased appendix, the tendency is for it to increase in amount in almost all cases. In this sort of case, in which it is difficult to judge exactly of local conditions, blood examination for leucocytosis is of great value. On the subject of interval operation, Broca's dictum, we think, is thoroughly sound. When a patient has experienced two distinct attacks, he advises that, in the ensuing period of quiescence, an operation be done, or, if an attack has been severe without previous trouble, he thinks it is best to proceed to an operation as soon as the acute local signs have disappeared. It appears that, if this advice is followed, there will be very little waiting to tide patients over severe attacks, or hoping that purulent accumulations will be absorbed. If we are correct in supposing that the ideas of this surgeon are those of most Continental observers, we may compare their position with that of our own surgeons by saying that we are, perhaps, a little more radical, and, in the case of the disease in question, we think this means a little more thorough and consistent. We have learned to consider appendicitis an exceedingly treacherous and variable condition, and we always feel safer after an operation by a competent hand than before that event. There may be some cases of acute appendicitis which may be safely watched for a time, even with signs of considerable severity, but we do not think that they are more than exceptional. There are, however, sometimes cases characterized by a subacute onset without violent symptoms, in which it is advisable to wait and observe before recommending immediate operative interference.

MOVEMENT AND CARRIAGE OF PATIENTS IN CONNECTION WITH HOSPITAL AND AMBULANCE SERVICE.

A matter of much practical importance in connection with the service of hospitals and ambulances, yet one to which but little attention is generally given, has relation to the movement and carriage of the sick and injured in a manner best calculated to avoid the infliction of discomfort, suffering, and material injury to the patient while being transferred from ground to litter, litter to bed, or while being carried up and down stairs. In but few hospitals is any effort at present made toward instruction on this point. The patient, perhaps suffering from fracture or other injury, in which the least unintentional or unnecessary roughness causes much pain, is usually grasped by the instructed in a manner which places both the patient and bearers at an anatomical disadvantage. The former is held awkwardly and insecurely, and not rarely in such a way as to aggravate, it may be to a considerable degree, the gravity of an existing injury; the latter find their burden unduly heavy and difficult to handle, and fail to effect that perfect coordination of patient and bearers which is to the advantage of both. Properly distributed and concerted action is unfortunately the exception rather than the rule. At training schools for nurses the pupils are thoroughly instructed relative to the care of patients, but are taught nothing relative to their transportation and movement. This duty is delegated to the hospital orderlies, and mistakenly regarded as outside the providence and beyond the strength of female nurses. As a result, the average female nurse, when thrown on her own resources, is unable to even direct and supervise the movement of patients by others to best advantage. The hospital orderlies, on their part, usually rely upon main strength to take the place of concerted action and a proper disposition of bearers, and, through their lack of intelligent coöperation, may often be almost as much of a hindrance as a help to each other. In the military service, on the other hand, the handling and transportation of patients in the most convenient and comfortable manner is regarded as a matter of the first importance, and the members of the Hospital Corps receive thorough instruction on this point according to fixed methods prescribed in the manual of drill. To see these trained men lifting, moving, and carrying patients with varying numbers of bearers, up and down stairs and over obstacles—rapidly, securely, and without injury or discomfort to the patient—is a spectacle calculated to enlighten medical men as to the deficiencies in this respect of the average hospital and ambulance service. No better guide for instruction in this respect can be found than the drill manual for the Army Hospital Corps, which, in regard to the transportation of patients, is not so much a book of military drill as a guide to the most simple and satisfactory methods, instinctively employed by the instructed, in arriving at a necessary result. There is no question but that it would be of much value if practical instruction in the handling and movement of patients, along the lines laid down in this manual, were given to the nurses and orderlies in every training school and hospital.

Egyptian Ophthalmia.

In the accounts given by some of the New York lay journals concerning the prevalence of trachoma in the city and its importation by emigrants from parts of Europe and from the far East, Egypt is mentioned as being the country in which the disease is most common and most virulent. The neighborhood of the Nile has always borne a bad reputation as a district infested with ophthalmia of the most malignant type, and there is no doubt but that at one time its evil name was well deserved. Now, however, according to the Egyptian correspondent of the *Lancet*, the situation has greatly changed for the better in this respect. Writing on the subject, the correspondent says: "Volney, who travelled in Egypt in 1784, said that for every 100 persons he met in the streets of Cairo twenty were blind, ten were one-eyed, and twenty others had their eyes red, purulent, or spotted with leucoma. Savary confirms this by saying that at that time the University Mosque of El Azhar in Cairo contained 8,000 blind persons who were kept there. It is known, too, that a century ago this disease was called Egyptian ophthalmia, because both the French and English armies in Egypt suffered so much from it. Larrey tells us that the greater number of French soldiers suffered from it, and MacGregor, writing in 1804, speaks of 2,000 English soldiers who returned blind to England. But the country has improved so much since those days that it seemed almost ridiculous to see the British troops landing in 1882 with their veils and goggles, and, as a matter of fact, the English Army of occupation has hardly suffered from granular ophthalmia, though there have often been a few cases of mild catarrhal ophthalmia among them."

According to Dr. Eloul Bey, the most common causes of blindness to-day in Egypt among the natives are granular ophthalmia, glaucoma, purulent ophthalmia, and smallpox. In 1884 he was appointed medical officer of the government schools. He then found 85 per cent. to be affected with granular lids, while now the number of students only yield 32 per cent. This great improvement can only be due to gradually increasing reforms in public and personal hygiene.

The Use of the Automobile.

The abuse of the automobile has been reprobated in the severest possible language by the Medical Record and by other journals. It must not, however, be surmised that because the automobilist has in many instances gained for himself a bad name, by his careless disregard for the rights of others, that lay or medical journalists are unconscious of the undoubted uses of the automobile. This form of locomotion is assuredly destined to play a great part in solving the problem of quick transportation. Medical men of all classes of the community will probably be the greatest gainers by the successful development of the automobile. The Medical Record of April 1, 1899, acknowledged this fact editorially, and predicted that the day would come when the motor car would be considered almost indispensable by the busy physician.

The *Lancet* of March 20, 1897, said: "It seems that motor carriages should prove especially useful to the general practitioner, and particularly to the country one, upon whose shoulders the burden of maintaining the two or three horses, with their attendant expenses, falls very heavily. At present the initial cost is large, but, on the other hand, the cost of working them is small, and the country roads of England, unlike those of America, are peculiarly well adapted to their use."

The chief drawback to using a motor car in America is the great cost of an efficient machine, strong enough to stand the wear and tear of bad or indifferent country roads, and the difficulty in its management. The cost of a really good automobile is from $1,800 to $5,000, and the man who will attempt to drive one on a lonely rural road, without understanding its mechanism, and consequently being unable to repair it when an accident occurs, will surely soon come to grief.

A country doctor, who has had a considerable amount of experience with motor cars, lays down the following points for intending purchasers to keep in view: Firstly, every maker will assure you that his car is the best on the market and never breaks down. Secondly, every maker of repute will give a trial run. Before buying try several makers and compare experiences, but do not decide unless you have had at least a twenty-five miles' run, as many of the smaller cars seem excellent when tried over a few miles of good road, but in spite of what the makers say to the contrary, they often fail on a steep hill. My advice, therefore, is get a good car from a good maker; leave experimental cars to men who have time to make experiments, and when you have a car take a personal interest in it."

Despite the primary cost, there is no doubt but that a large saving may be affected by the use of an automobile, provided that, in the country at least, a man can do any ordinary repairs himself. If the owner has not a mechanical turn of mind, or cannot spare the time to spend in acquiring the details of car construction, he will not only be at a very considerable expense, but—if a medical man—may be placed in an awkward position by his inability in these respects. Every medical man who depends upon an automobile to carry on his practice should make himself conversant with its mechanism, so that he can either remedy the fault himself or direct others to do so. The advantages of an automobile over a horse to a city physician in the United States are far more obvious than to a country practitioner.

The Baccelli Treatment of Tetanus.

The October *Medical Magazine* contains the following contribution: "One of the disappointments of modern therapeutics is the frequent failure of the anti-tetanic serum as a curative agent, though it has probably done good service as a prophylactic. It is, therefore, well to remember that there is another mode of treatment, the published results of which compare favorably with those following serum infections, and are far superior to any other. This is the method of carbolic-acid injections introduced by Professor Baccelli of Rome, and since then frequently employed with success in Italy. Some Italian surgeons go so far as to say that the method, at least in the more chronic cases of tetanus, is as certain and as immediately beneficial as is the serum treatment of diphtheria, while Professor Babes of Bucharest, who has had great experience with the disease, and who, as a pathologist, is strongly biased in favor of the serum, has used it successfully in several severe cases and says he can not too strongly recommend it when the serum is not obtainable."

In the Medical Record of October 21, 1899, an editorial appeared on this subject, and the following statement of Professor Babes, quoted from his article on tetanus, in the seventeenth volume of the "Twentieth Century Practice of Medicine," was given: "Through the marked success of experiments on animals suffering from tetanus by carbolic acid, I was induced to try Baccelli's treatment, which, according to Italian observers, at first furnished good results, but is becoming obsolete, probably on account of the modern specific treatment. I am, nevertheless, constrained to mention it, as it has given me such good results. We will see that the statistics of the antitoxin treatment do not show any better results. As a result of my experience, I feel justified in urgently advising the injection of a carbolic-acid solution in all cases in which the tetanus antitoxin cannot be obtained."

Carbolic acid in the treatment of tetanus, notwithstanding the excellent results obtained in the past, has been to a great extent, within the last few years, set aside for antitoxin. Baccelli's experience tends to show that carbolic acid is quite as, if not more, effective as a curative agent in tetanus than is anti-tetanic serum.

A Field of Scientific Interest for Young Medical Men.

We have before called attention to the fact that Dr. Peterson, the New York State Commissioner in Lunacy, has thrown open the fourteen State hospitals to recent graduates from medical colleges and general hospitals, through the two positions in each hospital (twenty-eight places in all), under the title of clinical assistant, where such young medical men may obtain experience and continue their medical and scientific training. The positions are unsalaried, though any who desire to remain in the service may become within a year eligible for salaried posts. Board and lodging is provided during the year of service as clinical assistant. While these are hospitals for the insane, among the twenty-four thousand patients which they contain almost every variety of physical disease is met with. The opportunities offered to these young men are as follows: A vast clinical material for utilization in the study of physical diagnosis; an excellent laboratory in each hospital wherein to carry on routine or research work in chemistry and pathology; and, for those who have especial interest in the subject, an immense field for the study of morbid psychology. There has been a great awakening among the medical men in the hospitals as to the desirability of medical and scientific advancement, so that an atmosphere of medical fervor and earnestness has grown up in all of them which will be stimulating to the student who enters as clinical assistant. For the meritorious promotions are and will doubtless become more rapid. Under its new director, Dr. Adolf Meyer, the newly organized Pathological Institute will give courses of instruction to the medical officers of these hospitals which will add a new stimulus to scientific and professional work in the institutions. The first of these courses is to be given to the medical superintendents of the State hospitals at the Institute on Ward's Island during December.

For the position of clinical assistant no examination of any kind is necessary. There being no salary for this office, it does not come under civil-service regulations. Therefore the places are open to any promising and earnest student with a medical diploma and satisfactory references, who impresses the medical superintendent favorably. He need not be a resident of the State of New York, but may come from any State or country. After or during his year's service without salary, he may, by passing the Regents' examination be placed upon the eligible list of the Civil-Service Commission for the position of medical interne, which pays $600.00 per year.

Further civil service examinations later on lead to promotions to better salaried positions. In throwing open such positions it is the intention to make them desirable for the younger medical men who shall be the chief beneficiaries by the system, and who shall have every opportunity for enlarging their professional experience and knowledge. Incidentally it is hoped that a considerable proportion of the clinical assistants will elect to remain in the service, and thus ultimately benefit the State hospitals by attracting young physicians who are ambitious and likely to do themselves and the State credit in the future. There are eighteen or twenty of these positions still to be filled. Applicants should address themselves to the medical superintendents of the State hospitals which are located as follows: Ward's Island, New York City; Utica; Binghamton; Buffalo; Poughkeepsie; Willard; Rochester; Kings Park; Flatbush; Brooklyn; Central Islip; Ogdensburg; Middletown; Gowanda. The last two are homœopathic.

News of the Week.

The William Pierson Library Association of Orange, N. J.—The first annual dinner of this association was given on Wednesday of last week in the reading room of the Orange Free Public Library. Dr. Thomas W. Harvey, president of the association, stated the object of the association, which was to establish a library in memory of the late Dr. Pierson, and reported the work that had been accomplished looking to that end. Toasts were responded to by Judge Adams and by Dr. Abraham Jacobi, J. H. Huddleston, and M. Allen Starr of New York City. Announcement was made at the dinner that the following addresses will be delivered before the association during the season of 1902-03: Monday, December 1, 1902, Dr. M. Allen Starr, "Arteriosclerosis and Its Effects upon the Nervous System;" Monday, January 12, 1903, Dr. W. Gilman Thompson, "Autointoxication;" Monday, February 2, 1902, Dr. John B. Roberts, "The Pathology and Treatment of Surgical Septicæmia;" Monday, March 2, 1903, Dr. Walter B. James, 'Modern Aspects of Malarial Infection," illustrated by lantern slides; Monday, April 6, 1903, Dr. J. Edward Stubbert, "An Historical Sketch of Some So-called Consumption Cures.'

A Physician's Right to Extra Compensation for Distant Visits.—The question as to whether or not a physician, beginning the treatment of a patient in a summer resort, is under obligation to continue his visits after he has returned home, the patient remaining in the resort, without exacting a larger fee, was passed upon a few days ago in the Supreme Court. The suit was that of Dr. Jacob H. Asch, who sued Charles Goldsmith to recover a bill for medical attendance, in which he charged $15 for each visit paid to the defendant after the time he had left Arverne, where the defendant continued to reside. The defendant held that $15 a visit was too much for the physician to charge after leaving the resort, and that the trips out of town ought to have been charged at the same rate ($3) as visits made when both physician and patient were at Arverne. The jury decided in favor of Dr. Asch, giving him $250, the full amount of his claim, after deliberating for five hours.

Throat Department of the New York Eye and Ear Infirmary.—The directors of this institution have decided to suspend the throat department, although reappointing the staff of laryngologists for another year. This action was necessitated by the overtaxing of the resources of the infirmary by reason of the great increase in the number of cases of trachoma applying for relief. It is suggested that the infirmary rent a house in the immediate neighborhood for the exclusive use of patients with trachoma and other forms of contagious ophthalmia.

The New French Hospital.—The cornerstone of the new hospital to be erected by the French Benevolent Society at 450 West Thirty-fourth street was laid on November 18 by M. Jules Cambon, the departing French Ambassador. The new hospital will be seven stories high, will contain 150 beds and about forty private rooms, with additional wards for children. The cost of the building will be about $260,000, of which sum $200,000 has already been raised. In every particular the hospital will have a modern equipment. Its work will continue under the advice of the present medical board, of which the members are Drs. T. G. Thomas, E. G. Janeway, J. J. Henna, J. A. Booth, G. B. Fowler, Ramon Guitéras, Frank Hartley, and E. V. Agramonte. The new hospital will be non-sectarian, as before, and will have a large dispensary.

Insanitary Churches.—The Department of Health has just completed an inspection of 196 churches in the Borough of Manhattan. Insanitary conditions, bad enough to cause the inspectors to order the faults removed or remedied, were found in twenty-five of them. The defective conditions were found in relation to the ventilation and plumbing in the toilet rooms, and not in the auditoriums.

Dr. Bon Chang has applied to the State Board of Medical Examiners for a license to practise his profession in New York. Dr. Chang is a practitioner of repute after the methods of the Middle Kingdom, and is thoroughly conversant with the properties and uses of the simples of the Oriental materia medica, but it is feared that he may be a little weak when it comes to questions of pathological histology and bacteriology. If he gains the coveted license, he will receive the appointment of physician and surgeon-in-chief to a new hospital which the merchants of Chinatown contemplate establishing in Park street, near Mott street. The hospital will be supported in the Chinese fashion, recently adopted, it is said, by the Stillman Infirmary at Harvard, the members of the colony paying regularly while in health, but enjoying free treatment when ill.

A Chair of Comparative Anatomy at Harvard.—Mr. James Stillman of this city, who recently gave to Harvard University an infirmary for the use of any of the students who may happen to fall ill, has supplemented this and other gifts by a donation of $100,000 for the endowment of a professorship of comparative anatomy. The endowment was formally accepted at a special meeting of the Board of Overseers of Harvard University, held on November 19.

Hygiene in the Barber Shop.—An Italian barber in Buffalo has fallen into the clutches of the law for neglecting the rules of cleanliness. He was arrested for wiping the faces of two customers with a single towel, and, being adjudged guilty in the Municipal Court, was fined $3.45.

Damages for Death from Impure Antitoxins.—A St. Louis jury has awarded a complainant $1,000 damages against the former city bacteriologist for the death of the man's daughter, who died from tetanus after having been inoculated with diphtheria antitoxin provided by the city. Nine other cases are pending, in which damages are demanded aggregating $72,000. The jury held that the bacteriologist of the Health Board alone was responsible for the death of the child.

Prizes for Essays on Tropical Medicine.—Announcement is made in the *Journal of Tropical Medicine* of the offer of three prizes of the value of £10 each for essays on the following subjects: Sivenright prize for the best article on "The Nature and Treatment of Diseases, Exclusive of Acute Dysentery, Affecting the Lower Part of the Large Intestine Occurring in Warm Climates"; Belilios prize for the best article on "The System of Drainage and Sewerage (domestic and municipal) Best Suited for Tropical Climates"; Lady MacGregor prize for the best article on "Critical Examination of the Practical Value of Anti-typhoid Inoculation." Intending competitors must send name, address, and the title of the prize to be competed for to the *Journal of Tropical Medicine* 83 Great Titchfield street, London, W., before February 1, 1903; the essays must be sent to the same address by May 1, 1903, and the names of the winners will be announced in July of the same year. The competition is open to all qualified medical practitioners of any nationality, and essays may be written in English, French, German, Italian, or Spanish.

Prizes for Essays on Ichthyotoxismus.—Two prizes, one of 5,000 rubles ($2,575) and another of 1,000 rubles ($515), have been offered for international competition by the Academy of Sciences of St. Petersburg for papers elaborating protective measures against poisoning by fish toxins. The papers may be written in English, French, German, Latin, or Russian, and must be received by the Russian Minister of Agriculture by October 1, 1903.—*Medical Book News.*

Post-Graduate Study in London.—In the post-graduate issue of the MEDICAL RECORD for June 21, 1902, a misplaced foot-note was responsible for the statement that the Great Ormond Street Hospital for Sick Children, the Brompton Hospital for Diseases of the Chest, the Queen Square National Hospital for the Paralyzed and Epileptic, and the Royal London Ophthalmic Hospital, City Road (late Moorfields), were likely to be connected with the Medical Graduates' College and Polyclinic. We intended to say what has now been effected, that the four special hospitals above mentioned (as well as the London School of Tropical Medicine) were to join the association known as the Metropolitan Schools of Medicine, the office of which is in the West Wing Examination Hall, Victoria Embankment, London, W. C.

A Reception to Dr. Welch, recently elected president of the Medical Society of the State of Pennsylvania, was tendered by the Medical Club of Philadelphia on November 14, and was attended by more than 175 professional friends.

Minnequa Hospital of the Colorado Fuel and Iron Company.—The medical department of this company was organized in 1880, when physicians were engaged at each of the company's workings and a temporary hospital was opened at Bessemer. Two years later a hospital with forty beds was built at Pueblo, and new accommodations were added from time to time, until on April 1, 1901, work was begun on a new hospital, on the shores of Lake Minnequa, at Pueblo. The new hospital, a most complete modern structure, is now ready for occupancy. The hospital, a description of which, with many illustrations, is given in *Camp and Plant*, Vol. II, No. 5, is in the form of pavilions three stories in height. The buildings now in use are three wards, an operating room, an isolation ward, stable, recreation hall, power house, laundry, and physicians' residence.

The Typhoid-Fever Epidemic in Philadelphia. One hundred and forty-eight cases of typhoid fever were reported to the Philadelphia Board of Health for the week ended November 15, with ten deaths, as compared with 124 cases for the previous week, with eight deaths. It is estimated that, altogether, there are about 800 cases of the disease under treatment throughout the city. There were reported, also, eighty-one cases of scarlet fever and sixty cases of diphtheria.

Philadelphia County Medical Society.—At a stated meeting, held November 12, Dr. David D. Stewart read a paper entitled "Medical Aspect of Cholelithiasis," in which he discussed the etiology, pathology, symptomatology, diagnosis, and treatment of gallstones in the biliary passages. Dr. John B. Deaver read a paper entitled "Cholelithiasis," in which the same features of the subject were considered, particular attention being devoted to surgical methods of treatment. The general discussion of the subject was continued by Drs. W. L. Rodman, Edward Martin, James Tyson, John H. Musser, and James M. Anders. Dr. Philip Marvel of Atlantic City read, by invitation, a communication entitled "The Existence of Typhoid Fever in Atlantic City." He pointed out that many cases of this disease are imported, the symptoms appearing within a short time of the arrival of the patients and quite outside the limits of the period of incubation. The sources of water supply were discussed, and shown to be free from contamination. Investigation disclosed, however, that, during last year, a place was utilized for the ripening and fattening of oysters for local consumption close to a point where sewage was discharged into a waterway, and from this source, it was believed, some of the cases arose. As soon as the discovery was made, steps were at once taken to insure a discontinuance of the practice.

Pathological Society of Philadelphia.—At a stated meeting, held November 13, Dr. Alfred Hand, Jr., presented a communication entitled "Autopsy Statistics at the Children's Hospital with Reference to Tuberculosis and Its Etiology." He related that, among 332 autopsies, tuberculosis was found in 115 bodies—34.3 per cent. So far as could be determined, the primary seat of the disease was the bronchial glands in 65 per cent., and the mesenteric glands in 8.7 per cent., while this could not be determined in 24.7 per cent., the disease being more or less generalized or indistinct. In one case the tonsil appeared to be the primary seat. Dr. Joseph McFarland presented specimens of (1) cyst of the cerebellum, and (2) tumor of the pituitary body. Dr. A. G. Ellis read a paper entitled "The Pathology of the Tissue Changes Induced by the *X*-ray; Preliminary Report." Drs. Joseph Sailer and A. G. Ellis presented specimens from a case of pulsating hemothorax. The effusion of blood into the pleural cavity was due to rupture of an aneurysm of the aorta. The heart was bound by adhesions to the pericardium, and hence was not displaced. Drs Leonard Pearson and S. H. Gilliland presented a communication entitled "The Immunization of Cattle against Tuberculosis." They cited experiments as a result of which animals were protected from tuberculous infection by previous treatment, subcutaneously or intravenously, with cultures of attenuated tubercle bacilli. Dr. Bryant exhibited a specimen of multiple abscess of the liver and pylephlebitis secondary to gangrenous appendicitis. Dr. David Riesman exhibited a specimen of cirrhosis of the liver, with greatly enlarged spleen and varicose mesenteric veins. The principal symptoms were ascites and epistaxis. Dr. Riesman exhibited also a number of round worms obtained from a patient suffering from typhoid fever. Some had escaped from the mouth by their own efforts, and others had been vomited. Rupture of one of the parasites permitted the escape of tenous, worm-like bodies, which, on microscopic examination, were found to be the oviducts filled with eggs. Dr. Riesman exhibited further a mass of hair obtained from a pilonidal cyst, situated between the buttocks. Dr. Joseph McFarland exhibited a specimen of enormously hypertrophied and dilated heart, with enlargement and induration of the liver, chronic inflammatory changes in the kidneys, and areas of bronchopneumonia. Dr. McFarland exhibited also a specimen of aneurysm of the renal artery. Dr. G. E. Pfahler exhibited a series of skiagraphs illustrating various forms of dilatation of the aorta.

College of Physicians of Philadelphia.—At a stated meeting, held November 5, Dr. T. Hollingsworth Andrews presented, on behalf of Mr. Howard O. Pancoast, a portrait of the late Dr. Wm. H. Pancoast; and also, on behalf of Mrs. Daniel E. Hughes, an oil painting of an insane patient in the Philadelphia Hospital. Dr. James C. Wilson read an appreciative "Memoir of the Late Dr. J. M. Da Costa." Dr. W. W. Keen exhibited (1) Mikulicz's esophagoscope; (2) Cathelin's instrument for obtaining the urine from the two kidneys separately; and (3) Michel's instrument for uniting the skin by means of metallic clamps instead of sutures. Dr. Charles K. Mills presented a communication entitled "The Surgery of Brain Tumors from the Point of View of the Neurologist, with Notes of Recent Cases." Among the causes of operative failure, he pointed out error in localization, hemorrhage, contusion, shock, and miscellaneous undetermined causes. In some cases it was thought death was attributable to removal of intracranial pressure previously due to the tumor. Dr. Mills dwelt upon the utility of the Stellwagen trephine in cases in which it is applicable. In some instances the dental engine is especially available. In addition to other means, the *x*-rays is a most valuable diagnostic resource. Dr. Harvey Cushing of Baltimore pointed out the wisdom of trephining for the relief of pressure, and of headache, and to avert blindness. The discussion was continued by Drs. W. W. Keen, W. Jos. Hearn, F. X. Dercum, and J. Chalmers Da Costa.

The Temperance Question in France.—An official crusade is about to be instituted in France against the sale of various poisonous essential oils, especially those used in the manufacture of liquors and cordials. The prime minister, M. Combes, himself a physician, some time ago officially asked the Academy of Medicine to formulate a list of poisonous essences contained in liqueurs and cordials, intending when the list is received to submit a bill to the Chamber of Deputies restricting the consumption of these compounds, which, he says, are threatening the vitality of the French race. Liqueurs such as absinthe, chartreuse, and the like are principally aimed at. M. Laborde, who is the chairman of the committee appointed by the Academy to comply with M. Combes's request, favors the absolute prohibition of the sale of all the poisonous essential oils except by druggists on physicians' prescriptions. The leading distillers are said to have raised a fund of $200,000 to avert the contemplated legislation.

Obituary.

WALTER REED, M.D.,

MAJOR AND SURGEON, U. S. ARMY.

Major Walter Reed of the Medical Corps of the U. S. Army, died at the Army General Hospital in Washington, on November 23, at the age of fifty-one years. His death was due to appendicitis, for which an operation was performed on November 17.

Major Reed was born in Gloucester county, Va., in 1851, and was a graduate of the Medical Department of the University of Virginia, and of Bellevue Hospital Medical College in 1875. He was appointed an Assistant Surgeon in the Army the year of his graduation, and at the time of his death was first on the list of majors in the Medical Department of the Army. In 1893 he was appointed Curator of the Army Medical Museum, in Washington. During the Spanish-American war he was a member of the board to investigate typhoid fever in the Army.

In 1900 he was sent to Havana and was placed at the head of the commission appointed to determine, if possible, the cause of yellow fever and the means by which it is spread. Starting from Finlay's theory of the agency of the mosquito in the dissemination of the disease, the commission, by a series of painstaking experiments, demonstrated most conclusively the causal relation of Stegomyia fasciata to yellow-fever epidemics, and disproved the theory that the disease could be conveyed in fomites, or that it was contagious in the ordinary acceptation of the term. Sanitary measures based upon the conclusions of Major Reed's commission have freed Havana from the disease.

Major Reed enjoyed the reputation of being a bacteriologist of the first rank. Upon his return from Cuba he was stationed at the Army Medical Museum as curator, a position he had occupied nine years before, and one for which his attainments eminently fitted him. He was also professor of bacteriology and pathology in the Army Medical School, and lecturer on those subjects in the Columbian Medical College of Washington.

Treatment by the Tourniquet to Counteract the Vasomotor Spasm of Raynaud's Disease.—Harvey Cushing describes the case of a patient who suffered from severe arterial spasm with great pain in the upper and lower extremities. During an exacerbation of pain and asphyxia, chiefly affecting the left arm, a flat rubber bandage was first employed as a tourniquet about the upper arm. After one or two minutes' application there was a vasomotor relaxation, which lasted only a short time, but the patient expressed a sensation of considerable relief. The tourniquet was then applied daily to one or another member, according as the symptoms indicated. Relief to the burning pain in the fingers was so pronounced that after the first few trials the patient was not only very willing to submit to the temporary discomfort of constriction, but would call for it. Improvement in the circulatory condition followed; the patient soon ceased to require morphia to induce sleep, and the attacks became less and less frequent and of decreasing severity. In about six weeks she left the hospital, apparently quite well, having gained ten pounds in weight and having had for the preceding two weeks no recurrence of her distressing symptoms. This treatment depends seemingly in principle upon the physiological "blocking" effect of the elastic constriction on the peripheral vasomotor nerves. This temporary interruption of function allows the terminal arterioles to completely relax and a state of arterial hyperæmia to take the place of the local asphyxia which has resulted from the pre-existing spasm.—*Journal of Nervous and Mental Diseases.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LORD ROSEBERY AT THE UNIVERSITY OF LONDON—BRADSHAW LECTURE—MEDICO-LEGAL SOCIETY—GRAVES'S DISEASE—TYPHOID IN CAMPS—THE LATE MR. LENNOX BROWNE—CANCER RESEARCH—ITEMS.

LONDON, November 7, 1902.

THE Earl of Rosebery, as Chancellor of the University of London, paid a visit, to inspect the new Physiological Laboratory, on Wednesday. Having been conducted through the lecture room, workshop, chemical room, general laboratory, and two rooms assigned to the physiology of the senses, he delivered an address in which he recommended any one in want of a humbling process to go through these rooms under the guidance of Dr. Waller. He would certainly return from the expedition in a chastened state of mind. But whether we understand or not the marvelous appliances, we can realize the aim of those who have established this laboratory, and "we hope to make it the center spot for medical research in London." His Lordship went on to declare that there are few symptoms more wonderful to an observant person than the development of this university, which is a sign full of promise to those who think our nation has gone to sleep. But then, he added, it must compass all the powers of a university, and in the midst of this teeming population, in the center of this world center, it must prove itself worthy of such a position. Lord Rosebery concluded with an appropriate expression of gratitude to Mr. Walter Palmer, to whose munificence the university is indebted for the laboratories.

The Bradshaw lecture was delivered this year at the Royal College of Physicians, and was intrusted, for the first time, to an obstetric physician, Dr. Cullingworth, who devoted it to the consideration of ectopic gestation. He began by giving expression to the debt owed to the sagacity, enterprise, and courage of the late Lawson Tait, among whose many and great achievements he knew of none to compare with the revolution he effected in the knowledge and treatment of the hemorrhages of ectopic gestation. Passing on to the diagnosis, he discussed it from his own experience, and it is the diagnosis of these cases which is of the utmost importance to the general practitioner. The tendency is not to recovery, but to death, and to rapid death. Few cases last longer than forty-eight hours, and Dr. Cullingworth has seen it occur within three hours of the attack. The supreme importance of diagnosis is not likely to be disregarded in the light of recent progress, and in emphasizing it, Dr. Cullingworth was induced to argue that this is the physician's mode of looking at it, while the surgeon naturally strives for perfection in its treatment. He thought the developments of gynecology in a surgical direction have led many to doubt whether the time is not near for regarding it as a branch of surgery rather than of medicine. But he deprecated the idea, and held that the striving after perfection of diagnosis in British gynecology is traceable to its traditional association with medicine. He would, therefore, view its severance from medicine with much misgiving. He hoped the college had no thought of disowning either obstetrics or gynecology, or removing them from the influence which he believed to have been extremely beneficial.

The increase of societies proceeds apace. We have now added the Medico-Legal Society, and Sir J. W. Collins, M.D., gave the inaugural address, as president.

He said the society was intended to promote the advancement of medico-legal knowledge in all its branches, and would welcome as members, not only doctors and lawyers, but also those whose work was concerned with the administration of questions involving some knowledge of both medicine and law. It also invited the cooperation of intelligent laymen. He saw ample scope for such a society, and in medico-legal matters there was ample room for advancement on existing practice. A vote of thanks to the president was moved by Mr. Hopwood, K.C., Recorder of Liverpool, and seconded by Sir James Crichton-Browne, who said the existence of the society was amply justified, and would do eminently useful public work, by bringing on to one plane those who were interested in the principles and practice of law or medicine. He hoped the society would include, among other subjects of consideration, penal discipline, and all the reformatory efforts directed to the abolition of the criminal caste, and bringing back to society those who had erred.

The Royal Medical and Chirurgical Society began the session with an important paper by Dr. George Murray of Newcastle, on exophthalmic goiter, based on 120 cases—110 women and ten men. The earliest age at which the disease began was fifteen, the oldest, sixty-five. The greatest liability seemed from sixteen to thirty-five. The earliest symptom noted was usually the goiter, but in nineteen it was palpitation. The pulse was rapid in all cases, in about half it ranged from 120 to 150—in others from 90 to 200. The rate varied much in individuals at different times. Murmurs were often noted. Exophthalmose was present in 75 per cent. In three cases it disappeared. Nervous tremors were usually present, and restlessness, insomnia, excitement, etc., were noticed almost always; in two cases, hallucinations; weakness was often complained of. Rapid respiration was common. In thirty-five cases a tendency to attacks of diarrhœa. The urine was only examined in nineteen, in four of which albumin was detected, and in three sugar. Irregularity of menstruation was noted in twenty-three of the cases, and loss of flesh in forty-five. Variable as is the disease, a considerable number practically recovered, but scarcely completely. One got well in nine months; another died in a year. As a rule, the condition lasts for years. As to treatment, Dr. Murray was disappointed wth belladonna. Convallaria reduced the pulse-rate more than anything. Bromides aided the nervousness. Thyroid gland aggravated the symptoms, but thymus and suprarenal extract had both been of some use. Arsenic gave good results in small doses. Rest in bed should be insisted on in severe cases, and Weir-Mitchell treatment when emaciation was present.

Dr. Hale White asked if Dr. Murray had observed the state of Peyer's patches in fatal cases, for in three cases he found them enlarged, and this, with severe diarrhœa, might have some meaning. The thymus, too, was often large. The only treatment was rest and quietness in hygienic surroundings. None of the drugs named were of value.

Dr. Wm. Ewart regarded the disease as due to toxins in the alimentary tract, and the treatment should be directed to that. He had noticed gastric dilatation and rheumatism in some of his cases. Arsenic was useful.

Dr. H. D. Rolleston had seen pigmentation so marked as to lead to diagnosis of Addison's disease. He had also seen enlarged spleen—interesting in reference to Dr. White's observation of Peyer's patches. Few cases were met with in the post-mortem room, so that he considered prognosis not so bad.

Mr. Maude said the disease was rare in India, though simple goiter was very common there. He had seen three fatal cases—one died from influenzal pneumonia, one from peritonitis, one from septic endocarditis. Though few died from Graves's disease alone, recovery was seldom if ever complete. He was sceptical as to treatment. Cacodyle preparations were no better than other forms of employing arsenic. Thymus he had seen of some use in diarrhœic cases. Nauheim baths were useless.

Dr. Hector Mackenzie gave some particulars of fifty-two cases. Exophthalmos was absent in two; thyroid enlargement in five; abdominal disturbance was present in all severe cases; albuminuria in six; glycosuria in several, and it was easily produced by giving glucose; death occurred in six, but improvement in many, though relapses often followed. Rest was important, if in pure country air. The usual drug treatment he thought to be of some service.

Dr. S. V. Pearson said that of 4,100 deaths in St. George's Hospital only two were recorded from Graves's disease, both of women, one of twenty and the other of twenty-six years. The first had rheumatism and valvular disease; in the second the thymus was persistent, and the left ventricle hypertrophied and dilated.

Dr. Herringham spoke of cases in which goiter was not present, but, the other symptoms were. He had admitted some doubtful ones to hospital, and later on the thyroid enlarged.

Dr. Newton Pitt thought too grave a view of prognosis prevailed. He had seen very bad cases come round. Recovery might be incomplete, but often a fair degree of health was reached.

Dr. Murray, in his reply, stated that he had not examined Peyer's patches. He had seen thyroid do harm in several cases.

Typhoid fever has ever dogged the march of armies, but even in war time it is not so terrible as formerly. The recognition of water as the chief medium of infection is general, but others must not be overlooked. That seemed the view of nearly everyone at the Medical Society when Dr. Leigh Canney brought forward a paper on the 27th, in which he insisted that his plan for supplying boiled water to troops in the field was all sufficient. He did not, indeed, deny the existence of other avenues of infection, but he minimized their importance. In the discussion that followed, Surgeon-General Sir A. de Renzy said that in Fort William, Calcutta, the death rate was formerly 69.9 to 110 per 1,000, but in 1870 a pure water was supplied, since which the rate has been from 10 to 12. Colonel Davies said at Quetta, one battalion in the direct line of the wind from the excreta trenches, suffered three times as much as the others. Captain M. Dillon mentioned an epidemic in Malta traced to dust from an infected sewer. Professor Firth said his experiments with those of Major Horrocks proved the danger of flies and dust in the field. In civil life the conditions differed, and the bacilli should be destroyed on their escape from the body. Dr. Horton-Smith said the urine of convalescents should be tested, and if bacilli were present, urotropin should be given.

Mr. Lennox Browne died on Sunday, in his sixty-second year. In his younger days he was a teacher of drawing, and exhibited at various water-color exhibitions. This artistic training was of the greatest advantage to him when he determined to enter the profession. He took his M.R.C.S. in 1863. Three or four years later he became private assistant to the late Sir Morell Mackenzie. In 1871, when Mackenzie's "Growths in the Larynx" appeared, the author, in his preface, acknowledged the valuable help received by Mr. Browne, and added "all the laryngoscopic drawings made for me since the year 1867 have been taken from life by him, with great fidelity and artistic skill, and he has made finished drawings of those which I myself had sketched at an earlier date." When he left Mackenzie he established, with the aid of friends, another special hospital (the central throat and ear hospital), and, in 1878, brought out the first edition of his chief work "The Throat and Its Diseases," the numerous colored plates of which, from his own drawings, further illustrated his artistic skill. Subsequently, as rhinology progressed, he entitled later editions "The Throat and Nose, and Their Diseases." He was joint author with Emil Behnke of "Voice, Song, and Speech," which has run through numerous editions. Some years ago, Mr. Browne exhibited the drawings and sketches he made during two voyages to South Africa.

It is officially announced that His Majesty the King has consented to become the patron of the Cancer Research Fund, under the direction of the Royal College of Physicians and Surgeons, and of which the Prince of Wales is president. Dr. Bashford, assistant to Sir T. Fraser of Edinburgh, and who has recently been engaged in research work in Professor Ehrlich's laboratory, has been selected by the executive committee for the post of superintendent, and will begin his work forthwith.

Mrs. S. Lewis has forwarded a third quarterly sum of £2,500 to King Edward's Hospital Fund.

A strange case of suicide by a young doctor was investigated by the coroner on Monday. Mr. A. J. Bennett was studying at St. Mary's Hospital for the Fellowship of the College of Surgeons. He went to bed at eleven o'clock on Thursday, asking his landlady to call him at the usual hour in the morning. He was then found dead in his bed, with a bottle of prussic acid—empty—by his side, which he had obtained the previous day for "experimental purposes." No light was thrown on the affair at the inquest. He was said to have ample means, and to have been cheerful as usual up to the last day.

On Tuesday another inquest was held on a prussic-acid case. This was on a retired doctor, who had once been insane and was addicted to opium, so there is less mystery about it, and the usual verdict was returned.

PHOTOTHERAPY OF TUBERCULOSIS

To the Editor of the Medical Record:

Sir: The very instructive and interesting paper, by Dr. J. W. Kime, on the treatment of pulmonary tuberculosis, in your issue of the 1st inst., is full of hope and encouragement for those who are able to leave home and have the benefit of out-door life, and the exposure to concentrated rays of light, under his careful supervision. The valuable array of cases presented by Dr. Kime are exceedingly satisfactory in their results.

Yet there are thousands of people whose cases are amenable to phototherapy; who go from bad to worse, because they cannot get away from home surroundings, or are unable to make up their minds to devote their entire time to getting well.

I am a thorough believer in the open-air treatment of consumption, in all its forms; yet phototherapy can do a great work when the open-air residence cannot be combined with it. The sunlight is ideal, but in a climate like that of New York and Brooklyn it is not a dependence for systematic treatment. Therefore, artificial light, derived from powerful arc lamps, must be used in this climate. These lamps can be made of any desired candle-power, and their light can be administered with absolute regularity, regardless of weather conditions. The time of exposure should not be more than half an hour—I began by exposing an hour, but find that patients do better under exposures of half that time, but they should be given daily.

I have one lamp of 80 ampère (estimated candle-power, 24,000); one lamp of 50 ampère (estimated candle-power, 15,000), and two lamps of 40 ampère (estimated candle-power, 12,000 each).

In using these lamps, interposing material should be arranged so as to cut out some of the heat rays. These lamps should be horizontal, and the light focused upon the chest of the patient by means of French concave mirror lenses. The lenses used at Fort Dodge Sanatorium are a very poor substitute for this kind of lens. The French reflecting lenses are very expensive, and made of one piece of glass, while those used by Dr. Kime are sectional, and made of small pieces of glass, and, therefore, have little, if any, condensing power.

I doubt if one of these large reflectors will reflect as many rays of light from the sun as I can concentrate on the chest of my patients with an 18-inch French reflector, which gathers the light from a 50 ampère arc lamp. Furthermore, the patient can remain at home, have all the pleasures, conveniences, society, and comfort of home, and, unless in the latter stages of phthisis, attend to business, and live among friends, while undergoing treatment.

The patient can, in a measure, approach to out-door conditions by removing the window sash from the sleeping room, and substituting therefor unbleached muslin, or light-weight of tent duck, securing them in a movable frame, or tacking to the window frame.

This arrangement will insure a free supply of fresh air during the sleeping hours, without any exposure to drafts.

Now add to this proper sanitary regulation, with daily bath, and salt rub. Plenty of plain, wholesome, nourishing food, from the home kitchen, and I am not sure but that we have in these measures a plan of campaign in our warfare with this "white plague" that, in the long run, may accomplish more than the best sanatorium treatment.

We are apt to forget that the transfer of a patient, from home and friends, to live among strangers afflicted with the same malady, may more than counterbalance good effects of out-door life in the best sanatoria.

We, as physicians, in our expectation of the benefit to be derived from climate and special treatment, are prone to forget that the mental condition of our patient may more than counterbalance the good effects of such residence, when it involves the sundering of home ties.

Yet phototherapy may be practised and the patient remain at home.

I have had patients referred to me, who had been to the far South, and had come home expecting to die. These same people have been vastly benefited by the use of the chemical light rays. One man, returning in midwinter, with all the most pronounced symptoms, expecting to die quietly among his friends, was at work in June. Others, with laryngeal ulceration, have received marked benefit from the light treatment, even in the variable weather of our spring months. Of its usefulness in this class of affections, I entirely agree with Dr. Kime.

Dr. Kime refers to the apparatus of Dr. Finsen as similar to his, but they are entirely different. When Dr. Finsen uses the sun as his source of light, he has a French condensing lens, about twelve inches in diameter, and passes the concentrated light through blue water before it impinges on the tissues of patient, thus eliminating the heat rays, and leaving only the blue, violet, and ultra-violet rays; this, he tells me, he has verified by the spectroscope. When he uses the arc light for treatment, he eliminates the heat rays by the use of quartz crystal lenses. Allied to this is the light of Dr. A. W. Minim of St. Petersburgh. In his apparatus, he claims great benefit from the violet ray in the treatment of tuberculous ulcers. I purchased the apparatus, with very little expectation of its being of service in such cases. From my short experience in its use, I can say that it is the best and most satisfactory treatment that I have ever used in large and intractable ulcers. The use of concentrated light in the treatment of pulmonary tuberculosis deserves more attention from the profession than it is receiving

George G. Hopkins, A.M., M.D.

Brooklyn, N. Y.

So-called Hypertrophic Tuberculosis of the Intestine.—By this term H. F. Harris refers to those rare cases in which tuberculous lesions of the bowel lead to more or less complete obliteration of the lumen. One case is related with minute details. He then discusses etiology, morbid anatomy, symptomatology, diagnosis, prognosis, and treatment. Concerning the latter, he notes that surgery alone offers any hope, and adds that out of eighty-eight recorded operative cases, sixty have been cured and four improved A bibliography closes the article.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 20, 1902.

Recurrent Parotitis Following Recurrent Attacks of Appendicitis.—Daniel Fiske Jones reports the case of a young woman who was operated upon for appendicitis, and two days later had a swollen right parotid and went through a double parotitis. She had had two attacks of appendicitis previously, and in both cases this had been followed by double parotitis. Stephen Paget gives the following facts regarding parotitis: Out of 101 cases collected by him ten were due to disease or injury of the genitourinary tract, eighteen to disease or injury of the alimentary canal, twenty-three to disease or injury of the abdominal wall, and fifty to disease or temporary derangement of the generative organs. Thirty-seven out of the 101 died, but all of the original disease or injury and not because of the parotitis. In twenty-five cases of ovariotomy both parotids were effected in nine. Of seventy-eight cases forty-five went on to suppuration and thirty-three resolved.

Notes on the Diagnosis and Treatmant of Early Miscarriages.—L. V. Friedman says that when no part of the ovum is prolapsed through the os, or when the os is not sufficiently dilated to permit the finger to feel the intact or ruptured ovum within the uterus, if the patient's pulse be good in quality and less than 110 beats per minute, treatment should be expectant. When miscarriage is not complete, seldom will one be obliged to wait more than twenty-four hours in order to see either an anatomical change which makes clear the diagnosis, or a change in condition which demands action. Having decided upon radical measures, ergot and the tampon are to be used when indicated. When it comes to emptying the uterus, the finger may often be used instead of the curette, as it leaves the uterine mucosa in a condition much more nearly resembling that of the normal puerperal uterus. The uterine cavity should be thoroughly irrigated with corrosive sublimate (1 to 5,000), formalin ½ per cent. to 2 per cent. and sterile water.

Journal of the American Medical Association, Nov. 22, 1902.

Concerning Some Vaccinal Eruptions.—W. W. Stelwagon divides these eruptions into three classes: (1) Those due to the vaccine virus; (2) Those due to mixed inoculation introduced at the time of vaccination or subsequently, and (3) Those that are sequelæ of vaccination. The most frequent and usually more or less evanescent and harmless of these are the localized or general erythema, urticaria, erythema multiforme, a regional vaccina or vaccina-like eruption, impetigo contagiosa, and a pseudo-erysipelatous or erysipelatous inflammation or other accidental regional dermatitis. The most important of these, dermatologically speaking, are erythema multiforme, urticaria, pemphigoid eruptions, and impetigo contagiosa. Erythema multiforme and urticaria present at any time between the first day and the crusting period, but may, especially the former, appear much later. Behrend believed that there were two periods at which these and most other vaccinal eruptions occurred—in the first three days and not until the eighth or ninth. While this is true to some extent, it is far from being the rule, for there are many exceptions, and the pemphigoid eruptions, to be later referred to, often appear in the third or fourth week, and sometimes one or two weeks after complete healing. Exclusive of the foregoing, there are other skin affections following vaccination, such as eczema (sometimes vaccination seems to lead to the disappearance of a chronic eczema) and psoriasis, Syphilitic inoculation at the present day is rare. In the eruptions commonly observed, such as urticaria and erythema multiforme, Stelwagon believes that the causative factors lie with the virus itself, and are due to either its preparation or its preservation, and possibly to some admixture or changes in the lymph constituents, and are not necessarily of extraneous origin. They are analogous to the factors causing the serum rashes in the early daysof antitoxin.

Medical News, November 22, 1902.

The Significance of the Terms Acute and Chronic.—Allen J. Smith, after discussing this subject with its applications, states that some definition such as the following might well be assumed: Acute, as applied to a pathological process, indicates of such a disease that it runs a fairly regular and limited course; such course being frequently, although not necessarily attended by severity of symptoms, and the limitation being possibly in recovery Chronic may be applied in conditions presenting no definite duration, more or less irregularity in the presentation of symptoms, a variable severity of symptoms, and ordinarily limited only by the death of the patient.

Obsessions; Fixed Ideas; Indecisions; Imperative Conceptions; Abulias; Phobias.—Theodore Diller declares that obsessions are diseases of the cerebral inhibitory apparatus; that is, of the will, if we may presume that the other elements in the reflex are functionating normally It is, however, evident that the afferent or efferent paths or end-organ may be defective, in which case the will would be affected only secondarily or negatively Obsessions may be conveniently divided into five classes (1) of doubt, (2) of fear; (3) of impulse; (4) of miscellaneous ideas; (5) abulias. The obsessions of doubt (*folie du doute*) or indecision are very common, and include beside the doubt concerning insignificant matters those concerning religious and metaphysical subjects. Obsessions of fear are very numerous. Many of them have received special names, *e. g.* pathophobia (fear of disease). Among imperative obsessions may be mentioned kleptomania (impulse to steal). An abulia is a non-action The term is used to describe the lack of power to perform an act which the individual wishes to perform. It is really a reverse or inverse sort of an obsession. It is frequently seen in neurasthenia and hysteria. The writer then enumerates various cases, and speaks of the unwisdom of the prevalent teaching concerning masturbation. He points out to his own patients that this practice is rarely followed by the evil results which are commonly enumerated, and that it is impossible for any one to tell from the face of the masturbator that he has ever indulged in this regrettable practice. He then impresses upon the patient what he does believe concerning this practice. The present general ideas concerning it tend to engender a train of morbid ideas which will do much harm. As to the treatment of the obsessions in general, mental treatment is the most important. Each case must be considered by itself. The physical tone must be kept up. The simple rules of hygiene, the use of hydropathy, massage, and electricity, are all useful The treatment by drugs is of the least importance.

Neurasthenia.—Joseph M. Aiken states that this condition is uncommon before the twentieth and the fiftieth year of life. It is of about equal frequency in the sexes. All forms of nervous energy are affected and fatigue comes more quickly than in health. The vital forces are below par, consequently irritability is more easily established This is especially noticeable in the mental sphere. Neurasthenia is a primary affection of the nervous system. Hereditary defects give a tendency to this disorder. There is no pathological anatomy known that is peculiar to neurasthenia. Diminished dynamic energy and lessened recuperative power in the nervous structures is the condition met. The symptoms are easily ranged under motor or sensory disorders without implication of any special organs, those manifested by some one of the special senses; those centered in the gastrointestinal, circulatory, renal, or reproductive organs, and the psychical form. Berkley's division into the hygienic, dietetic, and medicinal treatment of neurasthenics is an admirable one Slowly sipping a glass of very hot water one-half hour before each meal is often of great benefit to an atonic stomach. Saline and lithia drinks assist in lessening fermentation in the alimentary canal. Hot broth or milk just at bedtime often quiets and induces sleep in a nervous patient. The neurasthenic should be encouraged. Gentle faradization to the muscles is useful, but galvanism to the nerve centers is apt to further exhaust cell-power. Hydrotherapy, rubbing, kneading, and massage of the entire body short of fatigue are extremely useful measures. When recourse is had to drugs, iron is most important. Gentian, or any of the bitter drugs, combined with strychnine and glycerin, are the most useful general tonics. Alkalis are of great service. For hypnotics, trional and the bromides, given in hot milk or broth, are the most useful. Opium and alcohol are to be avoided Constipation is best treated by gradually decreasing doses of salines with increased ingestion of water.

New York Medical Journal, November 22, 1902.

The Prevention of Intestinal Diseases in Infants During the Summer.—C. G Kerley and J. L. Hughes detail their experience during the past summer. Their idea was not only to treat sick children, but to put those showing the first signs of illness on a preventive régime. The cases were in hospital and the nurse in charge was instructed to report any slight vomiting or loose stool Under such circumstances milk was withheld and barley water given In purely intestinal cases castor oil was invariably ordered In the vomiting cases the stomach was washed and calomel given, and if there was diarrhœa a mixture of bismuth and aromatic syrup of rhubarb was given. When the stools and temperature warranted the milk was gradually resumed in from one-fourth to one-sixth of its former strength. Of 278 cases under observation, ninety-two had gastrointestinal attacks, and received the above treatment. Of this latter number two died from enterocolitis. Every attention possible was given to general hygiene. Great care was taken with reference to keeping the milk cool and sweet. The author believes that by the means indicated the large mortality from summer diarrhœa can be largely diminished, and that the disease itself should be looked upon as distinctly preventable.

Ten Instructive Cases for the General Practitioner in Medicine, with Remarks upon the Detection and Relief of Eye-Strain.—A. L. Ranney reports these cases, the leading features of which are as follows: (1) Each case tends to illustrate some special type of manifestation of eye-strain in consequence of reflex disturbances upon the nerve centers. (2) Each case was selected to prove to the profession that a scientific investigation and correction of eye-strain can radically cure, in some instances, cases that are apparently hopeless and incapable of permanent relief by medication. (3) Out of the ten cases reported, several have apparently justified a diagnosis of organic disease of the brain or spinal cord. (4) The record of one case goes to show that chronic diabetes may be excited by eye-strain alone and that the relief of eye-strain may cause a total disappearance of the glycosuria. (5) In one case there were periodical attacks of laryngeal spasm that seemed to imperil life. (6) Two cases forcibly illustrated the relations between eye-strain and neuralgia. (7) Three cases illustrated the relation of epilepsy to eye-strain. (8) Two cases forcibly illustrated the relationship between eye-strain and persistent reflex spasm of a localized group of muscles. Ranney expresses his conviction that careful, long continued, and patient investigation of errors of refraction and anomalies of adjustment of the eye muscles should never be omitted whenever the possibility of a reflex cause may exist as a factor in creating abnormal conditions of the nervous mechanisms, the muscular apparatus, or the viscera.

American Medicine, November 22, 1902.

The Surgical Treatment of Epilepsy.—Roswell Park concludes that: (1) Epilepsy is the last disease to which surgical measures should be indiscriminately applied. In judiciously selected cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medicinal treatment; (2) Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of irritation and the destruction of paths of conduction which convey disturbing impulses. In each case we must decide as to the operative methods by which we may best meet these indications; (3) In order to attain the best results, patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention; (4) Operation, when indicated and undertaken, should be regarded as a first measure to be followed, and often preceded, by others looking to a correction of all faults of diet, of elimination, etc. Long continued attention to these matters is the price of eventual success; (5) In those cases characterized by blanching of the face, when the seizures can be warded off or mitigated by the prompt use of amyl nitrite, we may well consider the propriety of an exsection of the cervical sympathetic.

Adenocarcinoma of the Male Breast.—Frank C. Hammond reviews the literature on this subject, and reports two cases. The first patient was a German, aged seventy-five years. There was no history of trauma and the family history was good. Pain was the prominent symptom. The tumor was removed and the pathological report was as follows: The specimen consists of an elliptical piece of skin, with subjoined tissue, 11.5 cm. by 6.5 cm. by 4 cm. In the center is a conical elevation 2.5 cm. above the level, and 4 cm. in diameter. On this is a nipple. It is 5 mm. in diameter and 3 mm. above the level. It is surrounded by a furrow 2 mm. in depth. There is a discolored area about the nipple. The skin is fixed to the tumor for about one-half of its extent. Portions of the new growth were traced to the extreme inner border of the specimen or line of incision. The second patient was a professional man, over fifty years of age. This tumor was in the right breast, while the one just described was in the left. The breast was excised. The specimen measured 3 by 2 by 2 cm. The surface was ragged. About one-half of the specimen was composed of what appeared to be adipose tissue. It was soft and spongy. The rest of the specimen was soft and firm and slightly resistant on incision. On examination the neoplasm was determined to be a glandular carcinoma. Although it was not rich in stroma, it might be termed a scirrhus. It was fairly circumscribed and with little evidence of peripheral infiltration.

Philadelphia Medical Journal, November 22, 1902.

Amputation through the Shoulder Joint as a Routine Procedure in Axillary Carcinoma, Secondary to Mammary Tumors.—John B. Roberts emphasizes these points in his interesting paper: Amputation through the shoulder joint should be adopted as a routine measure in all cases of axillary carcinoma, secondary to malignant disease of the breast, and the subclavian artery and vein should be ligated above the clavicle before the disarticulation is done. Then the arm should be cut off and the lymph nodes and other affected tissues removed. A flap from the outer aspect of the arm may be retained to cover the axilla and chest, if such integument is needed.

A Case of Exophthalmic Goiter Presenting Some Unusual Features.—Charles Potts reports this case. The patient was a man aged thirty-nine years. He is a miner. Aside from the excessive use of tobacco, his habits are good. He showed most of the usual symptoms of exophthalmic goiter. In addition, he had a marked ankle clonus. He has had a number of attacks of either partial or complete unconsciousness. He was placed on sodium phosphates, gr. xv, t. i. d. In a week he felt better. Treatment for a hypertrophic rhinitis, from which he had suffered for a long time, was begun; soon improvement became more marked. The case is interesting, especially from these facts: The patient is a man; the existence of an ankle clonus which was marked and not easily exhausted, and which disappeared as the patient improved; the occurrence of attacks of apparent unconsciousness; the marked improvement which followed the use of sodium phosphate, and especially the correction of disease of the nasal mucous membrane. The patient has had no treatment for nearly a year, but writes that he is feeling well.

The Lancet, November 15, 1902.

Death after the Removal of Tonsils and Adenoids in a Hæmophiliac Child.—F. J. Steward reports the case, the patient being a boy of seven years. Ether was given, and the usual operation performed. The growths were large. Bleeding was free at the time, but stopped spontaneously. When the patient was put back to bed it was noticed that the pulse was 160, and very feeble. Two hours later the pulse had improved, but it was noted that both sides of the neck, and also the left cheek, were swollen from blood extravasations. These swellings increased, and soon reached the sternum and clavicles. No further bleeding from the cut surfaces took place. Some eight hours later, dyspnœa developed, with submucous pharyngeal bleeding. The dyspnœa finally demanded intubation, but no relief followed. Tracheotomy was finally done, but death ensued thirty-two hours after the operation. The only abnormality found at the autopsy was a large thymus. No family history of hæmophilia could be obtained, but the author has no doubt that this was the real nature of the case.

Fatal Cerebral Hemorrhage in a Youth.—The patient of T. M. Pearce was a lad of nineteen, who, while washing himself suddenly felt a headache, and began to have a twitching of the right hand, and especially the thumb. Soon the twitching spread to the arm, and the patient lost consciousness. When seen a few minutes later by the physician, the pupil reflexes were lost—the right pupil was contracted, the breathing was labored and noisy; the pulse was 120 to the minute, but the heart sounds were normal. Convulsions continued, the head being drawn sideways, toward the right shoulder, the arms rotated inward, and there was pleurothotonos, with the concavity on the right side. Twenty minutes before death the body relaxed. Death ensued in about one hour from the initial seizure. Autopsy revealed a clot in the cerebral ventricles, more blood being in the left lateral ventricle than in its opposite on the right side. Bleeding had, apparently, commenced on the left side. There was no clot in the brain substance itself, nor could any ruptured vessels or miliary aneurysms be found. No cause for the attack could be ascertained. The young man was something of an athlete, but it does not appear that there had been any accident or over-exertion.

A Case of Tetanus Treated with Antitetanic Serum; Recovery.—W. E. Wynter reports the case of a man aged forty years, who ran a rusty nail into his foot. The latter began to swell, but he continued to work at intervals. In the course of nine days stiffness had developed. The incubation period, therefore, had been nine days, spasms occurring on the tenth day, counting that of the injury as the first. These spasms recurred during twenty-seven days, and forty-five days elapsed between the injury and complete convalescence. Fever was noted for fourteen days, the highest temperature being 102.6° F. on the eighth day from the appearance of symptoms. Antitetanic serum was given in doses of 10 cubic centimeters every six hours for sixty doses, until the spasms subsided. Extract of physostigma was administered in half-grain doses, also every six hours, and only omitted when all rigidity had gone. Morphine was relied upon to relieve the pain and to induce sleep during the acute period, but 2 grs. a day were never exceeded. Applications of hot water certainly relieved local spasm, and evacuation of the bowels was always attended with benefit. The urine was very constant in composition, though varying in quantity with the amount of perspiration. It was dark, but without deposit, it gave an acid reaction; it had a specific, gravity of 1028, and there were no abnormal constituentst such as blood, albumin, or sugar. The toxicity was not tested. It was on account of the concentrated character of the urine that rectal injections of hot water were resorted to.

British Medical Journal, November 15, 1902.

An Outbreak of Typhoid Fever, Waterborne. Jas. Taylor, medical officer of health of the Tandragee Dispensary, states that the first case of this epidemic was observed on July 7, and between that date and August 25, 225 cases were reported, extending over an area of about twenty-five square miles, all of which were subject to the influence of water proved by chemical and bacteriological analysis and circumstantial evidence to contain sewage matter and possibly enteric bacteria. Aside from cutting off the polluted water, the precautions taken to prevent the spread of the epidemic were: Removal of all patients fit for deportation to a hospital. Disinfection of fæces, soiled clothes, and premises in which cases occurred. Destruction of possibly infected refuse by fire. Structural improvements in water supplies and sewage system. The disinfectants used were carbolic acid and perchloride of mercury.

Epidemic Jaundice in South Africa.—R. V. Dolbey says that the symptoms of this disease are invariably consistent, and occur as follows: Patients will come at first complaining of loss of appetite, nausea, vomiting, and feelings of malaise, while there is always a history of constipation or diarrhœa. In many patients there is a temperature from 100° to 103°, while in malarial patients an attack of ague ushers in this disease. In a few hours great pain develops in the epigastrium and right hypochondriac region. The liver is enlarged, as is also the gall-bladder. The urine is generally dark and the stools white. Later the yellow discoloration of skin and conjunctivæ shows itself. The best treatment is rest in bed, milk diet, and calomel. The disease lasts from ten days to three weeks. The writer thinks that these are cases of obstructive jaundice caused by catarrh spreading up from the duodenum to the gall-bladder and liver.

A Case of General Pneumonic Infection in a Child of Seventeen Months.—Harold R. D. Spitta reports this case. The bacteriological report is as follows: The original pneumonia showed itself first on March 7. Next, the left elbow-joint was affected, and aspiration fluid showed the diplocccus pneumoniæ. On March 24 empyema declared itself with the same organism. The blood was examined on April 20, and the cerebrospinal fluid on April 24, and both showed this organism. Death occurred on April 28, and a partial necropsy was performed. Squeezings obtained from the solid areas in the lungs showed in cover-glass preparations very large numbers of typical lanceolate cocci. Coverslips, made from the fluid aspirated from the elbow-joint, presented a few capsulated cocci. The mother gave the history of a discharge from the ears for some time before the child's entrance to the hospital, but no ear trouble was ever observed in the hospital, although it was carefully looked for. The case is interesting from the presence of the multiple secondary infections.

Two Cases of Hyperpyrexia, with Recovery.—Robert E. Lord describes these cases. The first patient was a clergyman, thirty-two years old. He was of neurotic type and family. His illness was ushered in by a "bilious attack," with violent headache, pain in the legs, drenching sweats, and vomiting. His temperature was 101°. There were no symptoms or signs of throat, abdominal, or lung mischief. There had been an extensive periostitis, implicating a large part of the deltoid and biceps muscles some time before, and at this time there was present on the outer side of the humerus a hard, bony node. The case was considered influenzal, and an aperient and a diaphoretic were ordered. Within a few days the patient's condition became worse. He was delirious and sleepless at night and profoundly apathetic, lying under large quantities of bedclothes. There were no physical signs in any of his organs, no sugar, albumin, or diazo-reaction in the urine, and no alteration in the periosteal node. The spleen was not enlarged. On the sixth day he had a convulsion, and the axillary temperature corresponded to 111.5°. The thermometer was the next day certified at Kew to be correct to 0.2° up to 110°. Strychnine sulphate and a cold pack were given, the temperature dropping to 108°. After this he was put into a cold bath and kept there about forty five minutes. His temperature had then fallen to 101°. Between 5 P.M and 2 A.M on the next day seventeen excessively foul motions were passed. His temperature rose again to 104°. On the fourth day there had developed a mottled rash, and on the sixth day there was a very slight and doubtful enlargement of the spleen. On the seventh day he was better. From the ninth to the fifteenth day he was desperately ill. On the tenth day he began to peel. The after-progress was very slow, with alternate constipation and diarrhœa for weeks. The evening temperature did not reach normal till the forty-seventh day. Ultimately a good recovery, both physical and mental, was made. The diagnosis apparently lay between influenza, osteomyelitis or abscess of the humerus, typhoid, typhus, scarlet fever, and a septic condition of the alimentary canal. After consideration of all the symptoms and the course of the disease, influenza of an abdominal type or alimentary sepsis appear to be the most probable diagnoses, and will, in conjunction with the patient's neurotic family and history, and his excess of clothing during the earlier part of the illness, according to the writer's opinion, explain satisfactorily the main features of the case. The second patient was a soldier home from India with abscess of the liver. Although it had been drained, there were some pockets which gave rise to trouble, and one evening his temperature was found to be 110°. This was confirmed by the second thermometer. He died some months afterward from exhaustion. The only chance for such cases is the prompt abstraction of heat by means of an icepack or cold bath, and the exhibition of stimulants, of which a saline injection appears to be the best.

Deutsche medicinische Wochenschrift, October 30, 1902.

A New Kind of Diphtheria Serum.—A. Wassermann has succeeded in obtaining a bactericidal diphtheritic serum by inoculating rabbits and goats with diphtheria bacilli which have been treated by a method similar to that first used by Koch in the preparation of tubercle bacilli for the production of tuberculin. The serum thus obtained is not only bactericidal, but possesses specific agglutinating and precipitating properties. On account of the latter, it is thought that its chief use is to be found in the differentiation of pseudo- and true diphtheria bacilli. It may, however, find a field for clinical use in those cases in which the bacilli persist in the throat for a considerable period after all symptoms have disappeared. Such cases are, as a rule, not under quarantine, and are important factors in the spread of the disease. In such patients, after inoculation with a bactericidal serum, there should be a rapid disappearance of the bacilli.

Acute Syphilitic Nephritis.—Waldvogel reports a case which exemplifies this condition and adds further evidence to the view that the syphilitic poison may give rise to a true nephritis. The patient had previously passed through measles and pneumonia, but following these diseases had remained in good health until he developed syphilis. At the time of the first examination condylomata and specific throat lesions were present. Shortly thereafter œdema of the lower extremities, ascites, and hydrothorax developed. The urine contains both albumin and casts. Under the administration of mercury the œdema subsided and the albumin and casts gradually disappeared from the urine. The diagnosis of syphilitic nephritis was made upon the simultaneous appearance of the nephritic and syphilitic symptoms and the disappearance of the former under the administration of mercury.

Origin of the Basophilic Granules in the Red Blood Cells.—P. Schmidt thinks that the basophilic granules frequently encountered in red blood cells are remnants of a broken-up nucleus, and that when a fair number of erythrocytes contain them it means that an active regeneration of these cells is taking place. Recent observations by the author upon a case of malarial anæmia confirm this view. When the case was first seen the erythrocytes were very much reduced below their normal number and contained few, if any, basophilic granules. Under treatment the number of erythrocytes markedly increased, and eventually nearly normal figures were obtained. During the stage of active increase of the erythrocytes the basophilic granules became numerous, and so remained until the regeneration had taken place, when they again became scarce. Observations upon the blood in anæmias of other origin give the same result, and there seems to be no doubt but that the presence of the granules signifies regeneration rather than degeneration of the erythrocytes, as has been claimed by several authors.

The Significance of the Presence of Typhoid Bacilli in the Sputum in Acute Pulmonary Affections Complicating

or Following Typhoid Fever.—Felix Glaser does not think that the presence of typhoid bacilli in the sputum or pulmonary tissues in acute pulmonary affections complicating or following typhoid fever necessarily means that these organisms were the primary cause of the lung trouble. This view is based upon the observation of two cases of lobar pneumonia complicating typhoid fever, in both of which typhoid bacilli were present in the sputum, and in one of which they were also obtained from the consolidated lung by puncture. In both cases, however, there were pneumococci present in the sputum, which were highly virulent for animals. Certainly, so far as the pulmonary condition is concerned in this class of cases, the lesions must be considered as due to a mixed infection of pneumococci and typhoid bacilli. It cannot be denied that there are cases of lobar or lobular pneumonia due solely to the typhoid bacillus, and in which no pneumococci can be found, but it is nevertheless certain that the mere presence of the typhoid bacillus in the sputum does not necessarily mean that the pulmonary lesion is essentially typhoid in character.

Münchener medicinische Wochenschrift, November 4, 1902.

New Method for the Diagnosis of Lung Cavities.—H. Cybulski says that in lung cavities the adventitious sounds which are heard on ordinary auscultation may also be distinctly heard if the ear of the examiner is placed close to the wide open mouth of the patient, while the latter practises deep inspirations and expirations. This method of diagnosis is especially valuable in that class of cases in which, upon ordinary auscultation, the cavity signs are obscured because of other lesions in the surrounding pulmonary tissue.

Pleural Effusions in Cardiac Diseases.—Jos. Esser reports three cases which throw some light upon the pathogenesis of this condition. In all three cases myocarditis was the cardiac lesion. In all the pleural effusion was principally, if not entirely, right-sided. At autopsy, the bronchial gland on the right side at the hilus of the lung were enlarged and more or less calcified in all. As in these cases, many other observers have also shown that pleural effusions accompanying cardiac lesions are much more frequent when the myocardium is involved than when the valves alone are affected; this is to be ascribed to the inability of the heart muscle to maintain the normal circulatory power, by reason of which a venous congestion takes place. The cause of the more frequent of such pleural effusions on the right side is to be sought in the anatomical constructions of the bronchial lymphatic system on that side. As is well known, on that side the efferent vessels from the bronchial glands of the hilus empty into the truncus bronchomediastinus, the same vessel which receives the efferent vessels from the pleural cavity, which is, of course, to be regarded as a lymphatic space. Hence, any cause which leads to a congestion of the lymph in these glands and their efferent vessels would favor the development of a pleural effusion. As above said, such a cause is to be found in an incompetent cardiac muscle.

French and Italian Journals.

Nocturnal Incontinence of Urine; Treatment by Instillations of Nitrate of Silver.—Clément Delfosse reviews a number of cases of incontinence. He has had great success in treating them with instillations of nitrate of silver. After washing the anterior urethra, he instilled into the posterior urethra from fifteen to twenty drops of the solution of silver nitrate, one to thirty. After the first treatment three patients were cured; after the second, one; after the third, one more. The condition of two others was ameliorated. All of the patients have been examined several months after their cure. It is difficult to explain the method of action of this drug, and although several interesting hypotheses are suggested, they are, after all, only hypotheses.—*Journal des Sciences Médicales de Lille*, November 1, 1902.

Suppurating Calculous Cholecystitis.—Barnsby saw a patient upon whom he was called to operate *in extremis*. The general condition was very grave. The patient presented a large tumor, perceptible on palpation, plainly fluctuating, occupying the right iliac fossa, separated from the liver by a sonorous zone, and not accompanying this organ when it was displaced. The patient had never had any functional symptom on the part of the bile passages, but had shown all the train of gastrointestinal troubles. The diagnosis was made of "periappendicular abscess," with a reservation in favor of suppurating cholecystitis, on account of a very sharp pain, provoked by palpation under the inferior surface of the liver. Operation showed a distended gall-bladder, adherent to the cæcum and ascending colon. Seven hundred grams of pus and 294 small calculi were obtained. Cholecystostomy was performed. Recovery was rapid.—*Gazette des Hôpitaux*, November 6, 1902.

Endovenous Therapy.—F. Mariani concludes from his researches that oxygen injected into the veins is completely absorbed by the red corpuscles, and does not cause emboli. The injection must be performed slowly, not more than 500 c.c. of oxygen being injected in an hour, in order that it may all be absorbed. This administration of oxygen is valuable in all cases of pneumatosis. Intravenous injections of therapeutic doses of corrosive sublimate effect no change in the red nor in the white corpuscles, the amount of hæmoglobin remains the same, and there is no especial modification of the isotonia of the blood. Preparations of iron, of arsenic, iodine, alcohol, gelatin, silver nitrate, and other drugs can be injected intravenously with benefit in certain conditions. This method of medication constantly receives further substantiation from investigators, and redounds to the credit of its discoverer, Guido Baccelli.—*La Riforma Medica*, November 3, 1902.

Latent Cancer of the Stomach with Numerous Metastases.—M. A. David describes this case. The patient was a man of fifty-eight years. He was first brought under observation for the treatment of erysipelas, but he presented, at the same time, grave general phenomena. But there was not the least gastric symptom. Later, there developed a little œdema of the limbs, which lasted only a few days. He soon after left the hospital, in apparently excellent condition. He never complained of pain in the stomach, nor of vomiting, nor of melæna. He returned some weeks later complaining of vague malaise. He was cachectic. There was a hard mass in the epigastric region, but its form and connections could not be made out. Supraclavicular ganglia could be felt. The diagnosis of neoplasm of the stomach was made. The patient died the next day, after having had some melæna. Autopsy revealed an encephaloid cancer in the cardiac portion of the stomach.—*Journal des Sciences Médicales de Lille*, November 1, 1902.

Traumatic Rupture of the Spleen.—Giovanni Ninni reports the case of a boy of sixteen years who had been kicked by a horse in the left abdominal region. The extreme pallor of the patient, the filiform, and almost imperceptible pulse, the great tension of the abdominal walls, and the fact that there had been an escape of blood from the anus, prevented all hesitation in regard to laparotomy. Abundant hemorrhage followed incision, and was seen to have its source in a large laceration of the spleen. The patient's condition, in spite of injections of ether and of caffeine, became so alarming that the operator was obliged to arrest hemorrhage by an extensive gauze tampon. An intravenous injection of 1,700 grams of normal salt solution was then given, which had the effect of miraculously resuscitating the patient. The postoperative course was absolutely satisfactory; there was no temperature, nor the faintest sign of secondary hemorrhage, not even when, on the sixth day after operation, the plug of gauze was removed. In a month's time, the patient left the hospital entirely cured.—*Giornale Internazionale delle Scienze Mediche*, October, 1902.

Nervous Crises Consecutive to Ablation of the Adnexa, Cured by Gynecological Massage.—Cécile Seder reports this case. Her patient was a woman of thirty-four years, who had undergone, seven years before, a double ovariotomy. She suffered from actual nervous crises. The patient did not know what provoked them. The crisis began with acute pain in the region of the adnexa, especially on the right side; it extended up as far as the waist. There was distension of the abdomen and vomiting. The patient was unable to take any nourishment. These sever symptoms lasted one or two days. Finally, the pain subsided, and the symptoms disappeared, but the digestion remained disturbed for some time. The last crises were very severe, and so weakened the patient that she had to keep her bed for two or three weeks. Massage was begun. Nothing was noticeable in the region of the removed organs, only a clammy feeling and a rigidity of the tissue, a little more on the right side. The abdomen was rather hard. The uterus was infantile. The vagina was in a condition of irritation. The course of massage was continued; the clamminess vanished and the tissues became pliable. The patient felt a little local pain scarcely two or three times in six months. The massage proved to be of great value, both locally and generally.—*Journal de Médecine de Paris*, November 2, 1902.

The American Journal of the Medical Sciences, October, 1902.

Infection of Ovarian Cysts During Typhoid Fever; Report of Two Cases; Operation; Relapse; Recovery.—Morris J. Lewis and Robert G. Le Conte present this paper. The condition considered is a rare one. The first patient was a woman of twenty-eight years, who was admitted to the hospital with a temperature of 104.8° F., pulse 120, and respiration 32. Five weeks before admission she had given birth to a full-term child. She was admitted under the diagnosis of puerperal sepsis, but within a few days it was evident that the illness was typhoid fever. When convalescence should have been established, the fever did not touch normal, but assumed a hectic character, with coincident abdominal pain and enlargement. The leucocytes, which had previously been subnormal, doubled in number. A vaginal examination revealed a large, exquisitely tender, fluctuating mass in Douglas' cul-de-sac, which bulged in the posterior wall of the vagina and pushed the uterus up behind the pubis. The cyst was estimated to contain from one to two pints of pus. A blood count showed 10,400 leucocytes, with 55 per cent. of hæmoglobin. The patient finally agreed to a vaginal puncture of the abscess, and about a quart of fetid pus, with many cheesy particles, was evacuated. The diagnosis of teratomatous cyst was assured. There was also cartilage and bone in the cyst wall. During the next week the temperature gradually rose to 104.4° F. This rise was continuous and not hectic. There proved to be a relapse, for the leucocytes returned to a subnormal number, the spleen again became palpable, and a new crop of rose spots appeared. The pus that had been evacuated showed large numbers of the bacillus typhosus. Later the diseased ovary, together with the tube, was removed through an abdominal incision.

The Theory of Cross Education as Applied to the Auditory Apparatus.—Lewis S. Somers reports certain experiments which he made upon the auditory apparatus to determine what effects mechanical movements of the membrana tympani and of the chain of ossicles would have upon the hearing-power of the opposite ear. The writer states that the cases selected were those in which the hearing was defective from sclerotic changes in the conducting apparatus, but in which the perceptive portions were, as far as ascertainable by recognized tests, not involved in the essentially chronic process. The method used in determining the effect of exercise of one ear upon the opposite one was to make the usual tests of hearing of both ears, the voice, watch, and tuning-fork being used for this purpose. Movements of the membrana tympani and ossicular chain were made by rarefying and condensing the column of air in the external auditory canal by means of a ten-ounce Politzer bag and a Siegle otoscope tightly fitted into the canal. In one of these cases, in the right ear the hearing increased from nothing for the watch to a fair hearing distance of three inches, while in the left, non-exercised ear, the hearing for the watch, which was originally only on contact, had increased to two and one-fourth inches, a most remarkable gain, and one which clearly demonstrates the effects of cross education upon the auditory apparatus. The gain in hearing for the voice was shown in both ears.

Report of a Case of Severe, Probably Pernicious, Anæmia, with Marked General and Coronary Atheroma, in Which Many Evidences of Aneurysm Were Present without Anatomical Explanation for Them.—Arthur R. Edwards reports this case, which presents no remarkable pathological features. The vascular changes were very marked for a person aged thirty-one years, and may be referred with some degree of correctness to syphilis. The chief clinical interest of the case centers in the pulsation. Over the left lower chest was observed a diffuse and most distinct pulsation, which, as the patient lay on his right side, extended horizontally from the lower angle of the left scapula around the chest into Traube's space, and the epigastrium, and in a downward direction to a point distinctly below the left costal arch. The pulsation was vigorous and distinctly expansile to both the eye and hand. A systolic bruit was heard over the pulsating area, but was most clearly audible over the left chest behind. No thrill was detected at any time. The case was thought to be one of aneurysm. Post-mortem revealed nowhere any bulgings or aneurysm of the aorta. No satisfactory explanation of the pulsation noted has been reached. There was partial left adhesive pleuritis, and the active arterial pulsation might have been propagated by means of the adhesions to the chest and by means of the perisplenitic connective tissue to the abdomen. But this suspicion, as the writer says, in no way accounts for the expansile character of the pulsation, which of yore has been held to invariably exclude dynamic pulsation. Lafleur recounted a case in which the pulsation was exactly similar to that of this case. It was expansile, but instead of aneurysm, the autopsy showed gastric ulcer.

A Case of Acute Lymphatic Leukæmia without Enlargement of the Lymph Glands.—Dorothy M. Reed reports this case, the important points of which are that, in a sudden and rapidly fatal illness, in which there were no especial features other than hemorrhage, anæmia, and a marked increasing weakness, there was present the blood picture of an intense lymphocytosis, establishing thus the diagnosis of acute lymphatic leukæmia. There was no enlargement of either lymph glands or spleen. But the bone marrow showed macroscopically the features of lymphadenoid degeneration. The writer believes that the findings in this case prove conclusively that there is here a lymphocytosis arising from proliferation of lymphoid cells in the bone marrow, and death occurring before any other organ in the body showed involvement. Although it cannot be stated positively that the lymphocyte of the blood comes from the bone marrow, still there is no proof that the lymphocyte comes from the lymph gland alone, and that all the other colorless cells of the adult blood originate in the bone marrow from lymphoid cells. In this case the similarity in form of the small lymphoid cells with the normoblasts, which were conspicuously few in number, was suggestive. It is not impossible that the increase here was in a mother cell, from which the lymphoid cell and the hæmoglobin-containing cell are normally derived. The writer believes that such cases go to prove that acute leukæmia, whether lymphoid or myelocytic, is due to changes in the bone marrow, the other hæmopoetic organs being involved, if at all, secondarily. She suggests that there are three forms of leukæmia, all due to myelogenous changes, and that these should be known as the myelocytic, lymphoid, and mixed-cell varieties, if we wish to make the blood-picture the bases for clinical divisions.

Malaria: a Summary of Recent Progress in the Knowledge of Its Etiology and Prophylaxis.—Barton Lisle Wright states that it is now a certain and generally accepted fact that malaria is produced by the bite of an infected mosquito of the genus Anopheles. The following sanitary measures should be adopted and put in force: (1) All hollows within the city limits, and for a mile surrounding it, should be filled in and graded. (2) Marsh lands within the same territory should be properly drained, and, where practicable, filled in. (3) Ponds and streams that cannot be drained or filled in should have their surfaces covered with petroleum, which should be renewed every twenty-one days. (4) Where for any reason this is impossible, fish should be introduced, so that they may feed upon the larvæ. (5) All receptacles holding water should be made mosquito-proof, or, where this is impossible, the surface covered with petroleum. If this water be drawn, by means of a faucet, from the bottom of the cask or tank, and not dipped out, it will not be unfitted for drinking or washing purposes. (6) Old cans and pans exposed so that they might collect rain water should be carefully covered. (7) Householders should be advised to thoroughly screen their houses. (8) Thoroughly-screened isolation wards should be provided in the hospitals. (9) All cases of malarial fever should be reported to the Board of Health, the same as other infectious and contagious diseases. (10) Where the patient cannot be properly isolated at home, he should be removed to the hospital. (11) The sick room should be thoroughly screened, completely isolating it from other parts of the house, as well as from the outside. (12) The mosquitos in the other rooms should be carefully destroyed. (13) When the plasmodium has disappeared from the blood, the patient should be removed to another room, and the mosquitos in the sick room destroyed by fumigation. (14) Cesspools should have their surfaces covered with petroleum at least once a week.

The Pathology of Pernicious Anæmia, with Special Reference to Changes Occurring in the Hæmolymph Nodes (Eight Autopsy Cases).—Alfred Scott Warthin concludes that: (1) Pernicious anæmia is essentially a hæmolytic disease, the hæmolysis being due to some as yet unknown poison, comparable in its effects upon the blood and blood organs to the action of toluylenediamine—whether auto-intoxication or infection, remains yet to be determined. (2) The poison of pernicious anæmia stimulates the phagocytes of the spleen, lymph and hæmolymph glands, and bone marrow to increased hæmolysis (cellular hæmolysis). Either the phagocytes are directly stimulated to increased destruction of red cells, or the latter are so changed by the poison that they themselves stimulate the phagocytes. The hæmolysis of pernicious anæmia differs only in degree, not in kind, from normal hæmolysis, or the pathological increase occurring in sepsis, typhoid, etc. (3) It is not improbable that from the destruction of hæmoglobin poisonous products (histon?) may be formed which have also a hæmolytic action—a vicious circle of hæmolysis may thus be produced. No proof of this exists at present. (4) The hæmolysis of pernicious anæmia is not confined to the portal area, as, according to Hunter, but in some cases at least takes place also, to a large extent, in the prevertebral lymph and hæmolymph nodes and bone marrow. In the majority of cases the spleen is the chief seat of the blood destruction. No evidences of hæmolysis in the liver, stomach, and intestinal capillaries were found in the eight cases. The hæmosiderin of the liver and kidneys is carried to these organs as some soluble derivative of hæmoglobin, is removed from the circulation as hæmosiderin by the endothelium, and then transferred to the liver or kidney cells. The deposit of iron in these organs is of the nature of an excretion. (5) In the majority of cases only slight reaction for iron is found at the sites of actual hæmolysis (spleen, lymph and hæmolymph glands, and bone marrow). The greater part of the pigment in the phagocytes of the spleen, lymph, and hæmolymph glands does not give an iron reaction while in a diffuse form. When changed to a granular pigment, the iron reaction may usually be obtained. The change to hæmosiderin is for the greater part accomplished by the endothelium of the liver and kidneys. (6) The varying pathological conditions found in these different cases of pernicious anæmia can be explained only by a theory of cyclical or intermittent process of hæmolysis. This theory is also borne out by the exacerbations so frequently seen clinically. The autopsy findings, in so far as evidences of hæmolysis are concerned, will depend upon the relation between the time of death and the stage of the hæmolysis. (7) The changes in the hæmolymph glands found constantly in these eight cases were: dilatation of the blood sinuses and evidences of increased hæmolysis, as shown by the increased number of phagocytes containing disintegrating red cells and blood pigment. In some of the cases these changes were accompanied by great increase in size, and apparent increase in number, of the hæmolymph glands; in other cases there was no hyperplasia, the only evidence of the changes present being that obtained by the microscopic examination. The changes found cannot be regarded as specific of pernicious anæmia, since it is probable that they may be produced by other infections or toxic processes characterized by great hæmolysis. (8) The lymphoid and megaloblastic changes in the bone marrow do not form an essential part of the pathology of pernicious anæmia, and are to be regarded as of a compensatory nature—an increased activity of red cell formation to supply the deficiency caused by the excessive hæmolysis.

Book Reviews.

International Clinics: a Quarterly of Illustrated Clinical Lectures, etc. Edited by Henry W. Cattell, A.M., M.D., and Various Collaborators. Volume II, Twelfth Series, 1902. Philadelphia: J. B. Lippincott Company, 1902.

No less than twenty-seven well-known writers have aided in making this volume the attractive one it is. Such names as Lépine, Finger, Robin, Lucas-Championniere, Pick, Patton, and Hemmeter are among those who contributed The volume is freely illustrated. Professor Senn has a valuable surgical article, including a great variety of every-day, as well as some unusual, conditions. Resection of the cervical sympathetic is attractively discussed by Professor Jonnesco. The work is being well kept up to its standard.

Traité de Médecine et de Thérapeutique. Publié sous la direction de P. Brouardel, Doyen honoraire, Professor à la faculté de médecine de Paris, Membre de l'Institut, et A. Gilbert, Professor de thérapeutique à la Faculté de Médecine de Paris. Médecin de l'Hôpital Broussais. Tome Neuvieme. Paris: J. B. Baillière et Fils, 1902.

This ninth volume of Brouardel and Gilbert's important work on practice and therapy treats upon diseases of the brain and its meninges; the spine and spinal meninges; The contributors are. Bourneville, Raymond, Claude Hutinel, Klippel, Déjerine, Thomas, Gilbert, and Lion. The volume is well though sparsely, illustrated, both from the clinical and pathological side The various diseases of the nervous system have been carefully and elaborately worked out.

The system, of which these 1,000 pages form part, maintains its elevated standard as the set is nearing completion, and when completed it will be an almost necessary addition to all important medical libraries. French-reading physicians will find in the work all subjects treated from a modern scientific and serious point of view.

Smallpox Illustrated. By George Henry Fox, A.M., M.D., with the Collaboration of S. D. Hubbard, M.D., S. Pollitzer, M.D., and J. H. Huddleston, M.D. Philadelphia and London: J. B. Lippincott Company, 1902.

This Atlas, in two parts, corresponding to the larger atlas of skin diseases by the same author, is a practical treatise illustrated by colored photographs from life The pictures are extremely well-executed and show variola erythematosa on the first day, variola papulosa (second day), variola hemorrhagica, variola vesiculosa (fourth day), variola of mixed type, semi-confluens, confluens and pustulosa (ninth day). In part II there are eight illustrations: variola discreta, pustulosa, crustosa, mixed forms, variola desiccata et squamosa, pigmentations. hypertrophic scars, etc. In the last plate vaccination with its varieties and complications is depicted.

Taken as a whole, the small atlas, with its descriptive text, can be regarded as the most finished work of the kind that has yet appeared.

Diagnostic Gynécologique des Organes Génitaux et de la Mamelle. Par le Docteur Clado, Chef des Travaux de Gynécologie a l'Hôtel-Dieu, Ancien Chef de Clinique de la Faculté. Paris: A. Maloine, 1902.

This book of 800 pages presents a broad view of the subject treated. The volume is divided into three sections. The writer presents this arrangement: The first part is a detailed description of the various methods which are of use in the diagnosis of gynecological affections. The second part comprises the study of the diagnosis of genital affections and the general phenomena to which they give place. This section treats of the diagnosis of the affections of the vulva—traumatic affections, those due to microbic origin, tumors, tuberculosis, pruritus, etc.—affections of the vagina, cervix, fundus, uterine adnexa, and peri-uterine affections; tumors of the round ligament; and extra-uterine pregnancy. The third section treats of the affections of the breast. The text is embellished with numerous illustrations from nature by the eminent artists Henri Cain and Théo. Ralli. The most modern methods of diagnosis are described and the mechanical arrangement of the text is very clear. The volume is a very convenient book of reference for the practitioner and shows wide research. The name of the author is a sufficient gurantee for the excellence of this work.

La Guérison de la Morphomanie sans Souffrance. Par le Dr. Oscar Jennings. Traduit de l'anglais par M. Albert Ball. Paris: A. Maloine, 1902.

The second edition of this little volume, which recommends essentially the same treatment that the author has been using for ten years, nevertheless, presents certain variations from the original edition. Some of the chapters have been revised and new ones have been inserted. Personal letters concerning the treatment are printed, which serve to bring the subject most vividly before the reader. All care is taken that the patients may avoid suffering during the treatment. The drug is gradually reduced, and is finally given by rectal injections. Appropriate medication is made use of, and a very prudent and non-alcoholic régime is observed.

A Text-Book of Medicine. Begun by the late Charles Hilton Fagge, M.D., F.R.C.P., sometime Physician to Guy's Hospital. Completed after his death and since Revised or Rewritten by Philip Henry Pye-Smith, M.D., F.R.S., Fellow of the Royal College of Physicians; Consulting Physician to Guy's Hospital. Fourth Edition. In Two Volumes. Vol. II. Philadelphia: P. Blakiston's Son & Co, 1902.

The present volume is the second and last, its predecessor having appeared about a year ago. It comprises practically all the subjects which were not included in Volume I, continuing the diseases of the lungs and presenting the diseases of the heart, pericardium, aorta, mouth, œsophagus, stomach and intestines, liver, kidneys, blood, and skin, as well as those affections not easily classified. Dr. Pye-Smith is really responsible for the text, although he has drawn upon his associates' work very largely. The work is somewhat different from the usual textbook, in the fact that the personal experiences of the authors give an individuality to the subject matter, which is not always present in these days of specialism. The brief references to certain cases which serve to bring out illustrative instances give a brightness to the text which would otherwise not exist. The historical references are unusually full, and due credit for discoveries is always given to the famous observers of the past. Perhaps the clinical pictures of the diseases described merit most of the praise, they are graphic and comprehensive. The treatment and diagnosis sections are always good, although, purposely, not exhaustive. In the article on Typhlitis the stand regarding non-operative interference will seem too strong to American teachers, while the almost wholesale condemnation of morphine in Bright's disease will meet with the disapproval of those clinicians who so strongly favor its use in uræmic convulsions with high arterial tension. The chapters on dermatology are unusually comprehensive, over two hundred closely printed pages having been assigned to this specialty. The two volumes may be considered a valuable addition to the library of the medical student and practitioners;

a trustworthy and helpful guide when they wish the counsel of experienced advisers. This new edition shows much improvement over the last, and has been brought thoroughly up to date, rearranged, pruned, and expanded, as seemed wisest to the author.

Beiträge zur Syphilis-Forschung, Von Dr. Max von Niessen. Parts VI and VII. Wiesbaden, 1902.

These contributions to the study of syphilis have more than a passing interest. There are related no less than seventy additional cases of syphilis in which the bacillus has been found in the blood. These are followed by tracing the subsequent history of the disease in the attempts at inoculation which the author has carried out in lower animals. There are ten half-tone full-page plates illustrating the effects of inoculation, the histological appearances, etc. The work abounds in interest to all who labor in this field. It is conveniently printed in both German and French, in parallel columns

A Manual of Practical Medical Electricity. The Rontgen Rays and Finsen Light. By Dawson Turner, B.A., M.D., F.R.C.P.Ed., M.R.C.P., London. Third edition. Revised and enlarged. New York: Wm. Wood & Company, 1902.

The increasing interest in that feature of electricity which pertains to the production of *x*-rays makes a third edition of this work, taking up as it does this new branch, doubly interesting. The earlier portions of the book have been revised and brought up to date, and the chapters on electrotherapeutics have been added to, especially as regards electrolysis. Forty-seven pages are given over to Röntgen rays, including may full-page illustrations, while twenty-four pages include all that the author has to say about *x*-ray therapeutics and Finsen light. What is said, however, is to the point, and the results of considerable personal experimentation with apparatus is given. The work evidently went to press before much had come out concerning treatment. The inconveniences of the Finsen method are made especially prominent, as they should be, and the Lortet and Genoud lamp is considered a step in advance, and this, it is thought, would give better results if fitted with iron-electrodes. As an aid to the study of electrotherapeutics in general, the work fills a decided place of utility.

Treatise on Diseases of the Skin, for the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph. D., Clinical Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia; Dermatologist in the Howard and Philadelphia Hospitals; Member of the American Dermatological Association; Socio corrispondente di la Societa Italiano di Dermatologia e Sifilografia, etc. Philadelphia and London: W. B. Saunders & Company, 1902.

This handsomely-bound octavo of 1,125 pages is profusely illustrated, and the text, which is well written, reflects the author's large and varied experience. There is too much of the book for the purposes of the student, and, if such a thing is possible in a work on skin diseases, there are too many pictures. By this we mean, that too great prominence is given to the rare forms which the student is never expected to see during his course, and, in all probability, will never see during his practice. The same space might better be taken up as regards a number of the twenty-six full-page lithographs and plates by a series of every-day conditions in the manifold varieties in which they are encountered. In general scope and make-up the work does not differ materially from those published by teachers in other cities, but since dermatology is advancing in several directions it contains many observations and views not found in some of the less-recent textbooks. The work is so constructed with notes and references that it will prove of material value to the dermatologist as well as the general practitioner, student, and writer, and, one can feel confident that the literature of the past quarter of a century has been well sifted. In this latter work the author has had the aid of several well-known gentlemen in his city.

A System of Physiologic Therapeutics Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, etc. Vol. IX. Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy. By Wilhelm Winternitz, Professor of Clinical Medicine in the University of Vienna. Balneology and Climatotherapy. By Dr. E. Heinrich Kisch, Professor in the University of Prague, Philadelphia: P Bakiston's Son & Company, 1902.

These two works are translated by Dr. Augustus A Eshner, and combined with notes on American Springs by Guy Hinsdale; a Classification of American Waters by A. C Peale, Phototherapy and Thermotherapy, by J H Kellogg, and Saline Irrigation and Infusion, by Harvey Cushing Thus the work is not wholly foreign A short illustrated appendix has also been added by the editor. Altogether there are 570 pages, making a considerably larger volume than those of the series first published.

The work is thoroughly in keeping with the spirit of the times in making the most of all physical means of treatment, and not relying wholly upon drug medication Many of the plans of treatment here scientifically placed before us are those formerly in use by the few, or, possibly, only by those looked upon as irregular practitioners. Much, however, is relatively new, but the newest therapeutical measure of all—that by the *x*-ray—is, strangely enough, mentioned but once, on page 50

All that pertains to treatment by water, both internal and external, has been discussed from various standpoints by different writers. This part is well illustrated, showing how to give the various baths, apply sheets, use hot-air cabinet, put on packs, employ incandescent lamps for electric-light baths, etc. European and American thermal and medicated baths are well described, with their effects upon various diseases The volume would be more readable if it were less bulky, and the material might have been somewhat concentrated with this in view It is hand-book size, but too heavy to hold in the hand. The Finsen light and apparatus are described and illustrated, but the details of actual results are scant, and little aid is given the searcher for information as to how he can himself apply the method. Aside from these faults, the work is highly commendable.

Disinfection and Disinfectants. A Practical Guide for Sanitarians, Health and Quarantine Officers By M. J. Rosenau, M D., Director of the Hygiene Laboratory, and Passed Assistant Surgeon, U. S. Public Health and Marine Hospital Service, Washington, D. C. Philadelphia: P. Blakiston's Son & Company, 1902.

The author shows himself well qualified as a teacher of practical matters pertaining to health, both public and private. Not only are the plans and machinery for wholesale disinfection in quarantine and other service portrayed and well illustrated, but the details of avoiding communicable disease, disinfection of rooms, persons, and clothing, are presented in a simple and attractive manner, so that the lay sanitarian as well as the physician can grasp the whole situation. The publisher has done his work well.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing, and Medical Latin. By William Scheiff, Ph G., M.D., Instructor in Pharmacy in the University of Pennsylvania Second edition, revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1902.

This is one of the series of "pocket textbooks," edited by Bern B. Gallaudet, M.D , of New York. It was originally a very useful and attractive book, thought too large for the ordinary pocket, and in revision it has been improved. The title tells almost all there is in it, aside from a therapeutic index of new remedies, a table of doses, and a good therapeutical index apart from the general one. It is naturally intended only as a reference work and adjunct to the students larger textbooks.

Manuel d'Histologie Pathologique. Par V. Cornil et L. Rauvier, avec la Collaboration de MM A. Brault et M. Letulle. Troisième édition. Tome second. Paris: Félix Alcan, 1902.

This second volume of Cornil and Rauvier's excellent work on pathological histology contains the pathological anatomy of muscles by Durante; that of the blood by Jolly; of the blood and spinal marrow by Dominici, and that of the central nervous system by Gombault and Philippe. There are over two hundred black and colored prints in the text. This work needs little praise The well-known writers and editors sufficiently recommend it. The 856 pages of this volume represent a great amount of faithful investigation and research. The minute instruction in technique are alone worth the price of the volume The reproductions in color, of differentiation stains, is an attractive feature

Phonographic Outlines of Medical Terms, with an Appendix Third edition London: Sir I Pitman & Sons, 1902.

This little dictionary of medical phonography, issued by the Society of Medical Phonographers in Great Britain, should be of great utility to the young stenographer in assisting him to acquire a stock of easily-made and easily-remembered outlines The book contains a list of outlines and contractions for about three thousand of the more common medical terms.

Society Reports.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Proceedings of the Fifteenth Annual Meeting, Held in Cincinnati, Ohio, November 11, 12, *and* 13, 1902.

The association met at the Grand Hotel, under the presidency of Dr. W. E. B. Davis of Birmingham, Ala.

Hypertrophy of the Prostate.—Dr. N. P. Dandridge of Cincinnati, Ohio, read a paper on this subject. A case reported by him showed that complete perineal prostatectomy enabled the surgeon to deal with a class of most distressing cases in a more satisfactory way than ever before—cases which had remained rebellious to other methods. The author did not decry the merits of any of the newer operations upon the prostate, whether they be Bottini's operation or prostatectomy. He was convinced that the field of usefulness for the latter operation, when used with discrimination, was quite large. He urged strongly the necessity of not being carried away by operative furor, which might lead to the same excess which a few years ago characterized the surgery of the ovary, an excess which was now followed by a marked recoil. The experience of Murphy was worthy of special notice; namely, the ready manner in which stone in the bladder could be dealt with after a perineal prostatectomy. The necessary opening of the urethra afforded an opportunity for the extraction of stone.

Conservative Operations upon the Ovary.—Dr. L. H. Dunning of Indianapolis, Ind., in a paper on this subject, reported his experience with more than one hundred cases operated upon by himself. He employed the method of incising small single cysts, removing the lining membrane, trimming away the redundant portion of the outer wall of the cyst and joining the edges of the incision by a running stitch of fine catgut. Single hæmatoma was treated in a similar manner. In a few instances he had used the thermocautery to check hemorrhage, and in other instances he had punctured several small cysts and dropped the ovary. He reported gratifying results in 80 per cent. of cases. After a few trials he rejected conservative methods in pus cases, and in cases in which there were numerous small cysts in all parts of the ovary. He found conservative work unsatisfactory in sterile married women, and in interval appendicitis operations in which there was a markedly cystic right ovary. In his series there were known to be six cases of pregnancy in which the patients were happy mothers, and there was a group of ten cases in girls and young women from whom he had extirpated an ovarian tumor from one side, and had done a conservative operation upon the other ovary with a large measure of success. Even should a considerable per cent. of failures to cure appear, the writer would continue to do conservative work. He believed that the reason we were not able to select our cases was that cystic degeneration of the ovary was a progressive disease, the limits of which we were not able at present to predict. The hope was that with increasing knowledge we would be better able to select the curable cases for operation.

Dr. George H. Noble had done considerable conservative work on ovaries in such cases as the author had mentioned, and he was satisfied that it was the proper thing to do. He endorsed the paper *in toto*.

Dr. Henry T. Byford said that formerly ovaries were removed extensively by gynecologists, and that now there was a sufficient number of cases on record to determine what effect the removal of the ovaries had on young people. He recalled a number of patients from whom he had removed the ovaries, the operation having produced no harm or mental effect. In many of the cases the women had been in better health since the operation. Conservative operations, if aseptically and properly done, should be followed by good results, without necessarily removing the ovaries.

Dr. Walter P. Manton began conservative work on the ovaries several years ago, and had found in the majority of instances he was successful in relieving the symptoms. He had, however, had a few unsuccessful cases which led him to be skeptical in regard to the good work which he might have done formerly. A short time ago he removed the left appendages and resected the right ovary, the patient making an excellent recovery. He removed about two-thirds of this ovary, but three months later the patient returned to him with symptoms of backache and desired another operation. At this time he made a vaginal section and found a small tumor, the size of a filbert, embedded in the posterior vaginal wall at the junction of the cervix. In examining the right ovary he found that it had undergone cystic degeneration, the cyst being the size of a hen's egg. The cyst contained ovarian structure, and was unquestionably the remnants of the right ovary. Resection of a cystic ovary or the puncture of cysts of the ovary, followed by swabbing with carbolic acid and alcohol, and sterile water, gave satisfactory results.

Dr. George J. Engelmann said all were agreed that it was desirable to leave as much of the tissue as would preserve the sexual activity, and the question arose, How much could be removed and the menstrual function still be preserved, thereby relieving the patient? He mentioned a case that he had operated upon some twenty years ago, in which there was a large ovarian tumor on the left side, with the tube adherent. On the right side there was a cyst the size of an orange, with a long pedicle, and apparently the tube was partially adherent and diseased. The entire left tube and ovary were removed. The patient menstruated regularly from the day of the operation, and had done so ever since. A larger part of the right tube was left, the pedicle being about one-half the thickness of a lead pencil. With the small amount of ovarian tissue left and with a part of the tube, the function of menstruation was preserved.

Dr. J. G. Earnest stated that the physician should always make a plain statement to the patient as to what she might expect from a conservative operation, or from a radical operation.

Dr. A. M. Cartledge did not think the association should go on record as advocating the removal of both ovaries in young women simply because they had pus tubes. Many young women consulted the gynecologist with acute suppurative salpingitis, but in whom the ovaries were normal, and he thought it was outrageous to unsex them. In every case, he recommended leaving a piece of an ovary, if it was not larger than a grain of corn.

Dr. Richard Douglas thought the last speaker had misunderstood the essayist, in that he did not advocate the removal of healthy ovaries when the tubes alone were affected, but discountenanced the resection of infected ovaries, and with the essayist he agreed in this particular. When an ovary was infected, any conservative procedure was useless; when the tube was involved, and not the ovary, the ovary should be left, under all circumstances.

Dr. Edwin Walker made a plea for more accurate diagnoses in these cases, saying that many of these patients suffered from other diseases or neuroses independently of the genital organs.

The Surgical Treatment of Pancreatic Cysts, with Report of Two Cases.—Dr. A. Morgan Cartledge of Louisville, Ky., said that cysts of the pancreas, while rarely encountered, were still the most common pathological condition of this deep-seated organ that surgeons were called upon to treat. There was little doubt but that the field of surgery, as applied to the pancreas, should be extended, and some of the more recent contributions to the subject should attract the attention of surgeons to this almost unexplored region of the abdomen. According to Böckel, the cases treated surgically now numbered 115. In ninety-nine of those the cyst was opened at the first sitting, with the result that ninety-two recovered and seven died. In sixteen cases the cyst was opened subsequently, after the formation of adhesions, with sixteen recoveries and no deaths. This spoke well for the treatment by incision and drainage. The same author had collected twenty-five cases in which extirpation, either complete or partial, of the sac was practised, with four deaths. A comparison of the results shown by statistics would seem to indicate that incision and drainage should be practised as a routine procedure in pancreatic cysts, and yet a closer study of the clinical forms which the cyst might present, together with a closer study of the convalescence of the drained subjects, might cause surgeons to attempt extirpation of the sac more frequently and with better results. The author's experience with the treatment of pancreatic cyst was limited to two cases, one treated by incision and drainage, and the other by enucleation of the cyst. Both patients recovered. These cases were reported in detail.

Dr. C. H. **Mayo** mentioned briefly three cases of pancreatic cyst that had come under the observation of his brother and himself. In one case fat necrosis was especially noticeable.

Dr. L. H. **Dunning** had never encountered but one case, and this was associated with stone in the ampulla of Vater. The cyst was large, and there was an extensive accumulation of bile within the gall-bladder, with dilatation of the gall-bladder. Chocolate deposits were noticed in the cyst wall.

Dr. **Richard Douglas** said that Mr. Jordan Lloyd had emphasized the fact that there were true and pseudocysts of the pancreas. The recent work of Robson, Mayo, and others, he thought, had shown the relation between gallstones and pancreatic disease, and it was possible that in this connection we might have a true solution of the pathology.

Dr. **Alexander Hugh Ferguson** mentioned three cases, one of them being a hydatid cyst of the pancreas. This case he treated by drainage, suturing the pseudocyst to the skin, and packing with gauze. The patient, a girl, recovered.

The Curse of Gonorrhœa.—Dr. **Joseph Taber Johnson** of Washington, D.C., followed with a paper on this subject, saying that so many sad cases of pelvic disease of specific origin were constantly coming under the care of those in charge of the female clinics in the dispensaries, and in the gynecological wards of our public hospitals, that it was almost impossible to overestimate the importance of this subject. The evidence was indisputable and overwhelming that many women lost their lives annually from the pelvic inflammation, caused by these complications, and that thousands probably lost their health, or their power of conception, from the same cause. From the best statistics he had been able to obtain, there were 300,000 women in this country leading lives of prostitution, and the estimate was made by health officers and the superintendents of police in thirty large cities, who made reports on this subject, that for every woman who regularly resided in a house of ill-fame, there was at least one, if not more, just as bad, who never or rarely became known to the police. This would give half a million, at the lowest estimate, of candidates for this disease in our country alone. The chief danger of gonorrhœa in the female was the infection of the uterus and uterine appendages. Gonorrhœa was the chief source of salpingitis and pelvic peritonitis. Other complications were mentioned by the essayist. The point which he laid the greatest emphasis on was that gynecologists should make themselves much more certain in the future than they had done in the past that patients of both sexes were absolutely cured, beyond the danger of a relapse, before they were dismissed from further observation, control, and treatment.

Chronic Appendicitis and Movable Right Kidney.—Dr. **Walter P. Manton** of Detroit, Mich., stated that while the practitioner had become familiar with the symptoms and diagnosis of acute appendicitis of the chronic form, which was often productive of great physical distress and suffering, but little was as yet known. As an etiological factor in the production of chronic appendicitis he called renewed attention to movable right kidney, the association of which with appendicular disorder was first pointed out by Edebohls, in 1894. In the writer's experience movable kidney was the most frequent cause of chronic appendiceal disease. In two hundred consecutive cases from his notebooks the essayist found that the right kidney showed an abnormal mobility in 36½ per cent., and in 67⅓ per cent., nearly, of these cases a diagnosis of chronic appendicitis was also made. In 22½ per cent. of this number the diagnosis was confirmed by operation. Among the other cases some were of too mild a type to demand immediate intervention, the patient refused operation, or was now waiting for this to be performed. Regarding the manner in which movable right kidney gave rise to the appendical affection, Dr. Manton accepted the theory of Edebohls as the most satisfactory yet offered, namely, that the kidney compresses the superior mesenteric vessels between the head of the pancreas and the spinal vertebræ, thus interfering with the circulation in the appendix, and giving rise to congestion and subsequent inflammation in that organ. He laid special stress upon two points: (1) That in obscure abdominal conditions a diagnosis should not be attempted until movable kidney and chronic appendicitis could be excluded by careful abdominal palpation; and, (2) that when nephroptosis and appendicitis were present, operations upon the uterus and adnexa would not be followed by cure of the patient unless one or both of these conditions were also removed.

Dr. **Bacon Saunders** said that, having had a number of both conditions to deal with, he had not had experience which would lead him to believe that the two conditions were so commonly associated as the paper would seem to indicate. In other words, his experience had not led him to believe that most of his cases of chronic appendicitis had depended upon movable kidney, although it was possible, and the condition might have been overlooked.

Dr. **Edwin Walker** had noticed the co-existence of the two diseases, but he had not found it in a large number of cases.

Dr. **Robert T. Morris** stated that since Edebohls published his paper he had given considerable attention to the association of the two affections, and quite frequently, when there was a loose kidney pressing upon the superior mesenteric vein, he had found that there was congestion of the cæcum, and if a careful palpation was made, the appendix would be found to be tense, and infective appendicitis would be more commonly found in such cases.

Dr. **Charles P. Noble** stated that he had operated on one hundred cases of movable kidney, and so far as his observation went, he did not think there was more than half a dozen of that number in which the appendix was involved.

Dr. A. M. **Cartledge** thought the two affections were more frequently associated than according to the statistics mentioned by the essayist.

Dr. **Alexander Hugh Ferguson** did not think there was any relationship between appendicitis and floating kidney *per se*. The most extensive cases of floating kidney he had encountered had no appendicitis whatever. The kidney might be down on the brim of the pelvis and resting on the tip of the appendix without disturbing it.

Dr. **Simon P. Kramer** spoke of the occasional occurrence of appendicitis with floating kidney.

Dr. C. H. **Mayo** said there was one class of cases of floating kidney which was very movable. One could fix the kidney and obtain a good result, and in some of these he was now removing the appendix at the time the kidney was fixed, to determine, if possible, the relationship between the two affections.

Dr. W. P. **McAdory** did not think movable kidney had much to do in causing chronic appendicitis, yet the two conditions might occur frequently at the same time.

Dr. **George H. Noble** of Atlanta, Ga., described a new operation for complete laceration of the perineum, which consisted in splitting the rectovaginal septum, dissecting the lower end of the rectum from the vagina and drawing the anterior rectal wall down through and external to the anus, converting a complete tear of the perineum into an incomplete laceration. The steps of the operation were given in detail.

Pregnancy and Labor Following Complete Nephroureterectomy.—Dr. J. Wesley Bovee of Washington, D. C., in a paper with this title, stated that the removal of the kidney had become a frequent operation and no longer excited surprise or comment upon the part of the medical profession. It was well understood that removal of a kidney, the function of which had not been previously suspended, entailed additional eliminative work upon the kidney of the other side. It must be admitted that one kidney was rarely able to perform the functions of two healthy ones, and that any extra taxation upon its eliminative powers incident to autointoxication of various forms, was liable to seriously embarrass its functional activity. When nephrectomy had been done for renal calculi, with pyonephrosis or tuberculosis, the same condition was liable to be present, in some slight degree at least, in the remaining kidney. Its function was accordingly interfered with. Various investigators had found a marked toxicity of the urine during pregnancy. Nephritis during this condition was very common. Winckel claimed 2 per cent. of women that were healthy before pregnancy had albumin in the urine during pregnancy, and, further, that 6 per cent. of all pregnant women had albuminuria. One notable fact in connection with the toxæmias of pregnancy, or uræmia, was that the amount of urea in the urine was always found markedly diminished. Another important matter in conjunction with pregnancy and labor was the changes in arterial tension which varied during and following labor. His own case of complete nephroureterectomy stood alone. The operation was done March 18, 1901, for pyonephrosis, renal calculi, and miliary abscesses in the ureter. April 15, 1902, after a normal labor of six hours, the patient was delivered of a male child weighing ten and one-half pounds. On the third day after delivery she complained of intense pain diffused over the abdomen, which on the following day became localized along the course of the left ureter. There was tenderness for several days after cessation of the pain in this region. The urine was carefully watched for calculi, but none found. Since the birth of her child she had breast-nursed it and had remained in splendid health. A question of vital importance was the permanent effect of pregnancy and labor upon the remaining kidney. In the case of Steinheil, the patient succumbed to the extension of the tuberculous process to the remaining kidney. Whether pregnancy and labor caused this extension in part or entirely could not be determined. Certainly, the woman had not suffered from renal trouble during the seven years following nephrectomy, but died one year and nine months after delivery. In Schramm's case, no history of the patient subsequent to her discharge from the hospital was given. In the writer's own case, the condition of the remaining kidney did not seem to be worse than before pregnancy, and he had no doubt others had met with cases similar to these. There was little doubt that pregnancy and labor following nephrectomy seriously jeopardized the life of the patient; that the renal complications must necessarily be greatly increased, and therefore induction of premature labor and other forms of treatment of these complications more frequently necessitated. In these cases the evidence of permanent impairment of the remaining kidney, as a result of pregnancy and labor, was by no means convincing, but the writer's individual opinion was, as records were made of these cases, that such effects would be apparent.

Personal Experience with McGraw's Method of Gastroenterostomy.—Dr. Samuel Lloyd of New York read a paper on this subject, in which, after quoting from Dr. McGraw's articles, he reported seven cases, all of them for cancer except one. All recovered from the operation. One of the patients was still alive. This was a stricture of the stomach due to adhesions, which drew the pyloric end out into a long tube and caused it to bend on itself. Of the others all, except two, died from exhaustion from progress of the growth after several months and without signs of obstruction. One was lost sight of and the other died from an involvement of the anastomotic opening in the cancerous growth and consequent secondary closure of the new opening. The writer said that his experience showed that the method was an admirable one; that it was efficacious, and that it was rapid in execution. It had advantages over the button, in that the ligature, after it was tied, was extremely small and readily passed through the intestine, avoiding the danger of a heavy mass retained in an already diseased and ulcerated viscus, and that the opening in the stomach could be regulated to suit the case in hand. In one of his cases the rubber ligature broke, and the operation had to be completed by suture. This accident could probably be avoided by boiling the ligature with the rubber glove instead of with the instrument. With this method of operating there was no danger of soiling the peritoneum by the escape of stomach or intestinal contents, and consequently no intestinal clamps were required. The method was also applicable to the entero-enterostomies, which were made to avoid the vicious circle, and probably to cases of incomplete intestinal stenosis. It was not applicable to complete obstruction. Feeding could be commenced at the end of about forty-eight hours, and could be increased from day to day.

He advocated, in operating for pyloric obstruction, that from eight to ten ounces of peptonized milk and one ounce of whiskey be introduced through a needle into the intestine below the point of the anastomosis during the operation. Its possible regurgitation during the operative manipulation could be prevented by pressing it well down along the intestine, or by the application of an intestinal clamp.

The President's Address.—This was delivered by the President, Dr. W. E. B. Davis of Birmingham, Ala. He spoke, first, of the early history of the association, and the events immediately preceding its formation. He recommended, in addition to honorary members, that the association have another class, to be known as life members, these to be composed of men of great eminence who were more than sixty-five years of age, or who had been members twenty years, and had attended 50 per cent. of the meetings. He suggested that Dr. J. McFadden Gaston of Atlanta, Dr. R. B. Maury of Memphis, and Dr. Thaddeus A. Reamy of Cincinnati, be recommended by the council for this class of membership. He advised the association to limit its membership to two hundred. He urged the members to establish a memorial to the association in Birmingham, the birthplace of the organization. He insisted upon what he asked for last year for the American Medical Association in his presidential address before the American Association of Obstetricians and Gynecologists. He said the national special societies had wielded a wonderful influence in the medical profession, and that medical literature had been enhanced in every way by them, and as individual societies they should be encouraged, but their union into a national congress was not conducive to the best interests of the medical profession. With the adoption of the new plan of organization, providing for a house of delegates to take charge of all business matters in the American Medical Association, more time would be provided for scientific work. He said: "The special societies, composed, as they are, of leaders in the several specialties, are under obligation to the American profession to assist in the better organization of these sections. Many of the members of these societies are officers and active working members of the sections of the American Medical Association, and can accomplish this result. There must be one class of membership for the sections that can be held by only those who are recognized as teachers and leaders to make membership very desirable and sought after." He would suggest that this class be known as Fellows, and that they pay in addition to the annual dues of the association $5 annually for section dues, which fund would be expended in the publication of the proceedings of the section. The officers and authors of papers should come from the Fellows. All members would have the privilege of taking part in the discussions, and thus an opportunity would be afforded for the ordinary or association members to show themselves worthy of a fellowship. Such an organization of the sections, with volumes of transactions, publishing a list of the Fellows, would give stability and permanency to the section work that could scarcely be had in any other way. With the House of Delegates for the general association, and the roll of Fellows and association members for each of the sections, it would become the most scientific and influential medical organization the world had ever known. He stated that the South had suffered greatly from the removal to the larger cities of the East and North of many of its ablest surgeons and gynecologists. This was due in a measure to the poor fees received by Southern surgeons. With the South's great increase in wealth this should no longer obtain. The South had now a population of only five millions less than the whole country forty years ago, and its total wealth was now as much as the United States in 1860. In the language of Mr. Edmondson, "In natural resources and advantages for the creation of wealth, no other section of the world can equal the South." Dr. Davis paid a tribute to the medical profession of the South, and spoke of McDowell, Sims, and Battey as epoch-makers in surgery. He also referred in glowing terms to the work of Dudley, Paul F. Eve, Warren Stone, Dugas, and Pope. Of the many in recent years, who had done excellent work, and who were now dead, he mentioned the names of McGuire, Yandell, Briggs, Rogers, Sr., Kinloch, Westmoreland, Sr., Campbell, Gilmore, Nott, Mastin, and Richardson.

Indications for Extirpation of the Gall-Bladder.—Dr. Maurice H. Richardson of Boston read a paper on this subject, in which he drew the following conclusions: (1) Certain lesions in themselves demand removal of the gall-bladder whenever possible. Such are new growths and gangrenes. (2) Certain other lesions of the gall-bladder are better treated by extirpation. These are the contracted and inflamed gall-bladders, with thickened walls. All gall-bladders which do not permit of easy and efficient drainage should be extirpated, for in such gall-bladders the risk of drainage is quite as great as the risks of extirpation; and the one great advantage of retention is impossible—retention of the biliary reservoir to fulfil the functions of that reservoir and to permit, if necessary, renewed drainage for future years. (3) Drainage is preferable in the dilated and infected gall-bladder, which, however, is neither gangrenous nor, to any great extent, changed—the slightly thickened gall-bladder containing gallstones and infected bile. This gall-bladder will, after drainage, become normal and therefore capable of fulfilling the functions of a gall-bladder. Through it the biliary passages will become effectually drained after subsidence of the temporary swelling about the cystic duct. (4) As a rule, drainage rather than extirpation is demanded in acute cholecystitis with severe constitutional symptoms, when the bladder is dilated or, at least, not contracted. (5) In chronic infections of the gall-bladder, with dilatation and thickening, and especially when a stone is impacted in the cystic duct, extirpation is the preferable operation, unless the stone can be dislodged backward into the gall-bladder, in which case drainage is, if not preferable, quite as advantageous as extirpation. (6) In simple gallstones, without visible evidences of infection, or of chronic changes incompatible with complete restoration of function, simple drainage of the gall-bladder is indicated. (7) In chronic pancreatitis, associated with gallstones or not, drainage through the gall-bladder is indicated.

Anterior Transplantation of the Round Ligaments for Displacements of the Uterus.—Dr. Alexander Hugh Ferguson of Chicago read a paper on this subject. He said it was now over six years since he first carried out the principle of this operation. The abdominal wall was opened in the mid-line in his first two cases. He then thought it better to enter the abdomen through each rectus muscle, the skin alone being cut in the median line. After doing fifty cases in this manner, he returned to the one incision in the adbominal wall, and that at the linea alba, then bringing the round ligaments through stab wounds, one in each rectus muscle. In about one-half of these cases he severed the round ligaments and brought their stumps through the rectus muscle, while in the remainder the ligaments were not cut at all. With this technique there was danger of bowel or omentum, or both, slipping between the transplanted round ligaments and the bladder and producing such complications (strangulation of bowel, etc.) as had been known to occur after Kelly's suspension and other methods of hysteropexy. In order to prevent these complications, the writer had employed one of two procedures to render it impossible for bowels to slip around the uterus beneath the round ligament: "(1) A continuous suture is made, running along the parietal peritoneum from the puncture in it and rectus muscle downward to the side of the bladder, and back, posteriorly, to the round ligament near the uterus. In this almost circular sweep of the needle and thread the peritoneum is caught up about every third of an inch. When the suture is tied an anteroposterior partition of folded peritoneum is thrown between the iliac and bladder regions on each side. (2) The round ligaments are fastened to the parietal peritoneum on each side from the internal inguinal rings to the artificial openings in the abdomen, through which they are transfixed. The redundancy of the peritoneum and the loose attachment of the parietal peritoneum in these regions enable this part of the operation to be done with comparative ease, especially when the patient is in the Trendelenburg position." The technique of the operation, as the writer now performed it, was given as follows. "Place the patient in the Trendelenburg position. Make a median incision, about three inches in length, through the abdominal wall, the lower angle of which reaches the suprapubic fold, and dissect the fat and skin from the anterior sheath of the rectus muscle on either side of the abdominal incision, corresponding to its lower third. Pass two fingers of the left hand into the abdominal cavity on one side beneath the rectus muscle, already exposed anteriorly, to locate and protect the bladder; then make a stab wound through the rectus muscle, in the direction of its fibers, into the abdominal cavity, between the two fingers, an inch from the median incision and an inch and a half from the pubic bone. Before withdrawing the knife, pass an artery forceps alongside of it into the peritoneal cavity and with it take hold of the round ligament and a portion of the broad ligament beneath it near the uterus. Now insert the suture, which is to prevent the bowel from slipping between uterus and bladder, or for the same purpose, suture the round ligament to the parietal peritoneum, as already mentioned. Then drag the proximal end of the round ligament through the rectus muscle with the forceps already attached to it, and sew it and the subjacent portion of broad ligament to the anterior sheath of the rectus muscle leaving a stump of about half an inch long between the parietal peritoneum and uterus. Deal with the other side in a similar manner, close the abdomen, and the operation is complete. Dr. Ferguson claimed for the operation described the following advantages: "(1) It is easy to perform, because all the structures involved are seen as well as handled while performing it. (2) The uterus is left free in the abdominal cavity, as no stitches or bands are attached to it. (3) There is no interference with the physiological functions of the organ-menstruation, conception, parturition, labor, or involution. (4) It has a wider range of application than any operation known to me."

Intramural Extraperitoneal Anchorage of the Round Ligaments for Posterior Displacements of the Uterus.—Dr. George H. Noble of Atlanta, Ga., said that since doing his first operation for intramural extraperitoneal anchorage of the round ligaments, his technique had been changed to simplify it, and to fortify the abdominal wound against the danger of hernia. The feature of the operation was the intramural extraperitoneal implantation of the round ligaments. Combined transverse and vertical incisions were employed to open the abdomen. The steps of the operation were described as follows: (1) A transverse incision is made through the skin, fascia, fat, and aponeurosis down to the recti muscles. This incision in the ordinary subject should be about one-half inch above the pubis, and should extend laterally to the outer border of the recti. The recti are separated vertically in the median line, and the peritoneum opened in the same direction. The pelvis is investigated, proper attention given to the local pathological conditions, and the uterus raised. (2) A pair of light compression forceps with teeth in end (Senn's) is passed through the abdominal opening and grasps one of the round ligaments near the fundus uteri. By traction on the forceps the uterus is pulled somewhat to that side of the pelvis which is opposite the ligament, held, the perineum is drawn away from the region of the internal abdominal ring, and the ligament itself made taut, so that it may be the more readily recognized in the extraperitoneal manipulations that follow. (3) Just beyond the outer end of the rectus, at the end of the transverse incision, the point of a pair of artery forceps is thrust through the posterior sheath of the muscle, but does not enter the abdomen. The forceps are opened and withdrawn, so that an aperture large enough to admit the index-finger is left. The finger is introduced through this opening into the free peritoneal fat, and feels the round ligament without difficulty, for it is brought into prominence by tension on the forceps which holds its uterine end. (4) The finger is hooked under the extraperitoneal portion of the ligament from below upward, drawing it up into the wound. The sheath of the muscle is then split open by blunt dissection. The sheath and peritoneum are stripped back in the direction of the uterus, completely dissecting the ligament of its covering. It is then drawn out of the wound and a forceps slipped underneath retains it until the opposite ligament is raised and denuded in the same way. If the uterus has been in a state of marked retroversion, the ligaments will have become so attenuated as to allow their approximation in the median line in front of the recti, which approximation will restore the uterus to its normal position. (5) When it has been determined that the ligaments are long enough to meet in the median line, they are each left looped over the forceps, while the peritoneum of the median incision and recti muscles are closed with continuous kangaroo or catgut sutures. (6) The ligaments are next approximated in the median line in front of the recti and tied together. (7) Beginning in one angle of the transverse incision, the cut edges of the aponeurosis are stitched together with a continuous kangaroo suture. When one or two loops of the suture have been passed, the needle, in crossing the interval between the two edges, is made to pass through the ligament. It is well also to pick up a little of the muscle on each side of the ligament, in order to provide against dead spaces. This process is continued as each successive loop is passed, until the center of the incision is reached, when the free end of the suture is clamped and left long. Starting in the outer angle of the transverse incision, but looping in a contrary direction, so that when the two sutures meet their free ends may be on opposite sides of the wound, a second strand of kangaroo unites the edges of the aponeurosis on that side and picks up the round ligament and adjacent portions of the muscles as before. The kangaroo tendons are tied together and the ligaments are thus embedded and firmly anchored between the aponeurosis and muscles. (8) The structures in front of the aponeurosis are closed in the usual manner. If, now, the ligaments have not become stretched very much, or if the recti are very wide, or both, it will not be possible to bring the loop ends of the ligaments together. In this case they may be drawn up and carried only so far as is necessary to replace the uterus and moored as above, or they may be cut off at their distal ends, and their free extremities thus brought together or made to lap in the median line. The author had suspended the uterus by intramural anchorage of the ligaments sixty-seven times with satisfactory results.

Intraabdominal but Retroperitoneal Shortening and Anterior Fixation of the Round Ligaments for Posterior Uterine Displacements.—Under this title Dr. F. F. Simpson of Pittsburg, Pa., referred to the chief objections to some of the other operative measures in vogue, and said: "In common with most of you, I have for years wished for a procedure which would be as widely and easily applicable as ventrosuspension, and which would possess its good qualities without its objectionable features." He then described a simple means of accomplishing this end. It consisted essentially in changing the course of the round ligaments from transverse to nearly an anteroposterior direction; in shortening the round ligaments, so that the weak part was left as slack, the strong part being used to control the movements of the uterus; finally, and especially in effecting these changes beneath or by puckering the parietal peritoneum, thus leaving no bands of adhesions, and no pockets which might strangulate an intestine.

Gas-Bacillus Infection.—Dr. Robert T. Morris of New York reported three cases of gas-bacillus infection which occurred this spring in his practice. He said there were a number of gas-forming bacilli belonging to the colon group —anaerobes, and he believed that it was necessary to make an elaborate study of these bacteria in order to classify and group them properly. The first patient was forty-six years of age, upon whom he operated for myoma of the uterus. The patient was in good condition, excepting for the hemorrhages which furnished the indication for the operation. He removed the uterus, leaving the stump of the cervix covered by peritoneum. The operation was done on April 30, 1902. The following day the patient complained of headache; her typical vital signs for that day being a pulse of 116, temperature normal, respirations 20. There was a bloody discharge from the vagina. The following day she had a temperature of 99.6° F., pulse 102, and respirations 22; nauseated, and suffering from continuous headache. The bloody discharge from the vagina had increased in amount. On May 2 the patient complained of intense pain in the abdomen; headache continuous; temperature 100°, pulse 120, respirations 24 He examined the abdominal wound and found it had healed by primary intention. The subcutaneous tissues on the right side of the abdomen were distended with gas, which was quite abundant in amount, but unassociated with tenderness. On the 3d of May the gas within the bowels caused great distress; headache was continuous; temperature 99° F. pulse 120, and respirations 24. A bloody discharge continued from the vagina. On the 4th of May the patient became very restless, nauseated, had continuous headache, with a temperature of 100.6°, pulse 144, respirations 16. On the 5th and 6th the symptoms were somewhat similar, except that there was gas beneath the skin of the abdomen. He opened at this point, for the purpose of getting a culture, when a great deal of gas escaped as he was going through the skin with a pair of scissors. The specimen became exposed in such a way as to interfere with its integrity, so he had no bacteriological report of this case. The patient died on the seventh day. In the second and third cases specimens submitted for examination showed pure cultures of what appeared to be the bacillus aerogenes capsulatus. These patients recovered.

Dr. Alexander Hugh Ferguson detailed two cases of gas-bacillus infection that had occurred in his practice. He said the bacillus aerogenes capsulatus had its habitat in the soil, like the bacillus of tetanus, and was not, unlike the latter, microscopically. It was not a pyogenic organism, as had been proven by Welch and Nuttall, who had made most extensive experiments with it, and who called it the gas bacillus. It was nothing but the bacillus emphysematosus of the Germans. It found its way into the body on greens, cabbage, etc., and one important point was to clean out the alimentary canal to get rid of it. Another important point was that it found its way into the wound from the finger-nails, hence the great importance of scrubbing the nails, etc.

Dr. J. Wesley Bovee had encountered three cases of gas-bacillus infection, all of them following removal of the appendages for pus. One of the patients died. Autopsy showed the gas bacillus in various portions through the viscera, and particularly in the liver and skin.

Prolapse of the Uterus.—Dr. Charles R. Robins of Richmond, Va., read a paper on this subject. He said the uterus was normally maintained in position by a combination of elements, and not by any one. These were integrity of the pelvic floor, making the pelvis a closed cavity, the uterus being of the same density as the other pelvic viscera, the position of anteversion, and the tonicity of the abdominal walls. A departure from any one of these might cause prolapse and, where several were concerned, it was most frequent. Successful treatment must meet all of the pathological conditions present. Proper preliminary treatment was of the utmost importance. The operative treatment recommended consisted of amputation of the cervix, operation for cystocele, perineorrhaphy, and an operation for maintaining anteversion. This treatment not only cured prolapse, but restored function. If relapse occurred, Edebohls' panhysterokolpectomy seemed to be the only operation for effecting a cure.

Diseases of the Ribs Following Typhoid Fever.—Dr. J. Shelton Horsley of El Paso, Tex., reported the case of a man, forty years of age, in whom disease of the left sixth and seventh costal cartilages, the anterior end of the sixth rib, and part of the sternum developed a few weeks after convalescence from typhoid. The abscess had been opened, and later the resulting sinus curetted before the patient came under his care. Then, two extensive resections, involving a portion of the sixth rib, the costal cartilage of the sixth and seventh ribs, and part of the sternum had to be performed before a complete cure was effected. He called attention to five peculiarities to differentiate post-typhoid disease of the ribs from similar affections of other bones: (1) The marrow of the ribs was a particularly favorite seat for the typhoid bacilli; (2) The superficial position of the ribs and their continuous movement made a *locus minoris resistentiæ* more liable to occur here; (3) Necrosis of the ribs very rarely occurred, which was not the case with other bones; (4) Post-typhoid disease of the ribs invariably occurred in adults; (5) Thorough operative treatment was more difficult in the case of the ribs than of most other bones. A table containing forty-eight cases gathered from the literature on the subject and personal communications was appended. An analysis of the table showed forty-eight cases in men and seven in women. This was accounted for partly by the men being more frequently subjects of typhoid, and also by the fact that, owing to the mammæ, the blood supply of the ribs was better in women, and consequently there was greater resistance to infection. The youngest case was a man, nineteen years of age; the oldest, sixty-nine years of age. Periostitis and osteomyelitis were the most frequent diseases. As to treatment, conservative measures were employed in selected cases. If these were unsuccessful, incision and curettage were advocated; and if, after a few weeks the wound had not healed, extensive resection, going well into apparently healthy bone, should be practised.

Gigli Saws.—Dr. Horsley also demonstrated a new holder for Gigli saws. It consisted of a steel arch, with a [illegible] at each end. By means of a set screw at one end, and a traction hook at the other, any desired tension could be obtained on the Gigli saw. When stretched taut it could be used as an ordinary saw or to cut convex surfaces, as in resection of the knee-joint. When used as a chain saw, one end was fastened with a set screw, and the other, after being passed under the bone, was hooked on the traction hook. By taking up or letting out slack with the screw any desired angle might be obtained.

Renal Calculi.—Dr. Mack Rogers of Birmingham, Ala., read a paper on this subject, confining himself to diagnosis and treatment, reporting two cases. He said the clinical history pain, tenderness, swelling and the condition of the urine were the chief guides in arriving at the diagnosis of renal calculi.

Endometritis.—Dr. H. J. Boldt of New York read a paper on this subject. He said it was principally to Ruge of Berlin that the profession owed its more exact knowledge of uterine pathology. He spoke of the glandular interstitial and mixed varieties of endometritis. These formed the basis of all variations or special forms of the disease. He had in a number of instances found the uterine cavity filled with polypoid nodules, in which the quantity removed aggregated from fifteen to twenty c.c. On microscopical examination the picture presented showed adenoma. Such conditions had been classed by some writers as a separate form, polypoid or fungous endometritis. While clinically such designation might be correct, he saw no reason for classing such change under another name than adenoma of the endometrium from the point of view of pathology. Acute interstitial endometritis was recognized by the diffuse invasion of small round cells into the stroma. Frequently pus corpuscles were also seen, and the vessels were found to be pressed apart and compressed by the invasion of the inflammatory corpuscles. Sometimes the round-cell infiltration was found more in the deeper stratum of the mucosa in patches, rather than in diffuse form. Later, when the disease passed into the chronic state, the glands became more or less obliterated, with atrophy of the endometrium. In another form of chronic interstitial endometritis, the stroma cells were enlarged and contained a centrally located nucleus, and resembled sarcoma cells to some extent. The mixed forms of endometritis showed that changes were present in both the glands and the interstitial connective tissue. Of the forms of tuberculous endometritis the ulcerative variety was usually met with. The acute miliary and the interstitial varieties were very seldom seen. Primary tuberculous endometritis was a rare disease. While the etiology of all specific forms of endometritis was well understood, those not depending upon microorganisms and ptomains, in many instances, had uncertain causative factors. The local treatment giving the promptest relief from bleeding in instances of chronic endometritis was undoubtedly to be found in the judicious use of the curette. He would caution, however, that although the operation was comparatively simple, it should not be resorted to indiscriminately, as was being done by many general practitioners; neither should it be done by one who was not trained in the technique of gynecological surgery, because frequently serious results followed its improper employment. Before the operation, it was imperative that a careful bimanual examination be made, to determine whether or not a tubal swelling was present. He had known tubal pregnancy and pyosalpinx to be ruptured as the result of the traumatism produced by the operation in a few instances he had desisted from curetting, and had opened the abdomen subsequently through the disclosures revealed by bimanual examination. If resorted to, the same precautions as to cleanliness should be employed as in a major operation. In his experience about 60 per cent. of the women were relieved from a typical bleeding for a variable period of time by curetting. After curetting it was his custom to make an application of pure carbolic acid to the interior of the uterus. In patients who had not obtained the desired relief by curetting, subsequent local treatment became necessary. The general condition of the patient in all instances required careful supervision. Good food, proper exercise, baths, douches, medicated or plain warm water, as the case may be, were all important adjuvants. After the endometritis had become chronic, it should be treated with intrauterine applications of one of the usual remedies. He preferred a 10-per-cent. solution of carbolic acid. Frequent intrauterine irrigations with large quantities of a mild antiseptic solution also gave good results.

The Use of the Electric-Cautery Clamp in the Treatment of Cancer of the Uterus.—Dr. Charles P. Noble of Philadelphia read a paper on this subject. He presented for consideration a new adaptation of an old principle in the treatment of cancer of the uterus. The electric-cautery clamp was a highly perfected and practicable instrument whereby it was entirely feasible to burn the attachments of the uterus and to leave not only a bloodless field, but one in which the lymphatics were sealed by a thorough cooking or roasting process. Hysterectomy performed by means of the electric-cautery clamp possessed all the advantages of any of the methods heretofore in use, and had in addition certain advantages peculiar to it alone. These especial advantages were: (1) More tissue outside of the uterus was removed or cooked than by the classical methods. (2) All the connections of the uterus were severed either through tissue which had been cooked in the bite of the cautery lamp, or these connections had been severed with the electric-cautery knife. In this way the lymphatic vessels were sealed either by the burning or the roasting process. Whatever the risk of implantation of cancer upon the field of operation might be, by this means it was greatly lessened or done away with. An exception to the above statement must be noted, in that the attachments of the bladder to the uterus were severed in the usual way. (3) Much less blood was lost than was usual with the classical technique, and a dry, bloodless field was left after operation. In referring to the history of the development of the electric-cautery clamp, Dr. Noble referred to the admirable work of Keith and Byrne.

It remained for Dr. A. J. Downes of Philadelphia to adopt the theories of his predecessors and to develop a thoroughly practicable electric-cautery clamp. Dr. Downes used the method wherever there were pedicles to deal with, having abandoned the ligature in favor of the cautery clamp. The technique of hysterectomy by the electric-cautery-clamp method was described in detail. The essayist had operated five times by this method. Dr. Downes had used the method in cancer of the uterus in two vaginal hysterectomies, two vaginoabdominal hysterectomies, and one abdominal hysterectomy upon his own patients; also in one vaginoabdominal hysterectomy operated on for Dr. Hirst, and two abdominal hysterectomies operated on for Dr. Kelly. In closing, the essayist said that some years must elapse before the actual value of the electric-cautery clamp in the treatment of cancer of the uterus could be determined, but in view of the results secured by Byrne and of the positive theoretical advantages it had over the ligature method, it was reasonable to expect that it would give a larger percentage of cures than the older methods, more especially in cancer of the cervix.

The following papers, whose authors were present, were read by title, owing to lack of time: "A Case of Ovarian Fibroma," by Dr. H. A. Royster of Raleigh, N. C.; "Fracture of the Spine, with Report of Three Cases," by Dr. Howard J. Williams of Macon, Ga.; "Spinal Analgesia," by D. E. D. Martin of New Orleans, La.; "The Treatment of Posterior Uterine Displacements," by Dr. Edward McGuire of Richmond, Va., and "Dependent Drainage in Acute and Extensive Intrapelvic and Intraperitoneal Infection in Men by Incising the Perineum Separating the Rectum from the Prostate and Bladder, and Puncture of the Rectovesical Pouch of the Peritoneum," by Dr. Hugh M. Taylor of Richmond, Va.

The council presented the following preamble and resolution, which were adopted:

"Whereas, Dr. W. E. B. Davis, during twelve years of faithful service as secretary of the association, declined to draw any salary for his services, expecting in time to establish some suitable memorial of this association with the fund created; therefore be it

"*Resolved*, That in consideration of this fact, two thousand dollars, a sum far less than the salary offered would have amounted to, be appropriated for the establishing of a memorial in Birmingham, Ala., the birthplace of the association; and that this memorial be placed in the Charity Hospital of that city as a ward to bear the name of the association."

The following officers were nominated and elected for the ensuing year: *President*, Dr. J. Wesley Bovee of Washington, D. C.; *First Vice-President*, Dr. Bacon Saunders of Fort Worth, Tex.; *Second Vice-President*, Dr. Christopher Tompkins of Richmond, Va.; *Secretary*, Dr. W. D. Haggard, Jr., of Nashville, Tenn.; *Treasurer*, Dr. Floyd W. McRae of Atlanta, Ga. Place of meeting, Birmingham, Ala.; time, the week preceding Christmas, 1903. Chairman of Committee of Arrangements, Dr. John D. S. Davis of Birmingham, Ala.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held November 10, 1902.

John B. Walker, M.D., Chairman.

Supernumerary Breast in the Axilla of an Adult Male.—Dr. Frederick Griffith presented photographs of a case of supernumerary breast in the axilla of an adult male. He was indebted to Dr. James F. Connelly of the Army Medical Corps, on duty in Africa, for the report of the case. The subject was a bushman, twenty-five years of age, who had six wives and a number of children. The breast referred to was a true supernumerary mammary gland having no connection with the regular breast. It was bounded in front by the outer border of the pectoralis major muscle, was freely movable, and had the typical doughy feel of the female breast. There was a well-developed nipple upon it. No fluid could be obtained from the breast. The speaker said that no similar case was reported in the literature.

Inguino-Superficial Hernia.—Dr. A. V. Moschcowitz presented this paper (to be published later).

Dr. A. A. Berg said that there had been admitted to the Mount Sinai Hospital this summer a boy of six years in whom both testicles and both cords descended through one ring into the scrotum, the other ring and the other side of the scrotum being absolutely empty.

Dr. John B. Walker said he had seen quite a large number of cases of properitoneal herniæ, and was of the opinion that the non-descent of the testis was the cause of the development of the properitoneal hernia. Apparently the fibers of the gubernaculum which run to the scrotum were not developed, and the canal was constricted below. When increase of abdominal pressure occurred the hernia came through the ring, and, being prevented from descending, followed the direction of least resistance, *i. e.* upward and superficially. Quite a number of such cases were seen among children. If the ordinary hernia truss were worn it was difficult to so adjust it as to hold back the hernia, and yet allow the testis to descend. If such cases were not operated upon in childhood, the testis would descend, but the hernia would generally become adherent to the cord, and hence with the descent of the testis came the hernia adherent to it. It was feasible, by careful dissection, to save the testicle and cure the hernia by a typical Bassini operation.

A Case of Gonorrhœal Peritonitis.—Dr. Charles R. L. Putnam presented a girl of six years. After being sick for several days she suddenly developed severe pain in the right lower quadrant of the abdomen. There was a vaginal discharge, proved to be gonorrhœal in nature by Gram's method of staining. A diagnosis of gonorrhœal peritonitis was made, and an immediate operation was decided upon. The appendix was considered the probable cause of the trouble, although the possibility of gonorrhœal peritonitis was considered. The appendix was removed, and although it contained about twenty pinworms, careful examination of its interior showed no ulceration. Pus was oozing from the right tube and ovary, and pus was scattered over the intestine. The ovary and tube were removed. The cavity was flushed out and drainage established. At the completion of the operation the patient was in collapse, but rallied promptly, and made an uneventful recovery. In a recent report in the *Johns Hopkins Bulletin* thirty-nine such cases were reported, and in one or two of these the patient was even younger than the girl just presented.

Typhoid Perforation in a Child of Six Years; Successful Operation.—Dr. C. A. Elsberg presented a girl of six years, who had been admitted to the children's service of Dr. Koplik at the Mount Sinai Hospital on July 26, 1902, with typhoid fever. The case ran a typical course. On August 13 the temperature suddenly rose above the usual range, and the child went into collapse. There was found to be a leucocytosis of 18,000. Seven or eight hours later she began to vomit, the abdomen became hard and the pulse rose to 190. A diagnosis was made of perforation, and shortly afterward Dr. Elsberg saw the case and operated. The pulse varied between 180 and 200 and the temperature was 105° F. A small perforation was found about eight inches from the ileocæcal junction, through which fecal matter was oozing. The perforation was closed, the abdominal cavity sponged out, and the cavity closed with drainage. The operation occupied eleven minutes. About eight days after the operation an acute vaginal discharge appeared, and bacteriological examination showed an almost pure culture of typhoid bacilli. This cleared up in a few days under ordinary douches, and after that recovery was uneventful. The speaker said he believed this was the youngest child on record having typhoid perforation.

Inguinal Interstitial Hernia in a Woman; Ovarian Cyst in Hernia.—Dr. Elsberg presented a woman of thirty-eight years who had been admitted to the service of Dr. Howard Lilienthal. For eight years she had had a large hernia on the left side. On admission there was a tumor larger than a child's head in the left inguinal region. The upper part of the tumor appeared to be cystic, while the lower portion evidently contained intestine. A tentative diagnosis of ovarian cyst in the hernia was made, although the result of vaginal examination was negative on this point. It was noticed that the hernia ran between the layers of the abdominal wall, and it was in this interstitial portion that the cystic mass was felt. She was operated upon on June 28. It was found that the upper or cystic portion extended from the level of Poupart's ligament about four inches and contained an ovarian cyst. The parts were very much relaxed, and a typical Bassini operation could not be done. The neck of the sac was only one inch in diameter.

Dr. A. Ernest Gallant, speaking of Dr. Putnam's case, said that it was chiefly of interest in connection with diagnosis. Last spring a woman had been brought to him with all of the symptoms of appendicitis. In addition, there was a vaginal discharge, a rapid pulse, and a temperature of 103° F. On operating, pus was found to be pouring out of both Fallopian tubes, and the tubes were removed. There was a mass of exudate on the right side, but no appendicitis.

Dr. John F. Erdmann said he had recently seen a woman of forty-six in partial collapse from what was supposed to be a perforation of the bowel in the sixth week of typhoid fever. On operating he had found a perforation of the gall-bladder without any evidence whatever of recent cholecystitis. There were two very small stones in the bladder, but they had apparently had no influence in causing ulceration.

Dr. A. A. Berg referred to a case of typhoid perforation occurring last summer in a woman in about the third week of typhoid fever. There had been no high leucocyte count at any time. The abdomen was opened and the intestine found to be only injected. The free peritoneal cavity contained gas and a considerable quantity of purulent fluid. The perforation was small, and the edges of the opening were gangrenous. The peritoneum was cleaned and the peritoneal cavity closed without drainage. The skin wound was also closed, the idea being that this would allow of the continuance of tub baths. The patient did well for three days, but on the fourth day she unexpectedly went into collapse and died six or eight hours afterward. The post-mortem examination showed the peritoneal cavity clean, but the abdominal wound was the seat of very extensive gaseous infection, and this had raised the question as to the wisdom of closing the abdominal wound in the manner described. In the future he would be disposed not to close the abdominal wound in this way.

Dr. Joseph Wiener, Jr., said that the more he saw of typhoid perforation the less he felt he knew about this subject. Reference was made to a case in which consent to operate could not be gained for about thirty-six hours. At the operation there was diffuse peritonitis and thick layers of fibrin, one of which had to be stripped off before a large perforation could be found.

There were several large ulcers in the ileum almost on the point of rupture. The man did well for several days, and then died with symptoms which suggested that death had been caused by a rupture of another ulcer. He was disposed to think that this patient would have done just as well, if not better, by refraining from operating. In another recent case, occurring in a child of twelve, in Dr. Koplik's service, the classical signs and symptoms of typhoid perforation were present, including a sudden rise in the leucocyte count from 7,000 to 11,600. Operation was urged, but was refused. The child now had a perfectly normal temperature, and was apparently well. All of those who had seen this child had insisted upon the correctness of the diagnosis of typhoid perforation.

Dr. Moschcowitz said he had operated upon two cases of typhoid perforation last summer, one of them occurring about the twelfth day. The patient had been walking around up to the day before admission to the hospital. In the other case perforation occurred on the sixty-eighth day. Both cases terminated fatally.

Dr. Elsberg said that there was little doubt that the leucocytosis increased at the time of the perforation, but it often diminished again within a very few hours, and hence if the leucocyte count were not made at this particular time the surgeon would probably be misled. For this reason the leucocyte count was not reliable, although useful as confirmatory evidence. He saw no reason why typhoid perforation should be treated differently from other kindred abdominal accidents. The iodine reaction he had found absolutely useless because it was present when there was the slightest suppuration present, even a small boil.

Stomach Tube Removed from Stomach.—Dr. A. A. Berg presented a stomach tube that had been removed by operation from the stomach of an infant. A child of two years and a half had been taken to a physician's office suffering from gastritis, and had been subjected to stomach washing. While this was being done a sudden movement of the child's head separated the tube from the glass connection with the funnel, and the tube slipped down into the child's stomach. The tube, which was nineteen inches long, was easily located by palpitation in the stomach. It was lying near the cardiac end doubled upon itself. The stomach was opened and the tube removed, and the child made a rapid recovery.

Bullet Wound of the Frontal Lobe.—Dr. Berg also presented a bullet and a piece of bone removed from the frontal lobe of the brain. The patient had attempted to commit suicide on the steps of the Mount Sinai Hospital. There was a wound of entrance about two and a half inches above the eye, and as the house surgeon found a wound of exit in the temporal region he inferred that the bullet track was superficial, and accordingly merely kept the patient under observation. The next day, when Dr. Berg saw the man, he found a depressed fracture of the frontal bone, and on operating, found the dura mater torn. The patient made a good recovery.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held November 13, 1902.

Rowland G. Freeman, M.D., Chairman.

Report of a Case of Meningitis Treated by Lumbar Puncture.—Dr. S. Ormond Goldan reported this case. The puncture was not done primarily for the purpose of establishing the diagnosis, but as a means of cure. The patient was a child of eleven months, whom he had been called to see because of a persistent vomiting followed by an apathetic condition and convulsions. A purgative and warm bath had no effect, and the vomiting and convulsions continued. Later there was a complete paralysis of the right side of the body with left ptosis, and the child became practically comatose. The temperature rose steadily, reaching 105° F. After the fifth day the convulsions ceased. A swelling appeared at the fontanelle on the second day, and increased up to the fifth, at which time the lumbar puncture was made between the third and fourth lumbar vertebræ and 14 c.c. of fluid were removed. The child's condition began to improve at once, and at the end of two weeks the little one was apparently well. The puncture caused a reduction of the fluid tension, and so favored absorption, just as removal of a little fluid in a case of pleurisy with effusion often leads to the complete absorption of the remainder of the fluid. The speaker said the procedure was simple, almost free from risk, and not only aided in establishing the diagnosis but was a therapeutic measure of distinct value.

Report of a Case of Achondroplasia.—Dr. Charles Herrman presented this case. The patient was a boy who had been born after an easy and normal labor, and had been wet-nursed most of the time for the first ten months. At the end of this time the child was in very poor condition. He did not begin to sit up until the age of five years; he began to stand at six years and to walk at seven years. The first tooth appeared at the age of nine months. The boy was now fifteen years old, but his weight was that of a boy of nine. His height corresponded to that of a boy of seven years, while the head was almost as large as it should be for one of his age. The trunk corresponded to the age of thirteen years, yet the lower extremities were those of a boy of four years and a half. Several radiographs of the boy were exhibited. One of them showed that the head of the humerus was not well fitted into the glenoid cavity, because the latter was poorly developed. The short bones of the forearm were well shown, as also the unusual prominence of the bony points of attachment of the muscles. Inspection of the hands showed that the fingers were nearly all of the same length, and the ends of the phalanges diverged. The femur, instead of being slightly longer than the tibia, was slightly shorter. The marked curvature in the leg was partly due to a curve of the tibia, and partly to a faulty articulation at the knee. The speaker said that the chief pathological process was situated between the bone and the epiphysis. The cartilage cells, instead of being arranged in columns, were placed irregularly in groups. The term fetal rickets had been applied to several different conditions resembling one another, *i. e.* fetal myxœdema and fetal chondrodystrophy or achondroplasia. The great difference between the normal trunk and the length of the extremities was an important diagnostic sign, and, of course, made the diagnosis much easier in a child of this age than in infancy. Many of these children die in early infancy, but if they survive this period they are apt to be very strong and healthy. In many cases the intelligence was nearly normal, but in the boy just presented it was below the normal. As a rule, these cases had shown no improvement under thyroid treatment. This boy had not been under thyroid treatment long enough to allow of saying whether or not the treatment would prove of value, but he doubted if it would prove efficacious.

Adherent Pericardium.—Dr. George M. Swift read this paper. He said that the condition was not very uncommon, there having been eighteen cases seen in St. Mary's Hospital for Children since 1886. The children in that hospital ranged in age from two to fourteen years, and about 350 medical cases are admitted each year. Two specimens illustrating this condition were presented. All of the hospital cases had died, and in most of them a post-mortem examination had been made. On incising the adherent pericardium it was found that the pericardium and the muscle were glued together. During life the administration of cardiac stimulants was apt in these cases to have a bad effect. In many of them no valvular lesions were present, but the presence of murmurs was explained by the way in which the heart was held open by firm union to the chest wall. Enlargement of the liver was often the first sign of adherent pericardium. The larger number of cases originated in rheumatism, though some were the result of the pneumococcus acting upon the pericardium in the course of a pleuropneumonia. Tuberculosis of the pericardium apparently occurred in older subjects. In cases of adherent pericardium there was usually a turbulent action of the heart. On inspection of the chest anteriorly the cardiac impulse would sometimes be found diffused, owing to the adhesion of the pericardium; in other cases there was a drawing in of the intercostal spaces during systole. The liver became enlarged by congestion, sometimes to such an extent as to reach below the umbilicus, and the diminution in the size of this organ was frequently one of the first signs of improvement in the condion of the heart. In the hospital death occurred on an average in about five years after making the diagnosis of adherent pericardium. The prognosis should be fairly good if the patient could have an abundance of nitrogenous food, in order to supply the unusual demands of the system, especially in growing children. The prognosis should be good also if the progress of the rheumatism could be checked.

Dr. Rowland G. Freeman said that the diagnosis of adherent pericardium in children was very rarely made. When pathologist at St. Mary's Hospital for Children he had been impressed with the fact that when Dr. Swift made a diagnosis of adherent pericardium this condition would be found at autopsy; hence, his statements should be given great weight.

Dr. Jacob Sobel said that the so-called paradoxical pulse was considered by the Germans as pathognomonic of this condition, and he would like to know if Dr. Swift's experience supported this view.

Dr. E. Libman said he thought it had been conclusively shown that the paradoxical pulse was not pathognomonic of adherent pericardium. It indicated some interference in the mediastinum, possibly from tumors, as well as from adherent pericardium. It had also been found in cases of open ductus arteriosus.

Dr. Swift said he had endeavored in his paper to refer only to those signs and symptoms which had aided him in making the diagnosis. The paradoxical pulse had not been one of the signs which had proved helpful to him. The first case of adherent pericardium he had seen was in 1886, and occurred in the person of a child of seven years. She had ascites and was tapped. The jaundice, cachexia, and the very great enlargement of the liver led him to suspect malignant disease in the abdomen, yet on autopsy he found simply an enlarged and congested liver with adherent pericardium as the main condition. The number of cases he had seen since then made him feel that the condition was more common than one would infer from the literature. This meant also that acute pericarditis could not be very rare in children. In the girl who had died recently in the hospital, and whom he had expected to present this evening, improvement in the circulatory conditions was associated with diminution in the size of the liver, while increased embarrassment of the circulation was accompanied by a corresponding increase of the liver, so that sometimes this organ reached to the level of the umbilicus. The essential points in the treatment were to carry out a persistent treatment against the rheumatism and to give such children an abundance of nitrogenous food.

Peliosis Rheumatica in Children, with a Brief Review of the Literature.—Dr. Henry Heiman was the author of this paper. He said that the following classification was convenient: (1) Purpura simplex, characterized by hemorrhages into the skin but not into the viscera, and occurring *sui generis;* (2) Purpura hemorrhagica, marked by severe hemorrhages, including hemorrhages from the mucous membranes; (3) Purpura fulminana, and (4) Peliosis rheumatica. Purpura or peliosis rheumatica was characterized by purpuric eruptions in connection with multiple arthritis. Its onset was usually marked with sore throat, mild febrile disturbance and arthritis, particularly of the ankles and knees. The urinary changes were those of acute congestion of the kidneys. Tender nodular infiltrations were sometimes seen beneath the skin. Though relapses often occurred, especially in children, the disease ran a self-limited course, and the prognosis was good. The rash was more extensive than in adults, and more joints were apt to be involved. Recurrences were more common and tender nodes were more often seen. In 1801 the disease had been first described under the name of purpura urticans. Fuchs gave the duration as ten days to two weeks, and said the prognosis was favorable. He laid special stress upon the occurrence of desquamation.

Dr. Heiman then reported the following case, seen in the service of Dr. Koplik. It was interesting because of the multiplicity of the arthritis and the presence of purpuric spots in the mouth and on other parts of the body other than the inflamed joints. The patient was a boy of eight years. On admission there was an eruption on the left buccal mucous membrane, on the hard and soft palate and on both pillars of the fauces. There was a diffuse rash on the neck, in the groins, and on the scrotum and feet. The abdomen was acutely sensitive to pressure. Nodular infiltrations were present on the arm and forearm. The heart, lungs, and spleen were normal. The hæmoglobin percentage was 65, but there was no leucocytosis. The urine was normal, except for a trace of albumin. The bowels moved freely and the stools contained mucus and blood. During the first week in the hospital the symptoms gradually abated and the mucus and blood disappeared from the stools. In the second week spots appeared above the elbows and a systolic murmur developed. It was audible over the lower part of the precordium, was loudest at the apex, and was not transmitted to the left. This murmur disappeared in the third week and most of the symptoms did the same. There were several oscillations of the symptoms and signs, but the boy eventually recovered completely in the course of about three months.

Dr. Jacob Sobel said that most cases of this kind that he had seen had occurred at the time of the year when rheumatism was most prevalent and in many instances there had also been present erythema nodosum. Such cases had responded very promptly to the salicylates. The form known as Henoch's purpura was usually characterized by severe abdominal pain and bloody discharges in addition to the purpura.

Dr. Sara Welt-Kakels said that a few weeks ago she had seen a case of peliosis rheumatica. The patient, a child of four years, had been first brought to the Mount Sinai Hospital Dispensary last July, complaining of pains about the joints of the lower extremities. This was associated with some hemorrhagic spots. The examinations of the heart, blood, and urine were all negative. The child was kept under observation for four weeks, and during this time the rectal temperature varied between 100° to 103° F. A few days later a murmur was heard for the first time at the apex, and this murmur was still present. The spots and the articular pain disappeared shortly after this, but all of the signs and symptoms recurred subsequently. There was at present mitral insufficiency. She would call attention to the fact that Henoch said that he had seen peliosis rheumatica associated with endocarditis.

Dr. C. Herrman said that about two years ago he had presented to the Harlem Medical Association a typical case of Henoch's purpura. The peculiar epigastric pain seen in such cases resembled very closely the crises of tabes, and it was certainly very remarkable that the patient usually recovered from them so quickly. There were some points of resemblance to angioneurotic œdema. It was not impossible that the hemorrhages and the pains were due to vasomotor neurosis of central origin.

Dr. George M. Swift reported the case of a girl of eleven years who had been admitted to hospital from another institution where she had been upon quite a varied diet, including oranges. The first symptoms were those of a cold, followed on the third day by pain in the leg and foot. On admission there were purpuric spots on the trunk and face, associated with much swelling. On the hard palate there was an ecchymotic swollen spot and the uvula and right tonsil were the seat of a submucous hemorrhage. The child's appearance indicated good general health. The temperature was 101.25° F. The urine was normal. Two days later the swelling was less, but the ecchymotic spots had increased considerably. The next day the conjunctiva was ecchymotic and the ears were discolored and swollen, as were also the wrists and hands. The gums were swollen and the stools were tarry. After about eight days the patches on the skin were red and elevated, and had begun to itch. After a week or more the salicylates were stopped, because of the persistence of delirium, and the chloride of calcium was substituted in doses of three grains every three hours. Nearly three weeks later she was able to be up and around.

Dr. La Fetra referred to the swelling of the lower eyelids, a symptom which he said was not common, and sometimes suggested nephritis. He had such a case under observation at the present time. There were tender spots all over the trunk. The only things pointing to rheumatism were sore throat and a temperature of 100° to 101° F.

Dr. Libman said that he had made bacteriological cultures in four or five of these cases with negative results. They gave him the impression of a toxæmia rather than an infection. Sometimes these patients would recover entirely while in bed, and on getting up would have a recurrence of the eruption in the lower extremities, and yet one could hardly explain this on the theory that it was the result of an infection.

Dr. B. Lapowski said that some of the French authors insisted that it was not an infectious, but a toxic disease. The case reported by Dr. Swift showed very clearly that peliosis is not a single disease, but can be combined with a number of others—as, for example, erythema nodosum. In cases occurring in children one should be careful to exclude gonorrhœa—indeed, one should not present a case as an example of peliosis rheumatica without excluding gonorrhœa, whether the patient was a child or an adult.

Dr. Heiman closed the discussion. He said that in the cases giving a papular eruption he had sometimes observed desquamation. The epigastric pain was perhaps best explained as due to a myositis. He thought Dr. Swift's case was an example of a rather unusual form of peliosis rheumatica. The antirheumatic treatment proved as useful as any other, and this pointed rather strongly to the rheumatic nature of this affection.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held November 20, 1902.

Robert F. Weir, M.D., President.

The Harder Variety of Hodgkin's Disease, and a Report of a Rare and Perhaps Undescribed Affection of the Lymph Glands.—Dr William S. Halsted of Baltimore read a paper with this title. It was based largely on eleven cases observed and treated in his service at the Johns Hopkins Hospital, most of them within the past three years. Thanks to the labors of the pupils of Dr. Welch, and especially Dr. Dorothy Reed, they were now in possession of the means of making a positive diagnosis by microscopical examination, and this uniformity of results from the laboratory would, no doubt, lead, in the near future, to better clinical diagnosis in such cases. The distinction by Virchow of the soft and hard varieties was a useful one clinically. The speaker said his experience made him feel sure that many cases of Hodgkin's disease were overlooked. The soft forms were only a step removed from sarcoma, and the hard forms closely resembled fibrosarcoma. Diwtrich, in 1896, had pointed out that the enlargement usually began in one gland and gradually extended to the surrounding groups of glands; rarely, at the outset, did it become generalized, and the glands enlarged without breaking the capsule. The diagnosis of malignant lymphoma could only be made by microscopical examination of an excised portion. From the reported cases, as well as a study of one of his own, he had come to believe that death follows very quickly upon secondary infection of Hodgkin's disease with tuberculosis. That the clinical diagnosis was not always simple was indicated by the number of names under which the disease was known.

Symptomatology.—The chief symptoms were enlargement of the lymph glands, and usually of the spleen, together with progressive anæmia. In one of his cases, both pectoral muscles were the seat of deposit. The tonsils and the follicles at the base of the tongue were not infrequently involved In about one-third of the cases the liver was involved, and sometimes enlarged by the formation of lymphatic nodules. The mammary glands, the lachrymal glands, the glands of the conjunctiva, and the meibomian follicles might also be the seat of the disease. The disease usually began in the cervical glands, sometimes in the lower part of the posterior cervical triangle. The lungs were almost never affected by malignant lymphoma. The examination of the blood showed nothing more than an anæmia. Fever had been described in Hodgkin's disease by most of those who had written on the subject. In every one of his own cases it had been present. Sometimes fever periods of two weeks alternated with like apyrexial periods. The enlarged glands were not always so freely movable as one would suppose from the descriptions usually given. As a rule, these cases resembled tuberculosis very closely. If the cervical glands on one side only were enlarged, it would usually be impossible to make a diagnosis from inspection alone. Apparently, there were cases of lymphatic tuberculosis which presented a picture identical with that of Hodgkin's disease, or at least so much like it that the two could not be differentiated even at the autopsy table. The glands should, of course, be removed unbroken, and in one piece if possible. The glands were often as large as a Madeira nut, but were rarely as large as a lemon; they often varied considerably in the same individual. The septa were, in places, very thick. The bloodlessness of the glands was very characteristic. There was usually also a suggestion of translucency. Hemorrhages might occur, though uncommon in the hard variety. One of the eleven cases at the Johns Hopkins Hospital was treated on the medical side; the other ten on the surgical division. Eight of these had been admitted since 1899; four this year. Ten of the patients were whites and one a negro. Eight were males and three females. Only one of the eleven cases developed tuberculosis. Of the eight operative cases, one could not be traced; all of the others were now living and apparently in good health. Tuberculin was given in all but one case. Dr. Halsted said he had been impressed with the soundness of the work done in the laboratory by Dr. Dorothy Reed, for the accuracy of her diagnoses had never been impeached, though put to many severe tests.

Treatment.—A search through the literature showed that 104 cases of Hodgkin's disease had been reported as cured, yet there was no evidence that a cure had been effected in a single one of them. That some of them had lived four years under treatment with arsenic proved nothing, for some of their cases had lived seven years with practically no treatment. Operation, together with the use of the *x*-ray and arsenic, might possibly effect a cure. The large number of cures following operations upon tuberculous glands gave no hope in Hodgkin's disease.

A Possibly New Affection of the Lymph Glands.—Dr. Halsted then reported a very remarkable case, which they had had under observation for a number of months, but had been unable to throw much light upon its nature. The patient was a German, thirty-three years of age, admitted on February 3, 1902, and discharged in August. The family history was negative. He had had no severe illness until about eight years previously, when the present trouble began with a swelling high up in the right axilla. Even at the outset it was very painful and tender, and was believed to be connected with the lymph glands. The growth was removed at the clinic of Mikulicz, and the pain, although temporarily relieved, returned in eight weeks and had persisted ever since. In the last few months before admission the pain had become much worse. For two years or more there had been swelling above the right collar bone. When this swelling softened the pain and tenderness diminished. The man was somewhat emaciated, and his face wore an anxious expression. The head was held somewhat rigidly. In the supra- and intraclavicular fossa, and over the clavicle, the skin was reddened and thin, and there was a second soft spot a little more external to the other swelling over the clavicle. The pectoral muscle appeared to be infiltrated with the products of inflammation. In the axilla was a mass which appeared to be similar to that above the collar bone. From the time of admission to that of the first operation, six weeks later, there was an intermittent fever, the evening temperature averaging 101° F. Tuberculin was injected three times without affecting the temperature. Professor Mikulicz sent an abstract of this history, and stated that the nature of the trouble had not been clear to him. The first operation, done in Baltimore, was on March 13, 1902. The clavicle, the supra- and infraclavicular regions were exposed, and the clavicle found to be almost entirely destroyed in its external half, and a pathological fracture was present in the other portion. The axilla was nearly filled with material resembling a myxoma. There was no trace of lymphatic glands here. The axillary vein was thrombosed, and there was much connective tissue about the veins of the brachial plexus. Portions of tissue were removed and immediately inoculated into the femoral vein of a dog and into a cavity made in one femur. The pain of which the patient had complained persisted, but was not so intense as before operation. On May 9 a supplementary operation was done, and, to their surprise, it was found that the clavicle had become much larger than its fellow, and the medullar cavity was small. Apparently the disease had not advanced since the first operation On September 15, 1902, the patient returned to the hospital for inspection, and it was found that there was no pain in the wound or evidence of extension of the disease. Dr. Halsted said that he felt sure that this case was an example of a peculiar inflammatory affection of the lymphatic glands. It was hardly conceivable that a new growth, associated with such a large amount of inflammation, should have made so little progress in the course of so many years Although the microscopical appearance of the tissue closely resembled that of tissue from a case of Hodgkin's disease, the naked-eye appearances were totally different. The result of the inoculations was negative and actinomycosis and lues were easily excluded. There were some reasons for believing that the lymph glands were either primarily or secondarily the seat of disease.

Dr. **Joseph Sailer** said that, in the original paper by Hodgkin, at least two, and perhaps three, conditions were confused, and this might afford us some consolation when reflecting upon the present difficulties of diagnosis. About four years ago, in conjunction with Dr. J. Chalmers Dacosta, he had undertaken a study of the pathology of the lymph glands, and this study had impressed him with the great obstacles that must be surmounted. It was difficult to say whether the lymphoid cells or the connective tissue were increased or not. As for the presence or absence of some of the peculiar forms of cells, such as the mast cells, the eosinophiles and the myelocites, very little was known with regard to these cells or their significance. The study of the glands was most important, and he did not mean to decry it, but at present our technique made such a study beset with difficulties. He had often thought that a careful consideration of the physiology of the lymph glands might aid us. It was not unreasonable to suppose that they were capable of secreting certain substances, particularly agglutinins and lysins. Speaking of the relation of pseudoleukæmia to tuberculosis, Dr. Sailer said that he had observed four cases closely resembling pseudoleukæmia. In all four, at autopsy, they had found tuberculous lesions in addition to the changes in the lymph glands. The most careful work in this field had been by Sternberg. There were two reasons for being very cautious about supposing that the tubercle bacilli found in the glands bear a relation to pseudoleukæmia, viz., (1) Tubercle bacilli had been found in other forms of tumor, such as carcinoma and sarcoma, and (2) the lymph glands are particularly susceptible to infection by the tubercle bacillus. Of all the infectious causes demonstrated to exist in leukæmia, he thought only one was worthy of passing attention. The tubercle bacillus had been found a number of times, and Pinkus had stated that the increasing frequency with which it was found led him to believe that it was not impossible that, in the future, all cases would be recognized as of tuberculous origin. Of the four cases of pseudoleukæmia that he had reported, cultures were made in one case, and in this one Dr. Ravenel found a bacillus resembling the tubercle bacillus. In one of the cases tuberculin was injected in adequate dose, but without producing any reaction, though the tuberculin used was of proved efficacy. If it were believed that all forms of pseudoleukæmia were due to a common etiological factor, it should be said that there was not enough evidence to warrant the statement that this was the cause, though the evidence pointed very strongly that way. However, he was of the opinion that there were various conditions characterized by enlargement of the lymph glands, due to various etiological factors, and that some of these conditions would be successfully shown in the future to be due to infections with the tubercle bacillus.

Dr. **H. M. Biggs** said that, during the last two years, he had had five cases of Hodgkin's disease under observation, but in none was it possible to obtain an autopsy. One case was strongly suggestive of tuberculosis. Very large doses of Fowler's solution were given. The fever continued for about three weeks, but gradually fell to the normal, and the swellings markedly decreased. After an interval of two or three weeks there was a second period of fever, very much like the first one. The large doses of arsenic were continued, and the fever went away, as in the first instance. The man improved rapidly, and was discharged from the hospital after three months, at which time he was suffering from well-defined pulmonary tuberculosis. This was the only case he had seen in which the decrease in the size of the glands, which was not an uncommon occurrence with the use of Fowler's solution, was not followed by a speedy recurrence. Another case exhibited changes in the blood shortly before death, which strongly suggested lymphatic leukæmia. The speaker said that he fully believed that Hodgkin's disease was an infection, most probably tuberculous, and that several types had been included under this one name

Dr. **Arpad G. Gerster** said that to-day, when medicine had become a positive science, cancer and pseudoleukæmia remained behind to teach us humility. He would not attempt to go into the pathology of the disease, but he firmly believed that it was of the nature of an infection. It was known that some cases run a rapidly fatal course whether treated or not, and that others run a very mild course. This explained the contradictions in the estimates of the various methods of treatment. He had been especially interested in the statement of Dr. Halsted regarding Dr. Reed's ability to distinguish Hodgkin's disease, even in the early stages, by the microscopical picture. This was more than any pathologist had hitherto claimed. The description of the rare and interesting case given in the paper reminded him of a series of cases reported by French observers under the title of "woody phlegmons." In them the lymphatic element was very prominent, especially the presence of the peculiar gelatinous substance mentioned by Dr. Halsted.

Dr. **B. Farquhar Curtis** said he was glad to hear that Dr. Halsted had been able to get some good results in operations on cases of Hodgkin's disease. When the diagnosis was certain, he, personally, did not feel like operating; when the diagnosis was uncertain, he sometimes extirpated large masses of glands, and then the pathologist was usually unable to make the diagnosis. Some of the cases diagnosticated as Hodgkin's disease certainly ran a rather benign course. He had been interested in the statements made by the reader of the paper regarding the adhesions of the glands to one another, because he had always supposed that these glands in Hodgkin's disease were easily separable.

Dr. **James Ewing** said it had been shown unquestionably that a very large proportion of the cases diagnosed clinically and regarded pathologically as Hodgkin's disease must be regarded now as tuberculosis of the lymph nodes. It had been long ago settled that there was nothing in the observed pathological changes in connection with Hodgkin's disease which could not be produced by tuberculosis. He did not believe that even ordinary inoculation experiments would be sufficient to exclude tuberculosis of the lymph nodes, nor did he think there was any good ground for believing that there existed cases of Hodgkin's disease upon which tuberculosis was engrafted. It was certain that other forms of infection than tuberculosis could lead to the same clinical history. This was well known to be the case with syphilis. However, the chief interest in the study of Hodgkin's disease seemed to determine whether there was any group of cases in which the lesions in the lymph nodes constituted a tumor process. The majority of surgeons and pathologists had excluded from Hodgkin's disease lymph sarcoma and certain of the inflammatory processes, notably tuberculosis, was about to be excluded. Whether or not there was such a tumor process was very difficult to determine. He believed this disease was on the border line between an inflammatory process and a tumor process.

Dr. Halsted said that, although tuberculosis was discovered in only one of their cases, it was not improbable that there was a larger number. He believed that tuberculosis was engrafted upon Hodgkin's disease. While they had great confidence in the microscopical diagnosis, they had not depended upon this altogether, and Dr. Reed's opinion had been reinforced by Drs. Welch, McCallum, and others. If Hodgkin's disease was an example of tuberculous infection, it was very different from other tuberculous infections of the glands, because Hodgkin's disease terminated fatally, while a considerable proportion of cases of tuberculosis of the glands of the neck were known to recover. Again, they had considerable faith in tuberculin, as it had never failed in their hands to give the characteristic reaction where the microscope showed tuberculosis. They always used the tuberculin obtained from Trudeau, and its administration was entrusted to one person, because it had been found that when an inexperienced observer undertook this work all sorts of errors crept in.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 22, 1902:

	Cases.	Deaths.
Measles	95	4
Diphtheria and croup	369	37
Scarlet fever	113	9
Smallpox	1	..
Varicella	65	..
Tuberculosis	258	149
Typhoid fever	115	28
Cerebrospinal meningitis	..	4

Does the Active Principle of Hæmolytic Sera Originate from the Mononuclear Leucocytes?—Paul Domeny, after a series of experimental studies, does not agree with Metchnikoff's view that the active principle of hæmolytic sera originates from the mononuclear leucocytes. In five out of six cases no hæmolytic power was possessed by washed leucocytes taken from the pleural exudate of specifically immunized animals. A comparison of the hæmolytic power of the blood plasma and serum shows that the action of the former, is as great as the latter and demonstrates that the active principle is present in the plasma previous to coagulation. In testing the hæmolytic action of the spleen extract of specifically immunized animals, it was found that such was present in an appreciable amount in only one out of thirteen cases.—*Wiener klinische Wochenschrift.*

The Prognosis of Suture of Nerves.—(1) The prognosis of nerve suture is very good; in physically strong persons and with regard to all precautions a good result is attainable from both primary and secondary suture, and in half of all cases the patient obtains a restoration of all function of the affected parts. (2) The result does not immediately appear, but requires a relatively long time for its complete development. The duration of the reparative process depends upon the two following factors: (*a*) the site of the injury and (*b*) the constitution of the patient. (3) A successful result does not follow in wide-spread injuries of the nerves, generally in irregular process of healing of the wound and in debilitated individuals, as well as in cases of cicatricial tissue at the site of the suture or around the sutured nerve.—P. Speiser in *Fortschritte der Medicin.*

Carnegie's Gift to the Nation.—*Science* has opened its pages to a discussion of the best manner of spending Mr. Carnegie's gift in the interests of scientific research. Among other suggestions made is the following, by Prof. E. B. Titchener of Cornell University: "In summary, then," the professor says, "I should advocate (1) increased facilities of scientific publication, and (2) scientific endowments of three kinds. These are: (1) The establishment of a few valuable fellowships; (2) The granting of a living wage for one year to men of promise; and (3) The unhampered gift of sums of money to men of scientific eminence—passed upon, perhaps, by a committee of their peers—on their personal guarantee to do with the gift what lies in their power to do for the advancement of science."

Bleeding at Stool in young children in the absence of symptoms of dysentery, is almost always caused by the presence of a polypus; rectal examination clears up the diagnosis.—*International Journal of Surgery.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 22, 1902:

SMALLPOX—UNITED STATES.

		CASES	DEATHS
California, San Francisco	Nov. 2–9	2	
Stockton	Oct. 1–31	3	..
Stockton	Nov. 1–13	1	..
Colorado, Denver	Nov. 1–8	7	..
Indiana, Indianapolis	Nov. 8–15	2	..
Kansas, Wichita	Nov. 8–15	1	..
Louisiana, New Orleans	Nov. 8–15	1	..
Maine, Biddeford	Nov. 8–15	3	..
Portland	Nov. 8–15	1	..
Massachusetts, Boston	Nov. 8–15	20	2
Cambridge	Nov. 8–15	1	1
Marlboro	Nov. 1–15	7	..
Taunton	Nov. 8–15	1	..
Weymouth	Nov. 8–15	1	..
Worcester	Nov. 7–14	1	..
Michigan, Detroit	Nov. 8–15	31	..
Grand Rapids	Nov. 8–15	6	..
New Hampshire, Manchester	Nov. 8–15	2	..
Nashua	Nov. 8–15	16	..
New Jersey, Camden	Nov. 8–15	3	..
Newark	Nov. 8–15	1	..
New York, New York	Nov. 8–15	2	..
Ohio, Cincinnati	Nov. 7–14	3	..
Cleveland	Nov. 8–15	21	4
Dayton	Nov. 8–15	3	..
Youngstown	Nov. 1– 8	1	..
Pennsylvania, Altoona	Nov. 10–17	3	..
Erie	Nov. 8–15	4	..
Johnstown	Nov. 8–15	5	..
McKeesport	Nov. 8–15	4	..
Philadelphia	Nov. 8–15	3	..
Pittsburg	Nov. 8–15	25	7
Utah, Salt Lake City	Nov. 8–15	1	..
Wisconsin, Milwaukee	Nov. 8–15	10	..

SMALLPOX—FOREIGN.

		CASES	DEATHS
Barbados	Oct 13–25	146	..
Austria, Prague	Oct. 25–Nov. 1	14	..
France, La Rochelle	Oct. 19–26	..	1
Rheims	Oct. 19–Nov. 2	1	1
Roubaix	Oct. 1–31	..	1
Great Britain, Leeds	Oct. 25–Nov. 8	3	..
Liverpool	Oct. 25–Nov. 1	3	..
Manchester	Oct. 25–Nov. 1	1	..
India, Bombay	Oct. 7–21	6	..
Calcutta	Sept. 27–Oct. 18	1	..
Madras	Oct. 4–10	..	1
Italy, Milan	Sept. 1–30	1	..
Palermo	Oct. 18–Nov. 1	2	..
Russia, Moscow	Oct. 18–25	..	1
Straits Settlements, Singapore	Sept. 20–27	..	6
Turkey, Constantinople	Oct. 19–Nov. 2	2	..

YELLOW FEVER.

		CASES	DEATHS
Colombia, Panama	Nov. 3–10	4	..
Mexico, Coatzacoalcos	Nov. 1–8	2	1
Tampico	Nov. 1–8	..	7
Vera Cruz	Nov. 1–8	10	6

CHOLERA—INSULAR.

		CASES	DEATHS
Philippine Islands, Manila	Sept. 21–27	43	36
Provinces	Sept. 21–27	5 583	3,560

CHOLERA—FOREIGN.

		CASES	DEATHS
China, New Chwang	Sept. 13–20	25	25
India, Bombay	Oct. 7–21	..	2
Calcutta	Sept. 27–Oct. 18	..	47
Japan, Kobe	Oct. 11–18	24	12
Nagasaki	Oct. 11–20	61	41
Java, Batavia	Sept. 27–Oct. 4	42	38
Straits Settlements, Singapore	Sept. 21–27	..	22

PLAGUE—FOREIGN.

		CASES	DEATHS
China, Hongkong	Oct. 4–11	1	1
India, Bombay	Oct. 7–21	..	142
Calcutta	Sept. 27–Oct. 18	..	25
Karachi	Oct. 12–19	13	9

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Original Articles.

OPERATIONS UPON THE UTERINE APPENDAGES FOR STERILITY.

By W. M. POLK, M.D.,
NEW YORK.

The restoration of function is always interesting, but when the function lacking is not only one that concerns the health of the individual, but surely and keenly touches happiness, and even domestic peace, its restoration has a claim upon our attention which warrants a wider attention than prevails toward the one I have in mind. The arts and sciences have solved the problem of feeding, warming, and clothing population. No matter how dense it may become normally, the doctrine of Malthus may therefore, be eliminated, and we may assert that, though individual convenience may conspire to produce sterility in women, no real necessity exists for it, provided it is not compelled by physical defects inherent to the individual, and assuming that prevailing social customs are not violated in testing it.

Any part of the female genital tract may be responsible for this condition, and enumeration of the conditions would include abnormalities as extended as the pathology of the several organs comprising it. Therefore, for brevity, we would only remind you that it is mainly due to obstructions in the channels of communication, extending from the ostium vaginæ to the ovary. Keeping to the appendages, we find that sterility so often depends upon their condition that we are prone to place in the sterile class nearly every woman whose appendages have once suffered decided inflammation. Many of these subjects undoubtedly recover this function, spontaneously as it were, improved local and general conditions developing quite independently of any medical or surgical aid. But many do not, even with such aid as up to the present time we have offered.

A glance at the state in which inflammation leaves such cases will sufficiently explain the reason. The appendages have lost their mobility and their position. The ovaries have usually a thickened covering, and contain, not infrequently, cysts. The tubes, besides being distorted, constricted, and displaced, are thickened, or perhaps thinned from distension, the distending element being mucopus, blood, or a clear serum. In many instances, however, there may be little beyond a minimum degree of distortion, some fine fibrillæ of organized adhesions and the fimbriæ more or less closed. When the more pronounced conditions prevail, symptoms are developed which, from the patient's point of view, take precedence of the sterility; but with most women they do not totally eclipse all anxiety upon that score. Lesser changes may give so few discomforts that the victim will be content to bear them; but if she be sterile also, the greater number will suffer concern upon that subject, and the degree of this concern will depend upon the necessity she may feel herself under to bear a child. The determining factors in this question are many, but they vary in urgency according to the desire or necessity for offspring. Each case, therefore, more perhaps than with any other abnormal state, must be dealt with upon its own merits. This brings me to the question outlined in the title of this paper. Shall we operate upon the uterine appendages primarily for the cure of sterility? Are we warranted in advising such a procedure for such a complaint? Is it too dangerous to be applied to a state which does not involve life? An answer, and perhaps a sufficient one, can be found in the history of operations for sterility done in the past upon other sections of the genital canal. Thirty years ago operations upon the uterus for the cure of sterility were common. I cannot lay my hands upon the statistics of such work, but no doubt your recollection will bear me out when I say that women then faced a mortality, in the the best hands, which placed the recognized operations upon the several parts of the uterus for sterility upon a footing with which the operations upon the appendages—essentially the same as that involved in my paper—compare favorably. In fact, I think I am within the truth if I assert that the mortality rate is even in favor of my proposition. I think, then, we can affirm that the operation upon the uterine appendages for the purpose in question is no more dangerous than was the accepted operation upon the uterus for that purpose thirty years ago. And if improved methods have practically stripped of mortality those operations, the one suggested can hope to reach the same perfection in perhaps the near future.

It is fortunate that my contention involves no new operative departure, for it simply advocates the extension of an accepted procedure to a single condition, which heretofore, when isolated, was not deemed grave enough to warrant it. Most operators bear in mind this function of the appendages, no matter what may be the reason for cutting down upon them, and take measures to restore it to them if compatible with safety. We argue merely for the extension of a principle.

The efficacy of the efforts expended upon the ovary to restore the function of child-bearing are sufficiently well-attested to indicate the line of action open to us, and in the light of what was thought possible to the tubes and ovaries a few years ago the results which have been already obtained are most encouraging. Shatz, for instance, as far back as 1880, left only one tube intact and a small section of ovary upon the corresponding side, and yet his patient married in 1884 and had a child in 1885 (*Centralblatt für Gynäkologie*, 1885, p. 353). The writer, in 1890, removed the right appendages and all of the infundibula of the left tube, leaving the corresponding ovary intact. The patient bore a child two years later. (*American Journal of Obstetrics*, Vol. XXIV, No. 9, 1891).

Baer of Philadelphia reports (*Annals of Gynecology and Pediatrics*, January, 1894, page 231–232) a case in which the uterus and appendages were bound down by adhesions. The appendages upon the left were removed entire; those upon the right, after having ben dissected from their adhesions, were in shreds, the tube having been torn off about two inches from the uterus. In the interest of child-bearing these mutilated structures were suffered to remain. Fifteen months later she gave birth to child.

MacMonagle of San Francisco reports a case even more remarkable, in which there was a pelvic abscess discharging by the rectum. When operated upon, the patient was septic, voiding pus and blood with stools every few days, and having an offensive purulent discharge from the uterus. This organ and its appendages were fixed in the pelvis by firm adhesions. Abdominal section revealed a condition of affairs in keeping with the signs and general symptoms presented. The right appendages were removed. The pus cavity, which had been discharging through the rectum, was connected with the left appendages, and the change which had been wrought by disease in the connections of these structures was such that although a ligature could be placed about them, to secure sufficient anchorage some portion of both had to be left in the stump. The ovarian vessels on both sides were ligated, and yet this woman, who had never been pregnant, although married several years before the operation, gave birth to a child three years after it. ("Transactions of the Congress of American Physicians and Surgeons," Vol. III, 1894, pp. 193-194).

Many other cases could be cited, but I will detain you with but two other reports: Ashby of Baltimore ("Transactions of the American Gynecological Society," Vol. XIX, 1894, p. 268) reported two cases. In one he merely freed the appendages from adhesions; in the other he did the same for one set of appendages, and removed the other. Both of these women conceived, the first having been previously sterile. She carried the child to term. The second aborted, which was properly attributed to the fact that the uterus became fixed in retroversion. Subsequently he again opened the abdomen and fixed the uterus forward by ventral attachment. The subsequent history of this case has not come to my notice.

Four years ago a patient, previously sterile, was operated upon by me for the avowed purpose of correcting this condition. The left appendages were freed from adhesions and the right in part removed. This was done because the right tube had become a hydrosalpinx and the ovary cystic. Two years later she gave birth to a child.

I might say much concerning the kind of operation which should be done upon the appendages for the cure of sterility, but the cases cited indicate the direction our efforts should take. The mere freeing of these organs from adhesions, so as to restore them as far as possible to their normal position and direction, seems all that is needed in many instances, care being taken to open up the fimbriated ends when they are closed or partially closed. But if pyosalpinx, hydrosalpinx, or hæmatosalpinx be present, then it seems proper to remove all the dilated portion, leaving the cut end of the tube free. The mucous membrane of the tube in such cases always protrudes, a fact which no doubt accounts for the continued patency which prevailed in the cases cited above. In such cases as become pregnant in spite of the only remaining tube being ligated, it is evident that the ligature cut through the tube, leaving the uterine end open—as much open, in fact, as if it had been left so by design. Some operators stitch the open infundibula to the surface of the ovary, but this hardly seems necessary if the normal connections between these organs are intact. If not, then the cut end of the tube must be brought close to the ovary by shortening the mesosalpinx. Everting the opened end of the tube and stitching the lining membrane to the outer surface seems necessary when any part of the infundibulum is to remain, or when the fimbriæ have been destroyed. When the entire infundibulum is removed, the pouting of the lining membrane appears to be sufficient to insure patency, but even if it should not be, the surface is too minute to tolerate the added irritation of a suture.

In dealing with the ovaries it is sufficient to act upon the principle that as much normal ovarian tissue is to be left as diseased conditions will warrant. Just here it is pertinent to say that, so far we are unable to determine in all cases the appearances which indicate the certain subsequent development of the more serious diseases of this organ, such as papilloma or large cysts. When this can be attained our choice of action in dealing with ovarian tissue will be more definite. At present I am inclined to give the ovary the benefit of the doubt. If the uterus is displaced backward it must be approximated to its normal position by some one of the operations practised for that purpose, my preference being for that which shortens the round ligaments within the abdominal cavity.

This paper, however, will fall short of its purpose if I fail to bring clearly before you the fact that it is designed to draw attention to that class of cases in which *sterility is the leading complaint, perhaps the only one the patient considers*, and in which our best endeavors show that the difficulty lies in the condition of the appendages. I am aware of the difficulties which beset conclusions in these cases, and of the painstaking investigation to be carried out with the two parties concerned; but acting along these lines, a correct conclusion can be reached, even though it involve the comparatively harmless measure of a preliminary vaginal incision for actual palpation of the suspected organs.

7 East Thirty-sixth Street

SPINAL-CORD TUMORS—TUMORS OF THE CENTRAL NERVOUS SYSTEM: REMARKS ON NOTEWORTHY CASES.*

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Part I of this paper was published in the Medical Record, February 15, 1902, and was devoted to a study of brain tumors. I now propose to discuss some noteworthy cases, and briefly to review the present status of the treatment of spinal-cord tumors.

Tumors of the spinal cord offer a more tempting field for the surgeon than those of the brain, and they are encountered with less dread and feeling of helplessness by the neurologist. It is only fifteen years since Gowers and Horsley showed, by the publication of a properly diagnosticated and successfully operated case, that spinal-cord tumors might be treated successfully. Since then many cases have been operated upon, and with what result is shown in the table appended to this article.

Spinal-cord tumors are more susceptible to surgical treatment than brain tumors, and a greater percentage of recovery results from operative interference. Nevertheless the majority of spinal-cord tumors prove fatal, and must continue to do so for three reasons: (1) inability to diagnosticate and localize them, (2) the nature and extent of their growth which makes them inaccessible or inoperable, and (3) because of the jeopardy to life that the operation brings. With these limitations, the future of the successful treatment of spinal-cord tumors lies largely with the physician and with the surgeon. That the patient is not always a negligible quantity in the matter is shown by my first case.

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*Read before the Neurological Society, November 4, 1902.

Spinal-cord tumor must be rare in comparison with brain tumors. Still the subject has an extensive literature. This is partly due to the fact that their surgical treatment has in latter years attracted much attention.

The diagnosis of spinal-cord tumor is much more difficult than that of brain tumor. The latter causes a clinical picture that is fairly constant and very characteristic. The former does not, particularly in its early stages. They may both exist without causing symptoms, but usually the smallest spinal-cord tumor produces very striking symptoms, while some brain tumors produce very few. The symptoms of spinal-cord tumor depend upon compression of the cord and roots and vary not only in character, but in kind, with the location of the tumor, *i. e.* upon the nerve matter that it encroaches upon. Therefore, symptoms vary with the size, the location, and the consistency of the growth. The part of the body to which the symptoms are referred, or wherein they are manifest, will depend upon the level of the tumor. For instance, the character of the symptoms may be the same whether the cervical, the dorsal, or the lumbar cord is involved, but the parts of the body wherein the symptoms are manifest will vary.

The term tumor of the spinal cord has come to have a generic meaning. In the ordinary usage of the term it means any tumor, and of any kind, that encroaches upon the spinal cord and so interferes with it functionally and anatomically. The tumor may arise from the vertebræ, the membranes of the cord, the dura and pia, or from the cord itself. The symptoms which tumor developing from each one of these different tissues produces vary somewhat with the original seat of the disease, especially the early symptoms, but, in the main, symptoms attending tumor developing from any of these parts are similar and depend upon irritation of the cord roots and pressure upon the cord itself. It is of much importance to distinguish extradural, intradural, and intramedullary growths, *i. e.* growths outside of the dura, between the dura and the cord, and of the cord itself. Occasionally this differentiation can be made with some degree of positiveness, but oftener it can only be approximated. Much more important than the diagnosis of the origin of the tumor is the diagnosis of the tumor itself. Until recently it has been supposed that intramedullary tumors were wholly unamenable to surgical procedure. Recently Abbe has published a case in which this was done successfully. It may, however, still be said that they are virtually beyond surgical aid.

The nature and the variety of the tumor are, from a clinical standpoint, of very little importance, because the most benign can produce just as much compression and lymph stasis as the most malignant.

The Symptoms of Spinal-Cord Tumor.—The symptoms of spinal-cord tumor, named in order of their customary development, are sensory, motor, visceral and trophic, and topical. The sensory symptoms are pain, often of a more or less typical kind, which will be discussed later, paræsthesia, and disturbance of pain, temperature and tactile sensibility of different degrees of intensity. The motor symptoms are spasticity, involuntary twitchings of muscles, and drawing up of the extremities, painful cramp of muscles, paralysis, in the early stages often of a spastic type, but becoming flaccid before the end, and increase of myotatic irritability manifested clinically by exaggerated tendon jerks, involuntary clonus of the foot (spinal epilepsy), etc. The visceral symptoms are referable principally to the bladder and depend upon the level of the cord implicated. If the tumor is of the lumbar or sacral regions of the cord, bladder symptoms usually develop early, and are accompanied by cessation of activity of the lower bowel. When the tumor is above the lumbar region, voluntary control of the bladder is lost as soon as a certain degree of cord compression has been reached; the rectal sphincter remains subservient to voluntary control in these cases longer than the vesical, but eventually it acts automatically. Priapism is said by some writers, Starr amongst others, to be common. So far as I may be entitled to an opinion from experience and from reviewing the literature, I should say it was not common. The trophic symptoms are muscular atrophy and bed-sores. They are both late manifestations. As a rule, in some instances in which a meningeal tumor is situated anteriorly and compresses the ventral part of the cord and the anterior roots, atrophy of the muscles is an early symptom. Bed-sores rarely develop until late in the disease, except in some cases of rapidly-growing intramedullary tumors. In a few instances, however, they develop earlier, as in case No. 2 reported herewith: The topical symptoms are tenderness on pressure over the spinous process beneath which the tumor lies and some deformity of the spinal column. The first seems to be a fairly constant accompaniment of spinal-cord tumor, the second an inconstant one of little diagnostic importance. In addition to these, there is sometimes stiffness of the spinal column and often disagreeable sensation in the back when the body is jarred by coughing or sneezing.

The clinical manifestations of spinal-cord tumors are, however, as I have said before, inconstant, and in a measure they depend upon whether the tumor is intra- or extramedullary. The two most difficult things in the diagnosis of spinal cord are to determine: (1) where the tumor is in relation to the surrounding structures, *i. e.* is it intra- or extradural, and (2) at what segment of the spinal cord is it situated?

In intramedullary tumors paraplegia is usually not so complete, though it may develop early with tumor of the meninges, but the great point in the diagnosis between the two is the pain, which in intramedullary tumor is rarely an initial symptom but it is almost invariably so in tumor of the meninges, and is of great severity. The next most important symptom in favor of extramedullary situation of the tumor is the limitation of the motor phenomena, in the beginning to one side of the body, such as an extremity or the predominance of paresis on one side of the body. The most important aid in determining to what segment of the cord the tumor is located is obtained from a study of the anæsthesia. The segmental relationship of the cord to the periphery of the body has been carefully mapped out, but that it is not as yet entirely satisfactory is shown by a number of cases in which the tumor has been found at a level above or below that to which the symptoms, particularly anæsthesia, pointed. In order to determine the location of the tumor in any given case it is necessary to make out carefully the limits of the anæsthesia, and the muscles that are paralyzed, and then to locate these functions by the aid of schemata or tables, in which the functions of the segments are tabulated, to be found in every textbook of nervous diseases.

The recent experiences of Starr, Oppenheim, and Schlesinger have shown that there is danger of localizing the tumor one segment too low, so that in every case of spinal-cord tumor that is submitted to operation the opening should be made over the upper end of the tumor, and if not found, a further opening should be made in an upward rather than in a downward direction. There are instances in which the tumor has been found lower than the symptoms seemed to indicate, but the autopsy has shown that the segment above the cord has undergone profound softening, as in a case reported by Schlesinger.

The consensus of opinion seems to be that the location of any tumor in the cord is from two to four inches above the uppermost limits of the anæsthesia, and more often the latter figure than the former. The question how many segments of the spinal cord are concerned in supplying any given tegumental area with sensory fibers is not settled. Sherrington, from experimental investigations, believes that three continuous areas are thus concerned, while Bruns, Schlesinger, and others are inclined to the belief that there are five continuous segments. Experience with tumors of the spinal cord inclines one to the latter view.

The importance of spinal sensitiveness as an aid in localizing the tumor is very considerable, especially if it coincides with the location which the sensory and motor phenomena indicate to be the seat of the disease.

In attempting to size up pain as a localizing factor in spinal-cord tumor, we are often confused by the wide-spread area over which the pain exists. It is not often that the pain confines itself to one or two roots. In some instances, however, the distribution of the pain is very suggestive of the location of the tumor, as in case No. 1 of my series, and also in Fraenkel's case. When the pain is diffused over large areas we must endeavor to harmonize its distribution with the other localizing symptoms.

The most common, as well as the most important, tumors of the spinal cord, using the term in its generic sense, are tumors of the meninges, especially tumors of the dura.

Those growing within the dura are nearly twice as common as those growing without. Extradural tumors may exist for a long time without giving rise to symptoms pointing to implication of the spinal cord, while intradural tumors give rise to such symptoms very early.

The favorite location for spinal-cord tumor is in the dorsal region, the lower and the upper end. In the seventy cases analyzed in this paper, thirty-five were of the dorsal region, fifteen of the cervical, thirteen of the lumbar and sacral, and six of wide-spread distribution.

Before discussing some of the more important questions in the diagnosis and treatment of spinal-cord tumors, and reviewing the recent literature, I shall relate the histories of three cases:

Case 1.—P. K., forty years old, married, by occupation a salesman, was seen with his physician, Dr. R. A. Shufelt, September 19, 1901, and the following history obtained. He married when twenty-five years old and has always been quite well. He denied venereal disease, and he has no recollection of ever having been injured save a fall from a bicycle seven years before, which was of no consequence. About two years ago he went into the cellar one morning, to look after the furnace, and, after having bent over to shake down the grate, he was taken with a "crick" in the back, and could not assume the erect posture. He crawled upstairs, and after a while the pain grew less, and he was able to straighten up a little more; but he had to be careful how he moved around for the next few days. From time to time this symptom recurred, but never so severely as at first, and under just what auspices he cannot say.

During the winter of 1901 he had a great deal of pain in the epigastrium and abdomen, which he attributed to indigestion, particularly to the accumulation of gas; this pain was colicky in character and might last several days. It was made worse by jarring of the body and relieved by free movement of the bowels. Later the attacks occurred more frequent and lasted longer. During one of these attacks the pain was more or less circumscribed to the right mid-abdominal region, and it was thought by the physician who saw him that an impaction of the colon existed. At another time the diagnosis of appendicitis was made, and an operation advised.

In June, 1901, that is four months before I was asked to see him, a new group of symptoms developed, consisting of stiffness of the leg, which he noticed first after having sat for a length of time. At first this stiffness was very slight, but it has increased steadily, until now he is stiff all the time. He maintains that it is worse when he has the symptoms which he calls indigestion, *i. e.* pain in the abdomen, feeling of distension and constipation. When he is free from these he says the stiffness of the legs is very much less. Soon after leg weariness showed itself. The legs would get very tired during the afternoon, and by the time he reached his home in the suburbs toward evening he was glad to lie down. This leg weariness increased to weakness, the left leg being weaker than the right. About this time he began to get very nervous, and he remarked that he was losing flesh continually. No paræsthesia or pains in the legs. No stiffness or pain in back and no pain in the spine upon movement. Latterly involuntary twitching of the leg, particularly of the left, has developed. Sometimes the left heel beats a tattoo on the floor when the toes only are in contact.

Examination reveals moderately spastic gait. No disturbance of station. He can stand on either foot. The left lower extremity is weaker than the right. The tendon jerks of the lower extremities are exaggerated more on the left side than on the right. The plantar reflexes are lively, but of a normal type. The cremasteric is elicitable and the abdominal absent. Kernig's sign is elicitable most typically. The right lower extremity is analgesic, extending upward as far as the level of the umbilicus. Tactile sensibility is preserved. Thermal sensibility is blunted in the right lower extremity, but by no means absent. The left lower extremity is slightly analgesic, not more so in one area than another. Tactile sensibility is preserved.

There is no tenderness or prominence of any part of the spinal column.

A diagnosis of spinal-cord tumor was made, and localized to the tenth or eleventh dorsal segments of the cord, probably to the right of the median line. The patient was the subject of a clinical lecture on spinal-cord tumor, at the Post-Graduate School, on October 3, and he was urged to enter the hospital for operation. He consented in a measure, but while waiting to go into the hospital he encountered a malign influence in the shape of some one who promised him relief from medical treatment. I did not hear from him until ten months later, when Dr. Shufelt, whose counsel he had forsaken, told me of his pitiful condition, and asked that he be taken into the hospital. This was done, and as I left town the following day for a considerable absence, I asked my chief of clinic, Dr. Abrahamson, to take charge of him, which he did. He has kindly given me the notes of the examination made at that time:

The patient has had no pain since February, 1902, nor has he been able to get about since then, and now he can not rise to a sitting position without assistance. During the past few months there has been slight trouble in starting the urine. Lower spine presents slight backward curvature. From time to time, upon raising lower extremities, an exceedingly rapid clonus results. The legs are completely extended; slight extension of the feet; moderate plantar flexion of the soles. Dorsal flexion of both great toes, and of the first phalanges of the other toes. Clasp-knife rigidity of the lower extremities. Strumpell phenomenon elicitable. Knee and ankle-jerks very much exaggerated; patellar and ankle clonus. Babinski phenomenon on both sides. Some œdema of both feet and legs. Slight wasting of the quadriceps muscle, especially of the left and of the peronei. Weakness of the abdominal muscles of both sides. During the past three months the legs draw up by day and by night, at times spasmodically; legs are extended and flexed alternately. Epigastric reflex present, abdominal reflex absent, cremasteric reflex lively. Sensory disturbances. Analgesia on the posterior surface of the body and legs reaching up to the twelfth dorsal vertebræ, more pronounced on the right side than on the left. Temperature sense lost on the posterior surface as high as the first lumbar; tactile sense as high as the twelfth rib, with the exception of a slight area over the buttock. On the anterior surface there is analgesia downward from a line drawn from one inch below the sternum around the ninth to the tenth rib. Anæsthesia for heat over practically the same area. He has lost the capacity to detect cold on the anterior surface of the body and leg of the right side only. There is no anæsthesia to cold over the anterior surface of the left leg. Tactile sensibility is obtunded from the eighth rib downward, but it is not lost, for he can feel whenever the touch is heavy.

The operation was done by Dr. Samuel Lloyd.

Incision from the fourth to the ninth dorsal spinous processes. Muscles separated from the spinous processes and raised from the laminæ with periosteotome from the fifth to the eighth dorsal vertebræ, divided at these junctions with laminæ with bone forceps. The laminea of the fifth to the eighth dorsal removed with rongeur forceps, laying bare the groove in the dura. When the dura was split longitudinally the tumor was exposed. The tumor was firmly attached to the dura on the inner surface. This was removed by a curette and spoon, aided by the finger. It was about 1½ cm. in length, 1 cm. in breadth, right over the oval; microscopically, it appeared to be sarcoma.

The operation was done without very much difficulty. The results of the operation are not brilliant, but this is accounted for by the fact that the lesion had caused irreparable destruction in the cord. The patient's present condition is indicated by the following record of an examination made a few days ago:

There is some movement of the toes of the left foot and in the foot itself. Slight movement of the toes of the right foot, but less so than the left. Some power of the lower extremities, taken as a whole, but owing to the stiffness this is not exactly ascertainable. Sensibility of the left side is much less perverted than before. Pain is now felt acutely all over, temperature ditto, although there are slight areas of diminished sensation on the right side. The function of the bladder is now nearly normal, save for a slight hitch at times in urination. Rectal sphincter normal. No pain, no feeble sensation. Feels very well otherwise. Is resistant to passive movements on both sides. Clasp-knife rigidity less evident. Knee-jerks and ankle-jerks are very lively. Ankle clonus and Babinski phenomenon both present.

The diagnosis of tumor was made about a year before the operation was finally consented to. If the tumor had been removed at that time there can be no question but that the patient would have wholly recovered. He was then able to discharge his duty as a clerk, which necessitated being on his feet almost the entire day. The diagnosis at that time was based upon (1) the character and location of the pain, its paroxysmalness in the abdomen, particularly the epigastric and umbilical region and its peculiar relationship to the motor symptoms. (2) Motor weakness beginning in one extremity and gradually increasing, later affecting the other lower extremity, and of the spastic type. (3) The phenomena constituting the Brown-Sequard syndrome. (4) The course of the disease, gradually progressive. (5) By exclusion. Such an association of symptoms could scarcely be caused by anything but a tumor.

Symptoms that bespoke the localization of the tumor were not very definite, but assuming that the seat of the tumor is, as a rule, from four to five inches above the level of the sensory disturbances, taken in connection with the motor paralysis and the location of the pain, the tenth thoracic segment or thereabout seemed to be the site in this case.

The following facts bespoke an extramedullary growth: (1) The pain preceded the motor symptoms by from one to two years. Occasionally pain precedes motor symptoms in intramedullary tumors, as in Abbes's case, but it is the exception to the rule. (2) The motor symptoms came gradually; they were first of one side, and were not accompanied by atrophy. Not that the motor symptoms always develop in this way when the tumor is of the meninges. For instance, in Strube's case, a dural tumor, motor symptoms developed very suddenly, and were soon followed by œdema and decubitus. (3) The absence of vasomotor symptoms. (4) The Brown-Sequard syndrome.

Pain is one of the most important symptoms in spinal-cord tumor. In only 10 per cent. of the cases is it absent. In upward of 50 per cent. it is what is called characteristic, *i. e.* of a lancinating neuralgic character of some part of the trunk or the extremities. Like neuralgia, it is rarely continuous, but, unlike it, it is not associated with sensitiveness to pressure of the nerve trunks. In the cases that I have collected from the literature it was absent only five times.

Pain in the abdomen caused by interspinal tumors is not typical. It is often thought by the patient and physician to be dependent upon some local condition. In my patient it was diagnosticated as dependent upon appendicitis. Dr. Fraenkel's patient had had the appendix removed; one of Schultze's cases was treated for gallstone colic, one of Putnam's for indigestion, and one of Starr's for angina pectoris. A knowledge of this should make us very keen to search out the real cause of abdominal or thoracic pain, and it should constantly remind us that when such pain is associated with objective sensory or motor disturbances referable to one or more of the extremities that the chances are very much in favor of its being dependent upon the spinal-cord tumor.

Abdominal pain is all the more readily mistaken for some visceral disease, because of its apparent relationship to eating, flatulency, and constipation.

This relationship has often been noted (Laquer, Ransom & Thompson, Putnam & Warren, *et al*). In my case the patient was positive that the motor symptoms, spasticity and unwieldiness of the legs, were very much worse when the bowels were flatulent or constipated. In the early stages of his illness he always felt better after having taken calomel and dieted. I see no reason for attempting further explanation of this variety of pain than that which suffices for other forms of pain occurring with spinal-cord tumor. It is due to irritation of the affected segments of the spinal cord. When the bowel is sluggish or distended that constitutes an additional irritation of the affected segments.

CASE II.—L. L., a Hungarian girl, nineteen years old, was admitted to the City Hospital in December, 1899.

When she was ten years old she had an attack of pneumonia, which left her in a feeble condition, and with a cough for a number of months. After this she was quite well until December, 1898. At this time she was taken ill with indefinite symptoms and menorrhagia, which lasted off and on for six weeks, during which time she became so weak that she was unable to walk without assistance. She entered the Lebanon hospital, where, she says, she was treated for pneumonia, and was in bed for six weeks. During this illness urine had to be drawn by the catheter, and the bowels moved by enemata. At the end of this time when she got out of bed she was not able to walk. Her legs were heavy, cold, and powerless, and when she attempted to walk with assistance she could scarcely drag them over the floor. Both hands were contracted, the left more than the right, so that she could not grasp objects. She remained in the hospital five weeks longer, during which time she became able to walk and to use her hands a little. She says, however, that she was never able to stand erect and walk as well after this illness. During the remainder of the winter and the spring she grew weaker and thinner, but she was able to get about. When summer came she regained to a considerable extent the use of her arms, but her state was not satisfactory, and she went to the Mount Sinai Hospital, where she remained for two months. She says a plaster jacket was made for her; after she left there she wore it for one night only, because the next day, when she attempted to get up, she found that she was unable to walk. The paraplegia continued to increase, and it was quite complete when she came into the City Hospital. Examination at this time showed spastic paraplegia, the spasticity, however, was not very profound; loss of strength, and increased resistance to passive movements of the upper extremities, the left more than the right; increased tendon jerks, especially the knee and ankle jerks; plantar jerks present, of the flexor type; abdominal reflex absent; inability to retain the urine and constipation. Examination of the sensory sphere showed a degree of blunted sensibility in the four extremities, more in the legs than in the arms, but nothing approaching anæsthesia or analgesia. The patient complained of pain in the back without definite localization.

The case was diagnosticated as one of myelitis, following pneumonia, and very little medical attention was given to it. During the winter she became very much emaciated, profoundly anæmic, and developed bed-sores on the left heel, leg, knee, trochanter, and over the sacrum. Four months before she died she was transferred to the Montefiore Home, and I am indebted to Dr. Fraenkel for a transcript of the notes of the autopsy. Only those relating to the spinal cord will be used here.

On opening the spinal canal there is seen in the cervical region a soft, yellowish tumor mass wedged in between the bodies of the vertebræ and the dura. This tumor extends from midway between the third and fourth cervical to the level of the first dorsal. Its posterior surface can easily be separated from the dura. Its anterior part was attached to, but does not penetrate, the dura, being entirely extradural. It compresses the cord, but does not invade the substance. Below the lesion the cord is firm. So far as may be judged from the appearance of the greatest growth of the tumor, it originated at about the level of the fifth cervical vertebræ. (Fig. 1). The nature of the tumor was a spindle-cell sarcoma.

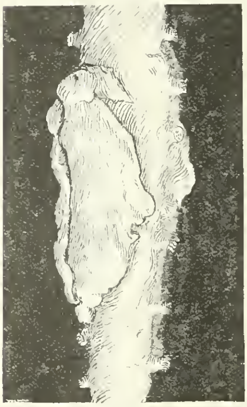
FIG I

This case should, in reality, have been diagnosticated as a spinal-cord tumor. We were misled by the history of her illness. Her symptoms seemed to grow out of an attack of pneumonia, and having in mind the relationship of pneumonia to myelitis, and impressed with the fact that the symptoms were those of myelitis, that diagnosis was made. As a matter of fact, the autopsy showed that the patient had not had pneumonia in December, 1898, or, at least, if she had, every vestige of it had disappeared. The symptoms which the patient had when pneumonia was diagnosticated were, probably, pain in the chest, weakness, and dyspnœa, symptoms which may easily be attributed to the tumor.

The tumor could have been removed, but the nature of the growth would have precluded any permanent benefit from operation.

CASE III.—D. H., an unmarried negress, twenty-three years old, was admitted to the City Hospital on the 13th of September, 1898. She was carried in on a stretcher, and although evidently extremely ill and suffering great pain, she was in full possession of her mind, and gave the following history of the development of the disease: On the 29th of August, 1898, *i. e.* just two weeks before her entrance into the hospital, and practically the same length of time before her death, for she succumbed on the 15th of September, 1898, she noticed, while at work, as a domestic, a subjective feeling of numbness and loss of power in both legs. The latter increased rapidly, so that five days later she was completely paraplegic, the paralysis extending, she said, as far as the middle of the body. She maintained that before the 29th of August she had had no difficulty in passing or retaining urine and no incontinency of the rectal sphincter, but, beginning on that date, there was retention of urine, which necessitated catheterization regularly, and incontinence of fæces. Until the day of her admission, September 13, the retention continued, but on that date she became incontinent. A few days after the onset of the subjective sensation of numbness and loss of power in the legs, she complained of a sensation of formication in the lower extremities, and of burning feelings and drawing sensation in the hips. Aside from this she made no complaint of pain. On inquiring into her history, it was found that she had never menstruated, but since the age of fifteen she had had, at regular intervals of four weeks, attacks of pelvic pain, vomiting, headache, and malaise, which lasted for from three to four days, and that for some time past, possibly two or three years, but especially during 1897 she had noticed a gradual increase of size of the hypogastric region. There was no complaint of pain or of loss of flesh at this time. Examination by Dr. George M. Tuttle showed that the region from the umbilicus downward to the symphysis gave a peculiar resistant and irregular feeling, comparable to that obtained by pressing the hand upon a sack of potatoes. The mass was somewhat movable from side to side, and not tender. It could be distinctly made out that the surface of the large nodules was broken up by small irregularities. Ocular, digital, and bimanual examinations revealed normal conditions, save an infantile uterus. The cervix was freely movable, apart from the mass, but no uterine body could be felt above the surface.

On April 4, 1898, a complete abdominal hysterectomy was performed, and an examination of the organs and tissues removed showed a tumor of the left ovary, nodular, having a circumference of 51 centimeters. In certain areas it was decidedly cystic. The right ovary presented a very similar appearance, and was about as large as a hen's egg. The right tube was normal, save in size. It was extremely infantile. The left tube was drawn over the surface of the ovary, on which it lay in a groove, and was normal in appearance. The uterus appeared as a slender cord between the layers of the broad ligament. It measured five centimeters from the surface to the fundus. Infantile in appearance, there was yet no atresia in any part of the canal. A microscopical examination of the tumor showed that its nature was that of an endothelioma. After her discharge from the hospital she returned to her occupation as a domestic and kept to it until the date mentioned above. On repeated inquiries she finally admits that in July, 1898, she had some pain in the knees which she called rheumatism. It was not sufficient to compel her to forego work, and soon disappeared without treatment.

Examination showed an extremely emaciated woman, whose features are expressive of great suffering. She lies on the left side, the legs and thighs being semiflexed, while the trunk and upper extremities have a fixed expression. She cries out in fear when the bedclothes are laid back, and says that every movement, or attempt at movement, of the body hurts her back. There is a bedsore about the size of the hand over the sacrum, the duration of which she is unable to state. There are no other trophic changes save symmetrically-arranged scars over the shins, the relics of ancient ulceration. When questioned about these she says she had sore legs five years ago. The extremities are cold, the respirations shallow, and the features drawn and pinched. When the lower extremities are moved she complains of great pain in the back. She is seemingly unable to make any voluntary movement of the lower extremities. The paraplegia cannot be truthfully called flaccid, for there is some slight resistance to passive movement. There is complete loss of sensibility, touch, temperature and painful stimuli in the lower extremities extending on the right side to midway between the level of the crest of the ilium and the anterior inferior spine. On the left side it extends about two and one-half inches higher, both in front and behind. The areas of sensory loss are shown by the accompanying diagrams, and at the time of examination. The most careful examination failed to reveal any cutaneous surface of the lower extremities but to [illegible] regions in which sensory stimuli were perceived. There is local elevation of temperature of 1½° F. over the abdomen below the umbilicus and immediately around the umbilicus. Palpation of the abdomen reveals a nodular mass in the upper part of the left side. It extends through the entire left abdominal region as far down as the umbilicus, and toward the right the area of dulness blends with that of the liver. It is irregular to the touch and wholly immovable. The knee jerks and all the superficial reflexes of the lower extremities are absent. When the patient is turned on the side it is noted that the back is fixed rigidly, and that the lumbar region is somewhat arched. The spines of the seventh and eighth dorsal vertebræ are prominent, and she cries out with pain when they, as well as the spine of the ninth dorsal vertebra, are subjected to pressure. The upper extremities are freely movable, both actively and passively, but she restrains from using them on account of pain in the back that such movement causes. The cranial nerves are uninvolved, and there are no sensory disturbances of the upper part of the body. Although it is not easy to detect vasomotor phenomena in a colored person, this patient did not present any unless the local elevation of surface temperature of the lower abdomen be thus construed. There was no œdema of any part of the body.

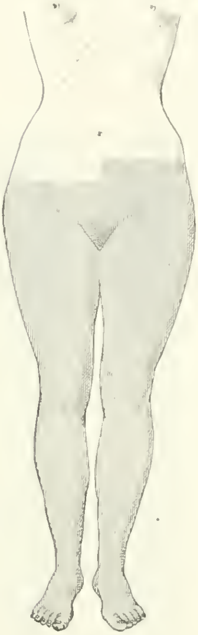

FIG. II.

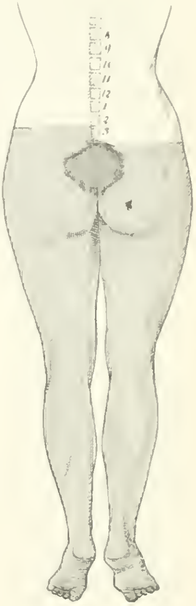

FIG. III.

The patient was at once put in a tub of warm water and preparations made to open the spinal canal at the site of greatest tenderness, viz., the ninth dorsal vertebra. It was late in the day when she was first examined, and it was impossible to secure the services of a surgeon until the following day, by which time she had fortunately been relieved by death.

The post-mortem examination was made on the following day, the spinal canal being opened first. When the posterior arch of the spinal column was removed, a reddish, soft-looking mass was seen lying over the posterior and lateral aspects of the cord, reaching from the ninth to the twelfth dorsal vertebræ, and covering the cord from the twelfth dorsal to the fourth lumbar segment. The somewhat sausage-shaped mass, 10 mm. long, broader below than above, in the substance and upon the meninges, was evidently intimately attached to the cord. In the lower portion it seemed to completely envelop the cord, and after the latter was lifted out it was seen that it was in connection with the intraabdominal growth by means of a very narrow tissue, which extended in between the laminæ of the vertebræ. The cord itself, although surrounded by the mass, did not seem to be very much compressed, nor was there any evidence of softening. The cord with the attached tumor was put at once in alcohol and the relationships of the tumor are to be seen in Fig. 4. It is very much shrunken from the preservative fluid, but its relative proportion and implications are still to be observed. It is seen to be in the substance of the pia, implicating the roots of the upper lumbar segments. The vertebræ were not diseased.

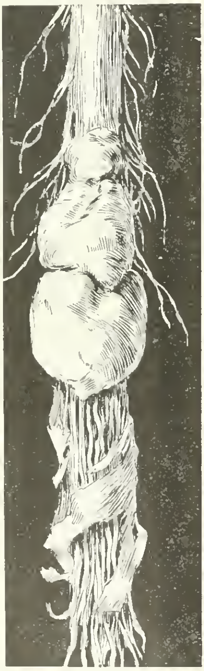

Fig IV.

When the thoracic cavity was opened the heart and lungs were found, in their normal positions, and when removed they were seen to be of normal constitution. A longitudinal scar was found in the median line, extending from the umbilicus to the symphysis. On opening the abdominal cavity it was found to be free from adhesions, the cavity of the pelvis containing coils of small intestines, but no uterus or adnexa. On removing the coils of intestines, a firm, immovable mass was found in the middle of the abdominal cavity between the second lumbar and tenth dorsal vertebræ, to the bodies of which it seemed to be attached. It was entirely retroperitoneal, and was covered in front by the pancreas and coils of intestines. The mesentery in the region of the growth contained many firm, whitish gray nodules about the size of a hickory nut. They were particularly numerous in the mesentery attached to the lesser curvature of the stomach. The walls of the hollow viscera and the substance of the solid viscera were not implicated by the growth. Upon tracing the course of the aorta and vena cava downward they were seen to pass through the tumor, disturbed in their normal relationship, but apparently patent. Examination of the dural tumor and of the abdominal tumor shows them to be of the same constitution, viz., that of a round-cell sarcoma.

The noteworthy features of this case are: (1) The sudden onset; (2) The simultaneous and complete overthrowal of the functions of the bladder and bowels; (3) Paraplegia dolorosa, the motor mechanism being potentially preserved; (4) Localized pain in the back; (5) Absence of radiating, neuralgic pain in the extremities; (6) The early occurrence of localized trophic symptoms, in the shape of a bedsore, closely localized.

Statistics of Spinal-Cord Tumors.—The statistics of operation for spinal-cord tumors have been gathered in this country by Mills and Lloyd ("Pepper's System of Medicine"); by Starr, (*American Journal of the Medical Sciences*, 1895); by Putnam & Warren (*American Journal of the Medical Sciences*, October, 1899); in England by Gowers and Horsley ("Transactions of the Medico-Chirrurgical Society of London," 1887), and in Germany by Bruns, in 1896, and in Austria by Schlesinger, in 1898.

I have gathered from the accessible literature the cases that have been published during the last six years. Brief abstracts of these are appended to this article.

The list does not purport to be complete, nevertheless it will be found to include most of the reported cases. A few published as inaugural theses in Germany could not be obtained, but, as some of these have probably been mentioned in discussions by others, they may be included in the list. My list includes but two of the cases (in addition to his own) in Putman's list of successfully operated cases, although his article was published in 1899, nor does it include such cases as that of Batten sarcomata, involving spinal cord, in a child three years old, growing from the vertebræ, the primary growth being in the thorax. Nor do I include congenital tumors, such as the remarkable case reported by Heurtaux (*Bulletin et memoires de la Société de Chirurgie de Paris*, vol. 24, p. 7,561) of an enormous fibroma on the side of the neck of intraspinal origin from the dura. I do not include in my list small intramedullary fibroma with syringomyelia, such as have been reported by Heverroch, Pick, Schlesinger, Raymond, *et al.* A few of the cases reported in my list are included in Schlesinger's monograph, but the vast majority of them have not heretofore been collated.

I quote the history of seventy cases. Surgical operation was undertaken in thirty cases.*

The results of the operation in these thirty cases were as follows: Successful in twelve instances, partially successful in eight, and wholly unsuccessful in ten cases. The operation was considered successful when there was cessation of pain and recovery of motor power; partially successful when there was relief from pain, cessation of progress of the case, and slight regain of motor power; unsuccessful when followed by a death within a few weeks. The nature of the tumor is not stated in the reports of all of the operated cases, but so far as could be determined there were six fibroma, twelve sarcoma of one kind or another, three endothelioma, and one myolipoma. Those cases that succumbed soon after the operation were made up largely of those in which the tumor was a sarcoma, although the patient with myolipoma died from sepsis. All of the cases in which the tumor was found to be a fibroma recovered with one exception, that of Starr, who also died of sepsis. The cause of death as given in nine of the cases that terminated fatally was sepsis and septic meningitis, four cases; collapse and exhaustion, two cases; shock and hemorrhage, two cases, and pneumonia, one case.

If we add to this list the fourteen cases which the autopsy records show might possibly have been successfully operated upon if the diagnosis had been made, we find that forty-four out of seventy cases of intraspinal tumors might have been treated surgically, *i. e.* forty-four cases were operable. This is an extremely high percentage in comparison with the operability of brain tumors. It is not so high, however, as that given by Starr, who was of the opinion in 1895 that 75 per cent. were operable. My own belief is that the operability of spinal cord tumors is considerably less than the percentage which my statistics seem to give. When we look into the record of the cases that are considered operable, we see that in a number of them not only the size and location of the tumor found post mortem, but their nature puts many of them in the list of inoperable. Of the fourteen cases ten were some variety of sarcoma three glioma, two endothelioma, and one psammoma. In reality there is none of the variety that surgeons have removed most successfully. On the other hand, the variety which is most frequently unsuccessful in the surgeons' hands, sarcoma, predominates. Although the neoplasms might have been removed, it does not at all follow that the operation would have been successful. In twenty-six cases the tumor was wholly beyond the scope of operation.

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*These cases are the thirty histories in the beginning of the appended list.

That the operation for removal of spinal-cord tumor is however, fast growing in favor is shown by the number of instances in which it has been undertaken during the last five years. Starr stated in 1895 that he was able to find record of 123 cases, and in these operation had been undertaken twenty-two times, while in the seventy cases that I have collected it had been undertaken thirty times.

The Results of Operation for Spinal-Cord Tumor. —It is not an easy matter to answer the question, "What may be expected from operative interference in the treatment of interspinal tumors, *i. e.* What is the status of operative surgery in the treatment of these tumors?" If one were to base his opinion upon the published reports of Schultze, for instance, he might easily maintain that the surgical treatment of spinal-cord tumors was extremely successful; on the other hand, such an experience would be considered as evidence of good luck by another whose experience had been very different. Basing the statement upon the reports of cases operated upon, and those that have come to autopsy, without operation, it may be said that 50 per cent. of intraspinal tumors are operable, and of this number one-third to one-half are benefited by operation. Spinal-cord tumors are, therefore, twice as operable as brain tumors, and the results of operation are twice as successful. When the surgeon so perfects his technique that he can perform the operation for spinal-cord tumor without development of sepsis, the percentage of cases benefited by operation will be much greater. For instance, the cases reported by Oppenheim, Starr, and Fraenkel recovered from the operation, but they died from sepsis.

Schultze* has recently given a synopsis of eight cases of spinal-cord tumor. In two the diagnosis was erroneous, in the other six, all of which were operated upon, three recovered, two completely, and one partially. In two death followed the operation. In one of the cases in which death resulted there was a large tumor at the level of the cauda equina; in the second there was annular tumorous thickening of the dura, which could not be removed.

When one considers the hopelessness of these cases when treated medicinally, it will readily be seen that surgical interference is the only thing. The result of surgical treatment has been such as to encourage us in the belief that continuance of effort in the same direction will be followed by a greater degree of success. This view is probably generally accepted. The urgency in the treatment of these cases is that they be diagnosticated and operated upon early, *i. e.* before inflammatory, œdematous, anæmic, necrotic, or degenerative changes that are irreparable have gone on in the spinal cord. If the operation is delayed until these have occurred, the cord's activities cannot possibly be restored. Nothing is more pernicious, it seems to me, than delay after diagnosis of the tumor has been made, in order that medical treatment, particularly iodide or arsenic, may be tried. Gumma of the cord rarely produces the symptom complex of spinal-cord tumors, and if one should mistake occasionally a gumma for spinal-cord tumor and submit the patient to an operation, nothing possibly can be lost. The degree of recovery after operation will, of course, stand in direct relationship to the condition of the spinal cord, and this agrees rather constantly with the duration and intensity of the symptoms. If paraplegia has existed for several months, for instance, and if trophic symptoms of the skin and muscles have appeared, the surgeon may be able to remove the tumor, but all that can be expected by the patient is that the diease will stop progressing.

Another question that frequently arises after operation is, "To what degree may improvement be expected to result in a case that has not shown much results to the recovery of function in two or three months after the operation." To this question a negative reply must be given. Examination of the published cases shows that if improvement does not follow soon after the operation, it does not occur to any considerable degree at all. It must at once be added, however, that in many cases there is immediately after the operation an accession of paralytic phenomena which are not to be attributed to changes produced in the cord by the tumor itself, but are secondary to the trauma of the operation. These, as a rule, disappear.

Delay in operating is responsible for the slight beneficial results that have followed operation in some cases. This cannot be laid at the door of operation however. It is possible also that had some of the cases of sarcoma been operated upon early, *i. e.* before the tumor had reached such considerable growth, the outcome would be different.

Taking everything into consideration, it may be said that the surgical treatment of spinal-cord tumors offers the most attractive field for surgical interference of all diseases of the nervous system. Still a word must be said about the inadequacy of surgery in these cases. Patients nowadays die from sepsis after the operation about as frequently as they did ten years ago. The operation seems just as prolonged as it did formerly, and the loss of blood is oftentimes very great, and in some cases—flat sarcoma—not easily controlled. Until the surgeon overcomes some, or all of them, it can not be admitted that the majority of spinal-cord tumors can be operated upon with prospect of success.

ABSTRACTS OF SEVENTY CASES OF SPINAL-CORD TUMOR.

THE THIRTY FIRST ENUMERATED CASES WERE SUBMITTED TO OPERATION.

Fraenkel. *Journal of Nervous and Mental Diseases*, December, 1902.—Female, forty years old. Initial symptom, pain in right hypochondriac region; duration of pain, three years; later, pain in right buttock, then paræsthesias of perineum. At time of examination, paralysis and atrophy of right quadriceps and adductor muscles. Paresis of muscles of right leg and foot, and paralysis of muscles of left foot. Obstinate constipation, retention of urine, disturbances of sensibility over right half of buttock, perineum and vulva. Operation, tumor found between the strands of cauda equina to the left of the median line; nature of tumor, fibrosarcoma; improvement; death four months after operation.

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*Versammlungen Südwest-Deutscher Neurologen, Baden-Baden, May, 1902.

Abrahamson, *Journal of Nervous and Mental Diseases*, December, 1902.—Male, sixty years old. Initial symptom, thermoparæsthesia in left and later in right foot, then increasing spastic weakness in right, later left lower extremities; still later atrophic, right-sided paralysis of upper extremities. Tardy appearance of objective sensory disturbances, even in the presence of very marked motor. Total paralysis of lower extremities; band of hyperæsthesia in right supraspinatus region; sensory disturbances two and one half years later of the entire cutaneous surface below third rib anteriorly and second dorsal spine posteriorly; vasomotor disturbances in hands, chiefly right; bladder and rectal involvement; dilatation of right pupil. Operation, a fibrosarcoma removed from the inner surface of the dura at the level of the seventh cervical segment. It had encroached upon the right antero-lateral surface of the cord. The patient died a month later of secondary septic infection.

Schultze, *Deutsche Zeitschrift fur Nervenheilkunde*, Vol. 16, p. 114.—Woman forty-nine years old. Initial symptoms; general nervousness and severe pain in the upper part of the back; pain radiated into the chest and the right arm, later pain in both eyes, forehead, and stomach. Diagnosis of gallstone was made. Later peculiar disagreeable feelings in the legs, paresis, and vesical symptoms; spastic paraplegia, loss of sensibility for touch and pain in the legs, increase of bladder symptoms, severe pain and involuntary muscular contraction in the legs and abdomen; tenderness of the tenth dorsal vertebra, increase of the tendon jerks of the lower extremities; duration, eight years; operation, removal of the spinous processes of the fourth and fifth dorsal vertebræ; removal of a tumor 4 cm. long, 2½ cm. wide behind and outside the dura; recovery.

Case II.—Man twenty-eight years old. Initial symptom, increasing weakness of the leg and paræsthesia, no pain at this time, but had had neuralgia of several years' duration in the right side and in the leg. Paræsthesia first in the right leg afterward in the left, and thermoanæsthesia and slight analgesia in the loins and legs, sphincter disturbances; progressive spastic paraplegia; operation over the sixth and seventh dorsal vertebræ. After opening the dura the tumor was found and removed; fibrosarcoma; duration of the paralysis, four months; recovery.

Schultze has recently spoken of the results of four more cases that had been submitted to operation, which are referred to in the text.

Boettiger, *Archiv für Psychiatrie*, Vol. 35, No. 1, p. 83.—Female, sixty-three years old. Initial symptoms, weakness and paræsthesia in right lower extremity; burning and tension in right lower part of trunk; affection of temperature and pain sensibility in right lower limb; Brown-Sequard syndrome, motor symptoms appeared before sensory; later, paralysis of right lower limb and right lower abdominal muscles; right patellar reflex exaggerated, and right ankle clonus; operation, removal of psammoma eighth thoracic segment; recovery; partial regain of motor functions.

Krause, *Berliner klinische Wochenschrift*, 1901, No. 20-22.—Woman, sixty-five years old. Initial symptom, weakness of the right knee, later paræsthesia of the right thigh and of the right sole; later extension into the left leg, girdle feeling, weakness of the right leg, and finally complete paralysis; hypalgesia of the left lower extremity (Brown-Sequard symptom complex); disturbance of the bladder and bowels; sensibility of the right lower extremity normal, save between sacrum and major trochanter, which was anæsthetic; left lower extremity completely anæsthetic; patellar reflex normal, achilles reflex exaggerated; operation, resection of the eighth and ninth dorsal vertebræ. The tumor was found beneath the seventh and sixth; the size of a hazel nut; easily detached from the pia, but the dura had to be removed with it; recovery.

Remak, *Neurologisches Centralblat*, 1902, p. 621.—Woman, twenty years old. Initial symptoms, severe left-sided sciatica, followed by gradual paralysis of the leg, especially of the gluteal and peroneal hyperæsthesia of the left leg, loss of the patellar reflex, slight sensibility disturbance of the left thigh, transitory disturbance of the bladder, tenderness over the small of the back; diagnosis, tumor of the cauda equina; operation, opening of the fifth lumbar vertebra; intradural tumor extended further upward than was anticipated, and it was impossible to remove it, although the fourth and third vertebræ were opened; exitus in collapse twenty-four hours afterward. Autopsy showed the entire lumbar cord surrounded with sarcomatous masses.

Sachs, *Journal of Nervous and Mental Diseases*, Vol. 27, 1900, p. 108.—Man, fifty-six years old. Initial symptom, pain in the lower extremity, later spasm of the muscles; tenderness over the second lumbar vertebra; diminution of tactile, pain, and temperature sense at the upper and inner portion of the right thigh; right knee-jerk absent; removal of the spinous processes of the lumbar vertebra showed an alveolar sarcoma the size of a small cherry adherent to the dura and bone; recovery.

Case II.—Man, thirty-nine years old. Had been diagnosticated as locomotor ataxia; kyphosis of the twelfth dorsal and three upper lumbar vertebræ; paresis of the lower extremity; unilateral sensory disturbances; Laminectomy second and third lumbar vertebræ; gelatinous-small-celled sarcoma, partial removal; recovery so long (two years.)

Quensel, *Neurologisches Centralblatt*, 1898, p. 482.—Man, forty-eight years old. Initial symptom, difficulty in urination and weakness of the legs; complete paraplegia and incontinence; sensibility lost for all qualities below a line drawn around the second lumbar vertebra, the ninth rib, and three fingers above the navel. The only parts below this line that have sensory perception are the genitals, and a saddle-form area on the posterolateral side of the hips; myostatic irritability of the lower extremities increased; a gibbus at the spinous process of the eighth dorsal vertebra, and local tenderness. Operation, removal of the spinous processes and arches, from the ninth to the fifth dorsal. A sarcoma the size of a pigeon's egg, situated on the dura posteriorly and latterly, was found between the seventh and eighth roots; it was apparently completely removed. The patient died of septic meningitis on the sixth day after operation.

Clark, J. M., *Brain*, Vol. 18, p. 256.—Man, twenty-eight years old. Initial symptoms, weakness of the arms and legs, dull pain in shoulders; later, paresis of the legs and arm, slight wasting of the small muscles of the hand; paraplegia, increased knee jerks, ankle clonus; loss of sensation in the arms and body. Two years later, operation, removal of the spine from the fifth cervical to the first dorsal. Spinal canal found to be completely filled with endothelioma of the dura. Death from shock. After hardening of the cord, the tumor was found to extend from the origin of the fifth cervical nerve roots to that of the first dorsal, chiefly on the posterior aspect of the cord, it lay external to the dura, 2¼ inches long, 1¾ inches in breadth, and 1¼ inches in thickness.

McCosh, *Journal of the American Medical Association*. September 7, 1901.—Male, thirty-nine years old. Initial symptoms, lancinating pain in posterior part of right thigh to the back of knee with great severity; treated for sciatica; pain, tenderness in the lower lumbar region; no paralysis, no anæsthesia; knee jerks normal; later numbness of the posterior and outer surface of the left thigh and foot; removal of spines of first and second lumbar vertebræ showed a sarcoma, which was removed; quick and satisfactory recovery. Probably all of tumor not removed, therefore recovery not permanent.

Case II.—Male, forty-six years old. Initial symptoms, pain on the outer side of ankle; later sacro region, inside of thigh worse on defecation, and when the bladder was full; loss of power of right leg and thigh; partial anæsthesia along the right posterior thigh and leg, and over the side of foot; on the buttock and externally to this there was a narrow line of hyperæsthesia. Both reflexes feeble. Operation, spine and laminæ, second, third, and fourth lumbar vertebræ removed, exposed dark-red purplish mass, completely hiding the dura; the tumor was irregular size, 2½ inches in length, spread out more than half-way around the cord; recovered.

Abbe, *Journal of Nervous and Mental Diseases*, 1902, p. 281.—Male, thirty-two years old. Initial symptoms, pain between the shoulders after a fatiguing game of golf; subsequently, numbness and spastic flection of the fingers, later of the legs and arms. Operation, three years after onset of the symptoms, which had been thought to indicate cervical hyperthropic pachymeningitis; removal of the laminæ from the fifth cervical to the third dorsal vertebræ. An intramedullary tumor attached to the anterior wall of the central canal, sarcomatous in nature, was found, and removed. The patient made a fair recovery, but has not gained much voluntary power.

Henschen and Lenander, *Upsala Läkareforenings Forhandlingar*, 1900-1901, p. 453.—Man, fifty years old. Removal of a tumor at the fifth dorsal vertebra. Before the operation the patient was completely paralyzed; recovery to such a degree as to enable the patient to get about. The destruction which the tumor had produced precluded complete recovery.

Alexandroff and Minor, *Neurologisches Centralblatt*, 1896, p. 1048.—Girl, twelve years old. Symptom complex of compression myelitis at the level of the fourth cervical segment, developing in three and a half months; resection of the arches of the fifth and sixth cervical vertebræ revealed thickening and protusion of the dura. The operation was carried no further. The patient died of pneumonia. Autopsy revealed an endothelioma attached to both the dura and the vertebra.

Starr, *Philadelphia Medical Journal*, 1902, p. 289, Vol. IX.—Woman, thirty-five years old. Initial symptoms, pain near the heart at night, occurring in paroxysms. Had been treated for angina pectoris; marked tenderness in the dorsal region, first to seventh dorsal spines; partial anæsthesia of trunk, total anæsthesia in the legs; motor paraplegia, double ankle clonus, loss of sphincter control. Operation and removal of a fibroma 1½ inches long, intradural, lying directly upon the cord and reducing its diameter about one-half at the level of the eighth cervical vertebra; death four weeks afterward from sepsis.

Case II, *Journal of Nervous and Mental Diseases*, 1902, p. 289.—Woman, forty-six years old. Initial symptoms, pain over the left hip, extending down to the left knee. Paralysis of the peronei and anterior tibial muscles; sphincter disturbances; anæsthesia back of the left leg and thigh; tenderness on pressure over the second, third, and fourth lumbar vertebræ. Operation, removal of the spines and arches of these vertebræ showed an endothelioma, involving both the soft and hard tissues of this region. Patient made a rapid and satisfactory recovery. The recovery could not be permanent because of the nature of the disease.

Oppenheim, *Berliner klinische Wochenschrift*, 1902, No. 2.—Man, forty-five years old. Initial symptoms, pain in the left hypochondrium and area innervated by the eighth to the ninth dorsal roots of two and one-half years' duration. It had been treated for rheumatism and intercostal neuralgia. Loss of abdominal reflex; atrophic paresis of the abdominal muscles on the left side; diminution of sensitiveness for touch and pain in the left hypochondrium; depreciation of temperature sense in the right thigh; later paraplegia; analgesia, especially in the right lower extremities; increased knee jerk, foot clonus, Babinski phenomenon, girdle pain. Operation at the sixth dorsal vertebra; on opening the dura, a myolipoma 3½ cm. long, and the thickness of a hazel nut; death eighteen days afterward from purulent cerebrospinal meningitis.

Case II, *Berliner klinische Wochenschrift*, 1902, p. 645.—A girl, eighteen years old. Initial symptom, pain in the right half of the abdomen. Scoliosis had been diagnosticated and orthopedic treatment advised; weakness and stiffness of the legs, especially the right; spastic paraparesis; foot clonus and Babinski phenomena on the right side; hyperæsthesia for tactile and pain stimuli; duration of the disease between six and eight months; relatively slight intensity of pain and failure of all root symptoms was taken to indicate primary medullary involvement; eighth dorsal vertebra point chosen for operation; tumor about 3 cm. long, fibroma, beneath the dura, attached to the arachnoid, readily removed; complete recovery in two months.

Putnam and Warren, *American Journal of the Medical Sciences*, October, 1899.—Woman, fifty-two years old. Initial symptom, intermittent severe pain over the lower ribs and left side across the abdomen into the left groin. Symptoms considered to be neuræsthenic or digestive. Six months later, weakness of the left leg, and bent over position, pain was then less excruciating; exaggeration of the knee-jerks and ankle clonus; sensibility to touch and pricking slightly impaired over the anterior surface of legs and lower part of abdomen; impairment of sensibility and motion increased until she was unable to stand alone, incontinence of urine; impairment of sensibility over the anterior and lateral surfaces of the thigh, legs, and feet, ceasing abruptly at the groin on both sides, but slight impairment was observable over the whole abdomen; sensibility of the left leg was better than that of the right, while the loss of motion there was much greater; to some extent, Brown-Sequard syndrome. The spines of the four lower dorsal vertebræ were removed, and a fibroma about the size and shape of an olive, lying in the meshes of the pia, on the left side, beneath the ninth dorsal vertebra, was removed; recovery.

Case II.—Man forty-three years old. Initial symptom, intense pain in the lumbar region, later impairment of sensation and motion of feet, with continuance of pain. At the end of nine years, entire paralysis of sensation, motion, and control of the bladder and the rectum; syringo-myelia-like disassociation of sensibility; operation, but no tumor found, second operation six years later, the same place, namely, seventh, eighth, and ninth dorsal vertebræ; some soft tissues found, which, on examination, proved to be endothelioma.

Case III.—A young man, twenty-four years old. Had difficulty in walking and use of hands; trifling disturbances of sensibility, exaggeration of knee-jerks and wrist-jerks; both legs and arms become wholly paralyzed. Operation revealed a sarcomatous mass in the upper part of the cervical cord, which was removed in part, and which gave relief, but, from the nature of the disease it could not be cured.

Eskridge and Rogers, *Philadelphia Medical Journal*, February, 1898.—Man, twenty-eight years old. Complained of pain in the back, radiating to the front. Six months later paræsthesia of the legs and gradual paraplegia; sphincter disturbance, fifth dorsal spine sensitive to pressure; knee-jerks exaggerated; skin reflexes sluggish or absent; tactile sensibility diminished or lost from the soles to the fourth intercostal spaces; perversion of temperature sensibility over same area; pain sensation greatly lessened from the soles to the umbilicus; deep sensibility lost. Operation, removal of fourth and fifth dorsal spines revealed the cord pushed to the left side of the canal from the tops of the fourth and fifth dorsal vertebræ by a sarcoma of the bone; death nine days after operation.

Eskridge and Rogers, *Philadelphia Medical Journal*, December 10, 1898.—Intradural fibroma, third to fourth dorsal vertebræ; removal and recovery.

CASES NOT SUBMITTED TO OPERATION.

Schultze, *Loc. cit.* Case III.—Man, thirty-six years old. Initial symptoms, numbness in the left leg, pain and stiffness in the neck; numbness, weakness, and severe pain in the right leg; later same symptoms in the arm and sphincter disturbances; spastic paresis of the lower extremities; exaggerated reflexes; tactile sensibility diminished from the neck downward; temperature, pain, and deep sensibility normal; prominence and tenderness of the upper cervical region; increase of the painful spasticity of the lower extremities and later of the upper extremities. "The patient lay like a stick of wood, with continuous severe pain in the arms, legs, and chest." Duration of the disease two years; autopsy, tumor the size of a walnut at the level of the atlas, between the dura and the bone, which closed the foraram magnum in its right half.

Case IV.—Man, twenty-eight years old. Initial symptoms, pain in the coccyx, numbness in the back and pain in the lower extremities; sphincter disturbances; paresis of the lower extremities; complete loss of the tendon-jerks; loss of tactile sensibility in the middle area, and on the right side of the anus, and the external genitals, and on the posterior surface of the thigh, beginning 6 cm. above the knee-joints, and reaching 17 cm. up over the gluteal fold; likewise on the outside of the feet on both sides; increase of all the symptoms; complete motor paralysis of the lower extremities. The entire posterior surfaces of the leg later show complete loss of sensibility; duration of disease, eight months. Autopsy, an intramedullary glioma, reaching from the conus terminalis to the lower part of the dorsal regions, posterior to the center of the canal.

Henneberg, *Archiv fur Psychiatrie und Nervenkrankheiten*, Vol. 33, p. 973.—Man, twenty-four years old. Initial symptom, developed after violent over-exertion, increasing weakness of the left arm and leg, pain in the left arm, difficulty of moving the head, priapism; later mystagmus, narrowing of the left palpebral fissure and pupil; left anhidrosis; paralysis of the left trapezius and levator scapuli muscles; weakness of the diaphragm; increase of the left tendon-jerks, loss of pain and temperature sensibility on the right side, sphincter disturbances; death six weeks after the first symptoms. Autopsy showed a medullary glioma, beginning in the sixth cervical segment and extending to the third cervical, involving principally the lateral columns of the cord.

Nonne, *Archiv fur Psychiatrie*, 1900, Vol. 33, p. 3[illegible].—Girl, sixteen years old. Developed paraplegia of the lower extremity in a subacute way; disturbances of the sphincters and loss of sensibility for all qualities in the [illegible], reaching as high as the mammary glands; weakness of the fingers, hands, elbows, and shoulders; disturbance of sensibility in the ulnar region, later complete; reflexes entirely lost; sensitive to pressure over sixth cervical vertebra; skin sensibility lost up to level of seventh [illegible]; later paresis of upper extremities and bulbar symptoms, choked discs. Autopsy, myelogenous tumor, reaching from the upper cervical cord to the tenth dorsal, intramedullary. The cord was uniformly affected.

Orlowsky, *Neurologisches Centralblatt*, 1898, p. [illegible].—Girl, fourteen years old. Initial symptoms, pain in the back and progressive weakness of the leg, which eventuated in paralysis, atrophy, with lost knee-jerks and anæsthesia of the lower extremities, reaching as high as the ninth dorsal spine behind, and two inches below the navel in front, complete, except over the posterior surface of the thigh and outer side of the legs; sphincter disturbances, later, anæsthesia of the ulnar region, both sides, and paresis of the arms; duration of disease, fourteen months. Autopsy, endothelioma, arising from the pia, which had destroyed the entire lower part of the spinal cord, and had its greatest development in the last two dorsal and first lumbar segments. At the level of the ninth spinal roots the neoplasm spread itself out in two directions. The principal part extending in the subdural space, in the form of a case or covering to the cord, compressing it, and here and there extending into it. In addition there was a gliosis in the posterior columns, with cavity formations.

Pribytkoff, *Neurologisches Centralblatt*, 1898, p. 563.—Man, forty-one years old, developed in the course of a year and a quarter the symptom complex of Klumpke's paralysis; disturbance of sensibility in the upper part of the thorax and the ulnar side of both upper extremities, with simultaneous left side oculopupilary symptoms. A few days before death paraplegia developed suddenly, flaccid in type, with loss of reflexes. Autopsy revealed sarcoma the size of an apple at the junction of the cervical and dorsal segments of the cord, which destroyed the head of the first rib and the bodies of the two first dorsal vertebræ producing compression myelitis.

Wersiloff, "Gesellschaft Neuropathologen und Irrenärzte zu Moskau in *Neurologisches Centralblatt*, 1898.—Age and sex not given. Duration of disease three and a half months. Sudden onset with spastic spinal paralysis of the left extremities, and loss of sensibility on the right half of the body and the right lower extremity. Later paralysis of the right extremity; increased tendon and cutaneous reflexes; no indications of compression of the posterior roots. Autopsy, angiosarcoma-psammoma, having its origin from the dura at the level of the second cervical roots, which compressed the cord on the left side to a severe degree.

Hudson, Barker and Flexner, *American Journal of the Medical Sciences*, Vol. 117, 1899, p. 648.—Man, fifty years old. Attributes symptoms to being thrown from a horse. Initial symptoms, pain along the spine from the dorsal region downward, and burning in the legs and feet. A year later, difficulty in walking; five years later, complete paraplegia, complete loss of sensibility in the legs, extending as high as the nipple line; violent spasmodic contraction of the muscles of the legs; skin reflexes present in the legs and feet; ankle clonus, exaggeration of the knee-jerks, no rigidity or deformity of the spine. Autopsy showed a peculiar glioma, extending from the fourth cervical to the dorsal region, which seemed to replace the cord particularly in the lateral parts, and extending above and below in two cone-like projections.

Fraenkel, A., *Deutsche medicinische Wochenschrift*, 1898, p. 442.—Male, thirty-three years old; shoemaker. Initial symptom, stabbing pain in the muscles of the throat, shoulders, and spine, later weakness of the back and arms; gait unsteady: patella-jerks slightly increased and indefinite sensory disturbances in the hands; later paralysis of the left upper extremity and inability to stand; difficulty in voiding urine, later complete paraplegia, and patellar reflexes lost; death six weeks after the initial symptoms. Autopsy showed a tumor in the upper part of the cervical region, reaching to the dorsal region, a gliosarcoma. The diagnosis of tumor had not been made during life. The tumor sprang from the pia, and there were metastatic deposits in other parts of the cord.

Case II.—Man, twenty-one years old. Initial symptoms, pain and tension in the right hip, which had been injured a year before; bladder symptoms; weakness of the legs, gradually increasing contraction of the lower extremities, pain in the neck; tendon reflexes not elicitable; plantar reflexes absent; complete anæsthesia of the lower extremities; no paræsthesia, no tenderness of the spine. Autopsy revealed, in the lower part of the dorsal cord, a soft grayish tumor mass, arising from the arachnoid, no connection with the dura; tumor began at the upper part of the lumbar enlargement, was 12 cm. long; it extended equally forward and backward, and made a pillow-like covering over the spinal cord. The tumor was a typical neuroepithelioma glioma cyst.

H. M. Fletcher, *Journal of the Pathological Society of London*, Vol. 49, p. 6, 1898.—Man, fifty-five years old. Initial symptoms, pain and weakness in the right knee; a year later similar complaint of left knee; difficulty in passing water, flaccid paraplegia, absent knee-jerks, sluggish plantar-jerks; impairment of sensation over both legs and trunk, as high as the upper edge of the sacrum, and the anterior superior spine; duration of disease, sixteen months. Autopsy showed a glioma sarcoma, 1½ inches long, in the lumbar enlargement, upper limit twelfth dorsal nerve root line, on the posterior surface of the cord, extending around on both sides, but not involving the interior surface. (This tumor should have been easily removed, although it could not have been accurately localized from the symptoms that are given. It is noteworthy that the patient died very suddenly with an attack of abdominal pain, attended by symptoms of collapse, which were thought to indicate that an abdominal aneurysm had ruptured into the retroperitoneum.)

Bonvenuti, Stratto del Vol. per il XXV anno dell'insegnamento chirurgico di Francesco Durante, Roma Societa, Editrice Dante Alighiere, 1898, Vol. 2, p. 375.—Woman, thirty-seven years old. Initial symptoms, pain in the lumbar region, radiating around like a girdle; paræsthesia and loss of strength of the lower extremities, especially of the left side, and exaggerated knee-jerk; abdominal and cremasteric reflexes diminished; slight general tactile anæsthesia; hyperæsthesia in the lower abdomen and loins; paralysis of bladder and rectum; later pain in the dorsal region, radiating to the upper extremities into the sides of the chest; loss of strength of arms, paresis of the muscles of the chest and anæsthesia of the thorax; breathing entirely diaphragmatic. Autopsical diagnosis, angiosarcoma of the pia, extending into cord.

Bailey, *Journal of Nervous and Mental Diseases*, 1896, p. 171.—Woman, sixty-five years old. Initial symptoms, chill, headache, vomiting, symptoms of pneumonia; death in sixteen days. Autopsy revealed on the dorso-internal surface of the dura, between the seventh and eighth dorsal nerve roots, a tumor of the size of an almond, and of the nature of a psammoma. The tumor, which was adherent to the dura, was directly opposite the posterior longitudinal fissure, and its long axis corresponded to that of the canal. It had never caused symptoms.

Case II.—Woman, twenty-nine years old. Initial symptom, paralysis and numbness of all four extremities, which disappeared after ten months. Four years later, similar attack, and disturbance of the sphincters; partial recovery. A year later, recurrence; extensor paralysis with contraction of the flexors of all four extremities; tendon-jerks lively; sensation normal, save for blunting of tactile sensibility in the fingers; muscular sense unimpaired; no tenderness over vertebral spines; no pain. Autopsy revealed a tumor of the ventral portion of the cord, on the external surface of the dura, slightly adherent to the loose fat on the spinal canal. It encroached upon the right first, second, third, and fourth cervical nerve roots, and on the first, second, and third on the left side.

Collins, *Medical News*, July 10, 1897.—A man, thirty-six years old. Initial symptoms, pain in the back of the neck, radiating to the front, and to the right side of the face; spasticity of the neck, partial loss of strength in the left side; all the tendon-jerks exaggerated in this side; left side hemiplegia. Autopsy revealed a tumor, gliosarcoma, of the pia, at the first cervical segment. Mistaken for hypertrophic pachymeningitis.

Raymond et Nageotte, *Journal de Neurologie et d'hypnologie de Bruxelles*, 1896, Nos. 1 et 2.—Man, twenty-six years old. Initial symptoms, pain and weakness in the leg and pain in the seventh left intercostal space, paraplegia, at first spasmodic, afterward flaccid, then pain disappeared; complete anæsthesia as far as the eighth dorsal vertebra, and sphincter incompetency; duration of disease, four months. Autopsy, a trilobed tumor, situated at the sixth intervertebral space, sending out three prolongations, one toward the body of the fifth dorsal vertebra, the other into the pleural cavity, between the sixth and the seventh spaces, and the third into the spinal canal, compressing the posterior surface of the cord at the emergence of the seventh and eighth dorsal roots.

Case II.—Man, forty-nine years old. Initial symptoms, progressive enfeeblement of and pains in the lower extremities; spasmodic paraplegia; various sensory troubles in the lower extremities, irregularly distributed, corresponding to no definite area of supply; pains radiating into the arms, and attacks of pseudoangina. Autopsy showed a tumor about the size of a nut, between the eighth and ninth dorsal segments, compressing the eleventh dorsal nerve. The tumor was a sarcoma.

Sailer, "Proceedings of the Pathological Society of Philadelphia," New Series, Vol. 2, 1898–1899.—Man, thirty-four years old. Initial symptoms, sharp stabbing pain in feet and legs, and unsteady gait; tenderness over nerve trunks; absent knee-jerks; sensation normal. Autopsy showed a tumor, melanotic sarcoma of the cauda equina, lying to the left of the lumbar enlargement of the spinal cord, and extending downward to the level of the conus terminalis. Tumor surrounded by fibrous envelope, which prevented it from invading the cord.

Cladek, *New York Medical Journal*, August 14, 1897.—Man, fifty-one years old. Initial symptom, pain in the right side, between ribs and ilium shooting into pains and testicle; six months later, paralysis of lower extremities, bladder, and rectum, sensibility dulled, but gradually got worse. Partial autopsy showed a growth springing from dura, extending from second lumbar to ninth dorsal. segments (Incompletely reported.)

Marfan, *Semaine Médicale*, Vol. 17, p. 29.—Child, three years old. Initial symptom, incomplete spastic paraplegia, incontinence of urine and fæces, and slight trophic troubles; no sensory disturbances, amelioration. Some months later, opisthotonus, general convulsions; death. Autopsy, solitary tubercle of the sacral cord; hæmatomyelia of the zone immediately subjacent, subarachnoid hemorrhages, hemorrhagic ascending poliomyelitis, and intense diffuse phlebitis of the veins of the pia.

Rosenthal, Ziegler's "Beitrage zur Pathologischen Anatomie;" Vol. 23, 1898, p. 111.—Man, twenty-five years old. Pain in back, loin, and abdomen, then difficulty in urinating and defecating, unsteadiness of gait, "cramps" in legs, paraplegia, sensibility of right leg diminished, profoundly so of the left, abdominal anæsthesia, skin and tendon-jerks exaggerated; gradual increase of symptoms; duration of disease, five years. Autopsy showed peculiar tumor of cord, associated with syringomyelia. Neuro-epithelioma, mycrocystic glioma, ninth to tenth thoracic vertebra 45 cm. long, 11 cm. wide.

Potts, "Proceedings Pathological Society, Philadelphia," January 15, 1898, Vol. 1, 1897–1898, p. 20.—Boy, sixteen years old. Leg amputated eighteen months before for sarcoma of knee. Initial symptoms, weakness of the right leg, numbness, and tingling. In two weeks complete paralysis of the leg, no pain; knee-jerks increased, ankle clonus, skin reflexes sluggish or absent; anæsthesia, extending up to the umbilicus; duration of disease, five months. Autopsy, sarcoma of dura from the ninth to the eleventh rib, anterior to cord (location probably explains absence of pains).

Morton and Witmer, "Proceedings of the Pathological Society, Vol. 1, 1897–1898, p. 1.—Woman, thirty-one years old. growth, metastatic from breast. Autopsy: tumor adherent to dura, twelfth thoracic vertebra; sarcoma size 33 cm. by 25 cm. by 19 cm.

Moeller, *Deutsche medicinische Wochenschrift*, Vol. 23, 1897.—Man, fifty-three years old. Initial symptom, tremor, then pain in legs; difficulty of urination, difficulty in locomotion; flaccid paralysis of lower extremities; complete anæsthesia below a line drawn around the navel to the second lumbar vertebra. Tendon-jerks of the lower extremities not much altered; duration of disease, two months. In the spinal cord between the eleventh and twelfth dorsal vertebræ a gliosarcoma, replacing nearly the entire right half of the cord. (Metastatic in lungs, stomach, and suprarenals, which is uncommon.)

Raymond and Cestan, *Revue Neurologique*, February, 1902, p. 174.—Male, thirty-two years old. Initial symptom, heaviness of the left leg, which soon progressed to a spasmodic paraplegia, extensor type; progressive evolution; appearance of anæsthesia superimposed upon the motor troubles; sphincter disturbance; painless bed-sores over the sacrum; death, six years afterward. Autopsy, psammoma, angiolithic sarcoma, endothelioma, adherent to the anterior of the dura, and compressing the sixth, seventh, and eighth dorsal roots.

Fischer, *Zeitschrift fur Heilkunde*, Vol. 22.—Girl, three years old. Initial symptoms, pain in the loins and weakness in the legs; complete flaccid paraplegia; disturbance of the bladder; loss of sensibility for all qualities in the lower extremities and the trunk, from the fourth to the fifth ribs, downward on the right side, from the sixth to the seventh on the left, and from the ninth dorsal vertebræ; spinal column not sensitive; weakness of the upper extremities, later paralysis; choked discs. Autopsy, an enormous gliosarcoma, not only of the cord itself, but of the coverings, soft and hard, and deposits in different levels of the cord.

Holmsen, *Norsk Magazin für Lægevidenskaben*, 1901, p. 318.—Boy, eight years old. Initial symptoms, pain in the loins and abdomen, paresis of the left leg, ataxia of both, spastic ataxic gait, increased reflexes; paraplegia, incontinence of bowels and bladder; loss of sensibility from the ensiform process downward; pain and paresis of left arm, stiffness of neck, headache, vomiting, epileptiform attacks. Autopsy, sarcoma, between the dura mater and cord, throughout its entire length, thickest in the upper dorsal and lower cervical, compressing the cord most at the seventh and eighth dorsal segments.

Schlagenhaufer, "Arbeiten aus Obersteiners' Latoratorium," Vol. 8, 1902.—Woman, sixty-one years old. Initial symptom, weakness and œdema of the right arm; later, paralysis of all the extremities, the bladder, and the bowels, anæsthesia of the extremities and the trunk; patellar reflexes lost. Autopsy, circumscribed tumor, psammoma endothelioma, at the foramen magnum, springing from the dura, compressing and almost obliterating the first dorsal segment.

Sibelius, *Finska Lækaresellskapets Handlingar*, 1890, No. 9, p. 1021.—Man, twenty-five years old, in whom sarcoma developed in the spinal cord, and pursued its course without pain. The writer thinks that the tumor because of its way of progression, provoked a lymph stasis, which rendered the nervous elements incapable of performing their function, and for this reason the tumor did not cause any pain.

Roux and Paviot, *Archives de Neurologie*, Vol. 5, 1898.—Man, forty-five years old. Initial symptom, pain in the left arm, the dorsal lumbar [illegible] then the lower extremities, spasmodic paraplegia, later complete loss of cutaneous sensibility, with the preservation of [illegible] in the lower extremity and sphincter disturbances, painful spasmodic contractions of the muscles of the lower limbs, evidences of root compression. Autopsy, a [illegible], in the left lateral half of the cord reaching from the sixth cervical to the second dorsal segment.

Touche, *Revue Neurologique*, Vol. 8, 1900, p. [illegible].—Age and sex not given. Clinical history, spasmodic paraplegia with incontinence of the sphincters, exaggerated patellar reflexes, phenomena of Brown-Sequard, sensibility was first abolished, later it became normal in all [illegible]. Autopsy, tumor the size of a pigeon's egg beginning at the upper border of the lumbar enlargement, extending upward 3 cm., occupying the posterior surface of the cord without being adherent to it, and reducing the cord at this level to the thickness of a ribbon. The remarkable feature in this case is the preservation of sensibility, though all the white matter of the cord was destroyed at the level of compression.

Case II.—Age and sex not given. Initial symptom, unbearable pain in the left lower extremity, shooting from the trunk to the foot, then going into the other extremities extending from the foot to the body. Much later paraplegia with loss of the patellar reflexes, fixation of the knees in extension, and of the feet in equino varus, incontinence of the sphincters, integrity of tactile and pain sensibility in the posterior part of the dural surface, and malleolar region of the right foot, abolished elsewhere. Autopsy, a tumor the size of a nut in the mid-dorsal region, on the posterior surface of the cord, absolutely independent of it, but making unequal compression upon its two halves. It compressed completely the left half, reducing it to the thickness of a ribbon, and exercised equal compression on the left sixth dorsal nerve. On the right half the compression was much less. Nature of tumor, angiolithic sarcoma.

Muller, *Deutsche Archiv für klinische Medicin.*—Man, forty-six years old. Initial symptoms, headache, pains in the legs, and disturbance of urination. Patient was deranged mentally; inability to stand or walk because of severe vertigo; double choked discs, hyperæsthesia of the lower part of the body and legs, no anæsthesia; gradual paraplegia, first of the right, then of the left leg, with complete incontinence and trophic manifestations. Autopsy showed sarcoma of the left kidney, with metastatic deposits in other organs of the body, including the brain and spinal cord. The tumor of the cord was situated between the second and third thoracic nerves on the posterior surface, covering about one-fourth of the periphery and springing from the arachnoid.

Schlesinger, *Wiener klinische Wochenschrift*, 1897, No. 47.—Woman, sixty-one years old. Initial symptom, pain in the loins, and stiffness of the spinal column; later, paralysis of the detrusor and sphincter vesica, and anæsthesia of the bladder; later, incontinence of stools, and anæsthesia of the anus, perineum and external genitals. Autopsy, carcinoma of the first lumbar and twelfth dorsal vertebræ, which extended into the spinal canal, compressing the cord as far upward as the fourth cervical segment.

Saenger, *Munchener medicinische Wochenschrift*, 1898, Vol. 45, p. 978.—Woman, thirty years old. Initial symptom, weakness of the right leg, and slight pain in the back of the knee; later, numb feeling of the right foot, difficulty in standing and walking, functions of bowels and bladder somewhat disturbed; loss of patellar and achilles reflexes; disturbance of sensibility in the left lateral cutaneous, crural, and superficial peroneal nerves. Until a week before her death, patient was able to get about in a room with a stick; death, very suddenly, as if from a heart stroke. Autopsy showed intramedullary glioma, reaching from the lower dorsal segments to the conus medullaris, extending throughout the cord, swelling it to about twice the normal size. In the dorsal cord, a second tumor the size of a hazel nut.

Mader, *Wiener medizinische Blätter*, No. 10, 1898, p. 240.—Male, twenty years old. Initial symptoms, weakness of the legs, and pain in the toes on movement, later pain in back, sphincter disturbances, flaccid paraplegia, weak tendon-jerks, sensitiveness to pressure at the lower dorsal vertebra, no objective sensory disturbances; death six weeks after first symptom. Autopsy sarcoma (endothelioma of the dura in the lower part of the dorsal cord).

Strube, "Charité Annalen," Vol. 23, 1896–1897, p. 27[illegible].—Man, fifty-eight years. Initial symptoms, paralysis of both legs within two weeks, complete paralysis of the lower half of the body with bladder and rectum disturbances; complete loss of sensibility from the navel downward, trophic disturbances, in the form of œdema and decubitus; duration of disease, two months. Autopsy showed cystic myxosarcoma of the dura mater, the size of a hazel nut, between the sixth and eighth thoracic segments.

Wyss, *Correspondenz-Blatt fur Schweitzer Aerzte*, Vol. 29, 1899, p. 110.—Girl, twelve years old. Initial symptom, gradual increasing paraplegia; insensibility of the lower extremity; sphincter disturbances, first considered to be hysterical; left tendon reflexes absent; right, weak; later progressive weakness of the upper extremity; dyspnœa. Sensory disturbances not carefully observed. Autopsy showed medullary glioma with extension throughout the cord.

J. J. Thomas, *Journal of Nervous and Mental Diseases*, 1900, p. 580.—Woman, twenty-two years old. Initial symptom, gradual loss of power in the leg, later spasmodic, sudden contractions, paraplegia at the end of ten months; sensibility in all forms lost from the mid-dorsal region downward; function of the vesical and rectal sphincters abolished; duration of disease, thirteen years. Autopsy: just below the cervical enlargement, and at the level of the spine of the scapula, an endothelioma about 2.5 cm. in length, which appears to be meningeal, but which almost completely replaced the cord beneath it.

Case II.—A boy, six years old. Initial symptoms, weakness of the right hand and arm, pain in the shoulder, and rotation of the head to the left, from muscular spasm; later paralysis of the arm, and, to a lesser degree, of the leg, on the right side, with increased tendon reflexes; death very sudden at the end of the fifth week. Autopsy, glioma of the entire cervical enlargement of the cord.

E. Meyer, *Deutsche Zeitschrift für Nervenheilkunde*, Vol. 22, p. 232.—A girl, fourteen years old. Initial symptom, pain in the left shoulder and arm of great severity; numbness and weakness of the left arm; one and a quarter years later, stiffness and weakness of the left leg, associated with numbness, no pain; three months later, gradual stiffness and weakness of the right side; shooting pains in both arms, radiating from the neck, fifth vertebra; loss of sensibility for all kinds of stimuli in the inner half of the right upper extremity, anterior, and posterior surfaces, extending on the chest as far forward as the nipple, as low as the seventh rib, and behind to the middle of the scapula; complete anæsthesia over the left ulnar distribution; later, diminution of sensibility, and both lower extremities, extending up on the anterior surface to the epigastric region; tenderness of the fifth cervical; duration of disease, two years and eight months. Autopsy showed a fibrosarcoma, reaching from the sixth cervical to the first dorsal segment; it was divided into two portions, each about the size of a walnut, one extradural, the other intradural, the two connected by a bridge.

ARE VESSELS INFECTED WITH YELLOW FEVER?

A REPLY TO DR. CARTER.

By ALVAH H. DOTY, M.D.,

HEALTH OFFICER OF THE PORT OF NEW YORK.

In the Medical Record of March 22, 1902, appears an article, written by Dr. Henry R. Carter, Surgeon, Marine Hospital Service, entitled, "Are Vessels Infected with Yellow Fever? Some Personal Observations." This is also published in the *Yellow Fever Institute Bulletin* of the Marine Hospital Service (July, 1902). From the text of the article, I assume that it is intended as a criticism of, and a reply to, my paper, which was read at the meeting of the American Public Health Association, held in Buffalo in October last.* "On the Mode of Transmission of the Infectious Agent of Yellow Fever and Its Bearing upon Quarantine Regulations." The first paragraph of Dr. Carter's article contains the following: "Dr. Doty, the quarantine officer of New York, affirms the absence of secondary cases of yellow fever aboard vessels; *i. e.* that, while cases of this disease contracted ashore develop aboard vessels, yet none are contracted on board the vessel itself; that is, the vessel does not become 'infected' with yellow fever." Dr. Carter has unintentionally misquoted me. In the paper to which he refers, I did not make the statement that yellow fever is never transmitted on shipboard by mosquitos. What I said regarding this part of the subject is as follows: "It is not impossible for this to take place, and instances have been reported where secondary cases have occurred after leaving port. How many of these statements are authentic, I do not know, but of this I am quite sure, that it occurs only in rare instances." I am satisfied that the mosquito is the principal, if not the only, medium of infection in yellow fever; therefore, it would hardly be scientific or logical to claim that this disease cannot be transmitted on shipboard; however, I believe this to be uncommon, and have presented my personal experience at the New York Quarantine in proof of it. This, I am quite sure, is entitled to consideration, inasmuch as the port of New York receives about one-half of all vessels coming to the United States from foreign ports, and vessels from Rio Janeiro and other yellow-fever-infected ports are daily arriving at this station. Dr. Carter evidently believes that secondary cases of yellow fever on shipboard are of frequent occurrence; this practically constitutes the difference of opinion between us. It is true that Dr. Carter and I present evidence from two different periods. He refers to a time when sailing vessels, which usually remain many days in port, were more commonly employed in the Southern trade. In recent years these have been largely replaced by steamships; besides, better sanitary regulations now exist at the ports of departure. To a certain extent this may account for the difference in our conclusions. However, I cannot admit that this is the principal factor. In the consideration of this subject, it is very necessary that we should bear in mind that the discovery of the malarial plasmodium by Laveran has thrown great light on the differential diagnosis of malarial and yellow fever, and I am quite sure that Dr. Carter will agree with me that the diagnosis of the latter disease is at times very difficult, and that even our most skilful diagnosticians in the South and elsewhere have frequently been unable to agree as to the diagnosis of certain cases alleged to be yellow fever. This, undoubtedly, has been largely due to the fact that some forms of malarial fever and yellow fever bear a close resemblance to each other. In obscure cases careful and conservative quarantine officials give the public the benefit of the doubt. This has oftentimes forced an official diagnosis of yellow fever in order that detention, disinfection, etc., may be carried out.

In support of his claim that secondary cases of yellow fever frequently occur on shipboard and under the heading of "personal observation," Dr. Carter refers to thirteen vessels on which it is alleged secondary cases of yellow fever occurred. On seven of these vessels, viz., *Magnolia*, *Riagino*, *Queen of the Seas*, *Curlew* (1901), *Condoran*, *Gustav and Oscar*, and *Crown Prince*, the members of the crews said to have had yellow fever were not seen by Dr. Carter, as they were sick at sea and died or recovered many days before the vessels reached the United States. There is no evidence presented to show that an autopsy was made; that a surgeon was in attendance on board these vessels, or that the sick received any intelligent medical aid. Therefore Dr. Carter's information as to the character of the disease must have been obtained from an inspection of the ship's log, or from the statement of the captain, or a member of the crew. So far as I am able to classify the statistics presented by Dr. Carter, it appears that there were, in all, 113 cases of sickness; of these 102 were on the seven vessels above named, and were not seen by Dr.

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*Medical Record, October 26, 1901.

Carter: therefore, out of the entire number but eleven were under his personal observation.

Dr. Carter refers to a case of yellow fever which occurred on the British ship *Avon*, and which came directly under his observation at Quarantine. The patient, a boy, became sick with the disease thirty-eight days after leaving Rio Janeiro, and was ill on arrival at the Quarantine Station, and died three days afterward. Dr. Carter states that it was suggested that the disease may have been contracted by the escape of an infected mosquito from a box packed at the port of embarkation, and which was overhauled by the boy at least a month afterward. I am satisfied that the infection was not transmitted in this manner. In a series of experiments carefully made at this Station during the past year, it was conclusively shown that mosquitos thus confined do not live more than four days. These experiments were made as follows: Boxes and bags, similar to those used in the forecastle of a ship, were filled or partly filled with clothing, blankets, etc. In each receptacle were placed ten or fifteen mosquitos. These insects, which had been caught in cages, were not handled, but were allowed to escape into the bags and boxes containing the material referred to; great care being taken not to injure them by pressure. In order to avoid this some of the mosquitos were transferred to the boxes and bags and among the folds of the clothing in large open test tubes. These precautions gave better protection to the insect than when they are accidentally imprisoned at the port of departure. In these tests the mosquitos were, as a rule, found dead at the end of forty-eight hours. In no instance did they survive the fourth day.

In referring to the British ship *Curlew*, fifty-seven days from Rio Janeiro for Pensacola, Dr. Carter states that, with the exception of a Barbados negro, the crew were all sick, and some had black vomit. He adds that he does not believe that all had yellow fever. Inasmuch as the Doctor was not on board the *Curlew*, and saw none of the cases, and as no professional statement was in evidence, on what grounds is he willing to declare the existence of secondary cases of yellow fever on this vessel? Those of us who are constantly dealing with the type of vessels referred to by Dr. Carter know that the statements made by sailors cannot always be relied upon. Furthermore, those who sail to Southern ports are usually familiar with the term "black vomit," and in a way appreciate its significance, and often apply it to matter evacuated by the stomach in other diseases than yellow fever.

In conclusion, Dr. Carter states: "I think it will be granted, from the above, that the ability of a vessel to carry the infection of yellow fever is no myth. Here are thirteen vessels which did carry it, collected from only three years' observation at a single station." It is unnecessary for Dr. Carter to present evidence to show that it is possible for secondary cases of yellow fever to occur on shipboard. We all agree that this may take place, but I am quite sure that it will require more conclusive evidence than Dr. Carter has presented to prove that secondary cases of yellow fever on shipboard are of common occurrence. No practical sanitarian has given the subject of yellow fever more careful and diligent study than Dr. Carter, and his efforts to bring about a solution of the problem now before us have been exhaustive as we all know. If the cases on the vessels referred to by Dr. Carter had been under his personal observation, and he had made a positive diagnosis of yellow fever, there would be nothing in his article to criticize. We cannot, however, accept as conclusive evidence the diagnosis of yellow fever made by laymen particularly when we know that this disease is often closely simulated by malarial fever.

A NEW STAIN FOR DIPHTHERIA BACILLI.

By WILLIAM GRAY SCHAUFFLER, M.D.
LAKEWOOD, N. J.

During July and August, 1902, it was my privilege to work in the bacteriological laboratory of Dr. Max Piorkowski in Berlin, Germany. In the course of my work, I became especially interested in a method, perfected by Dr. Piorkowski, for demonstrating quickly and surely the presence in the bacilli of true diphtheria, of characteristic metachromatic bodies, called by the Germans "Polkörner."

In the *Berliner klinische Wochenschrift*, No. 9, 1901, Piorkowski published his method, with a careful résumé of the work done up to that date by other investigators. He has continued the use of the method up to the present time, and his results, as to ease of technique and accuracy of diagnosis, go far ahead of the pioneers in this work. M. Neisser[1], Ernst[2], A. Neisser[3], Babes[4], Delafield[5], Croush[6], Roux and Yersin[7], Gossage[8], Bronstein[9], Zupnik[10], Sahli[11], and Concetti[12], had used various combinations of stains, but claimed results only within certain limits of culture-media and time. Piorkowski, working with Pewsner of Riga, laid down the following rules: Use as culture medium preferably Löffler's blood serum. Keep the culture at 35 °C, and examine from ten to twenty-four hours after inoculating.

1. Prepare cover-glass smear.
2. Stain with Löffler's methylene blue, slightly warmed, one to two minutes.
3. Decolorize very rapidly (one second) with 3 per cent. HCl-alcohol.
4. Rinse in water.
5. Counterstain with ½ per cent. aqueous solution of eosin, ten seconds.
6. Examine in Canada balsam, or with clearer results in water.

This method stains the bodies of the bacilli a pale reddish color, while at each pole, and sometimes in the middle of the bodies, appear the dark blue-black polar bodies.

In searching for some color that would give more decided results, I tried pyronin (Grübler), and found it far superior to eosin. In order to simplify the method still further, I experimented until I hit upon a combination of colors which required the use of but one solution for one minute and cold, with much better results than anything previously attained. I also found that cultures on plain agar-agar, kept at 37° C., showed the characteristic staining after from seventeen hours to twenty-one days. Further than this time limit I did not carry my experiments. The clearest results were obtained after from twenty-four hours to five days. Of even greater importance was the fact that smears made from fresh diphtheritic membranes showed the characteristic staining, although not so clearly as in the cultures.

A mixed culture of true diphtheria bacilli and pseudodiphtheria bacilli stained in the same way, showed the characteristic pole-stained bacilli of true diphtheria, side by side with the much smaller pseudodiphtheria bacilli, the latter of uniform color throughout.

The practical usefulness of this method is that it furnishes a rapid and reliable means of recognizing the true diphtheria bacillus from fresh membranes as well as from cultures.

The solutions used for making the stain are as follows:

Filtered solution Löffler's methylene blue . . 10.0 c.c.
Filtered solution pyronin (Grübler) . . . . 1.5 c.c.

$$\left\{\begin{matrix}\text{Pyronin, 0.5 gram.}\\ \text{Aquæ dest. 10.0 c.c.}\end{matrix}\right\}$$

Three per cent. HCl-alcohol . . . . 0.5 c.c.

$$\left\{\begin{matrix}\text{Alcohol absol. 97.0 c.c.}\\ \text{HCl.(25 per cent.) 3.0 c.c.}\end{matrix}\right\}$$

To prepare specimen: (1) Make cover-glass smear, and fix by passing through a flame three or four times (2) Drop on to a fixed smear enough solution to cover it and let it stand one minute. (3) Wash thoroughly in running water. Mount in Canada balsam and examine with $\frac{1}{12}$ oil emersion lens. Magnify 1,000 times.

The above procedure will show the bodies of the bacilli stained blue while the poles are a bright ruby red.

As stated above, the pseudodiphtheria bacilli are much smaller and take on only the blue color. The bacilli of Asiatic cholera and of plague, when stained by this method, show granular bodies in their interior, but these bodies are not metachromatic like those of diphtheria bacilli just described.

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Perforation of the Bowel in Typhoid Fever.—The paper of G. E. Armstrong of Montreal is of interest especially from its statistics of operations done in the author's own city. In this series the operation was performed during the first twelve hours in ten cases, with four recoveries, or 40 per cent.; the second twelve hours in ten cases, with one recovery, or 10 per cent. Of the twenty cases operated upon during the first twenty-four hours, five recovered, or 25 per cent. Operation was done during the third twelve hours on three patients, and they all died; on one patient, forty-eight hours after perforation, another sixty-eight hours after perforation, who also died; on one, seven days after perforation, who recovered; in seven cases, time after perforation uncertain. Of the six who recovered, one was operated on two hours after the perforation, one thirteen hours after, one eight hours, one ten hours, one five hours, and one seven days after. The operation in the last case was really nothing more than the opening of an intra-abdominal abscess. Four of the five acute cases were operated on during the first twelve hours.—*Annals of Surgery.*

Paradoxical Pseudohypertrophy Following Infantile Cerebral Hemiplegia.—L. Pierce Clark says that the hypertrophy of paralyzed parts in infantile cerebral palsy is a rare condition, no cases illustrative of it having, until now, been reported in America. In those reported in other countries the more important symptoms of the onset of cerebral palsy have usually been absent in the hypertrophic cases, but in those observed by the author there were more or less severe convulsions, vomiting, fever, and physical prostration. Athetosis may or may not occur. The mental state of these patients, on the whole, is better than usually obtains in palsy cases. The length of time necessary to produce the hypertrophy is difficult to ascertain, but the time elapsing between the palsy lesion and the detection of the hypertrophy has varied from eight to twenty-nine years, the average being sixteen years. The hypertrophy may involve any and all parts that are paralyzed, even the breast and the testicles may enlarge. The muscles most frequently hypertrophied are found in the following order of sequence: biceps, deltoid, and triceps. The parts not hypertrophic follow the general law for atrophies in ordinary cerebral palsy cases.—*The Journal of Nervous and Mental Disease.*

A Case of Trypanosoma in a European.—The wife of a missionary in the upper Congo, where she had lived for about a year, was sent to Dr. Manson in London. She complained of persistent fever and impaired health, with no improvement from the taking of quinine and arsenic. The group of symptoms found consisted of fever, enlargement of the spleen, not very marked, but distinct œdema of the face, and a multiform erythema. Examinations of the blood were made regularly for a fortnight, without result, but later, while the leucocytes were being counted, an unquestionable trypanosoma was found. On the examination being repeated, other specimens of the parasite were readily discovered. For some unknown reason the parasites must have been latent during the first part of the patient's residence in the hospital, or so very scanty in the peripheral circulation that they were overlooked. Possibly in the presence of this parasite we have an explanation of some of the anomalous chronic fevers, such as kala-azar, which have hitherto defied investigation in tropical countries.—*The Journal of Tropical Medicine.*

Giantism.—Henry Meige states that a comparative study of giantism shows that it is intimately related to acromegaly. There is an abnormal and excessive osteogenetic function which results in giantism so long as the bone is capable of increasing in length, and in acromegaly when ankylosis of the epiphyses interferes with the manifestation of the hypertrophy, except at the extremities of the bones. The cause of this perturbed function cannot as yet be definitely stated. But it is well to bear in mind the affinities existing between the bony development, the genital development, and the condition of the vascular glands, the thyroid in particular. Both giantism and acromegaly are frequently accompanied by general phenomena, such as pain, circulatory troubles, urinary and sexual disturbances. Giants belong to two types—the infantile and the acromegalic, with intermediate types. Marriage should be discouraged in individuals of either type.—*Archives Générales de Médecine.*

The Radical Treatment of Hernia in Arabia.—Dr. H. R. L. Worrall writes: "I think it may be of interest to know that some of the native surgeons here in Arabia treat inguinal hernia by reducing the hernia, then picking up the skin over the external opening, pass a needle through, including, if possible, the edges of the external opening in the muscular wall (on the opposite sides of the opening), and thus trying to make a closed way. One such case came to me to be treated for a return of the hernia. The cure lasted, he claimed, about two years and a half, the suppuration apparently helping the operation. The severe work which the patient had to do would cause a return of the trouble in almost any case. The work, although not the same, would correspond to longshoreman's work in America. As aseptic methods are absolutely unknown here, the remark that the suppuration apparently helped the operation is sufficiently explained."

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PURE MILK LAW FOR THE DISTRICT OF COLUMBIA.

CONSIDERING the importance to large cities of purity in their milk supply, and the difficulties in the way of securing such purity, the important monographic résumé upon the subject of sanitary milk submitted by Dr. George M. Kober, Chairman of the Public Health Committee of the Medical Society of the District of Columbia, constituting Senate Document No. 441, in support of the bill pending before Congress to regulate the production and sale of milk in the District of Columbia, is a tract for the times. Dr. Kober's paper contains 235 pages, with a comprehensive bibliography, a thorough index, and the tabulated data of 330 epidemics of typhoid, scarlatina, and diphtheria, due to infected milk. Being in the nature of an argument designed for the Senate Committee, much of the paper is, of course, devoted to technical details, the chemical and bacteriological examination of milk for impurities and adulterants, and the proper methods of sanitary dairying. But a few points have a wider interest Thus, in appendix F, is described the relation of the milk supply to infant mortality. The mean death rate during the first year of life per 1,000, taking cities and country alike, is 188; that for the cities, as a class, 336, and that for the country, 278. The same rate is for:

Italy	273
France	223
England	142

Chemnitz	480
Paris	290
New York	277
Brooklyn	276
Boston	261
Washington	256
Liverpool	259
Philadelphia	230

The influence of hygiene upon the mortality is indicated by the fact that the rate for royal children is but 57 per 1,000, as compared with 345 among the poor. Moreover, the average mortality for France, Austria, Sweden, and England, for legitimate children, is 162, as against 312 for illegitimate. In Berlin, among hand and bottle-fed children, it ranges from 400 to 470; in Hamburg it is 294; while in Paris it has reached as high as 700 to 750. In Munich, of 8,329 children dying at six months or earlier, over 85 per cent. were bottle-fed. Of deaths during the first year, 40 per cent. occur from diseases of the digestive organs, and 2.5 per 1.000 die from primary tuberculosis of the abdominal lymphatics Again, during the first twelve months the mortality is heaviest the first month, then follows in order the second, third, and fourth months and then the twelfth month, the rise in the last month being attributed to the beginning of artificial feeding. Sour milk, or milk on the point of turning, is very liable to produce gastric and intestinal catarrhs, acute or chronic, in infants, children, and feeble individuals, and in bottle-fed children we may have the phenomenon of cholera infantum The causes of untimely acidity of the milk are improper feeding of the animals, dirty milk pans and rooms, unclean udders and teats, and a high temperature The greatest danger under such conditions lies in the possible production of tyrotoxicon and other bacterial products. The presence of excrementitious matter, containing a large number of fecal bacteria, on the udders and teats, and the pernicious habit of placing the milk before cooling in covered and, perhaps, dirty vessels, constitute conditions favorable for the production of bacterial toxins. The amount of filth in milk (largely bovine fecal matter) has been found by Renk to be, at Leipzig, 3.8 milligrams per liter; at Munich 9 mgms.; at Berlin, 10.3 mgms.; and at Halle, 12.2 mgms. In Washington, twenty-four samples of market milk taken at random, showed all the way from 5 to 30 mgms. per pint and quart. These sediments contained epithelial debris, hairs of the cow, excrementitious matter, vegetable fibers, organic and inorganic dust particles, bacteria, fungi, and spores of every description. Of the germs, 90 per cent. were those of fecal bacilli. The number of microorganisms per cubic centimeter in market milk in Washington being about 52,000, it was found possible, by sanitary dairying, to reduce them to 6,485 per cubic centimeter. Dr. Plant of Leipzig finds that the "fresh" milk delivered in the morning has already passed the period of incubation, and is unfit for young children. Of forty-seven infants whose milk supply he investigated, eighteen developed, under such conditions, digestive disturbances and six died. A number of cases of milk and cheese poisoning are given, the usual symptoms being vomiting, purging, abdominal pains and cramps, cold, moist skin, feeble pulse, etc.

Apart from wilful adulteration and dirty sediments due to uncleanly methods, milk may be unfitted for use through improper feeding of, or during the administration of substances by way of medicines to the cow. But an even more important matter is the unfitness which ensues upon diseased conditions of the animal. These are discussed at some length. Thus epidemics of so-called diphtheria and scarlatina have been caused by the milk of cows suffering from inflammatory diseases of the udder, or from puerperal fever, and the author believes that in these cases the disease is a typical streptococcus or staphylococcus infection. One series, fairly typical of those diphtheroid conditions referred to infected milk, is the following, in which the milk was believed to be that of cows suffering from cowpox. At Fettes College, Edinburgh, an epidemic occurred, characterized by malaise, headache, anorexia, occasionally "sickness" and epistaxis, and usually, furred tongue and foul breath. Examination showed the tonsils and posterior wall of the pharynx bright red with, constantly, follicular exudation There was considerable swelling of these parts, and also of the uvula and soft palate, but never any deposit upon them, though there was sometimes a considerable patch upon the tonsils. Albuminuria was infrequent. The duration of the acute stage was usually seven days. A peculiar symptom was the involvement of the uppermost of the chain of lymphatics behind the sternomastoid, this always taking place several days after convalescence had set in, and forming a large, brawny swelling, which subsided slowly without suppuration. The disease appeared not to be contagious, but a first attack conferred an almost absolute immunity. This epidemic ceased upon the milk being served boiled, and reappeared when the boiling was discontinued. Attention is directed to the almost total absence of scarlet fever in Japan, where milk is only used as a medicine, and the infant mortality under one year for Tokio is cited as 535 per 100,000, compared with 603 per 100,000 for Washington, the latter figure, however, not corresponding with that cited above for the same city. In the milk of cows suffering from puerperal fever, micrococcus pyogenes aureus has been found, and the milk has caused vomiting and diarrhœa. There is reason for believing that septicæmia neonatorum may be derived from germs conveyed through the milk, as Escharich has found pyogenic germs in the milk of twelve out of thirteen puerperal-fever patients, and Karlinski has demonstrated the staphylococcus in the milk, and in the intestinal contents and the blood of the infant. The milk of cows suffering from foot and mouth disease has caused aphthous stomatitis, the following being the principal symptoms: Fever, pains in the head and limbs, swelling of the mucous membrane of the tongue and mouth, with the formation of vesicles, which subsequently ulcerate, the ulcers being accompanied by a burning pain; and vesicular skin eruptions on the hands and legs, which subsequently ulcerate, the ulcers healing slowly. In some epidemics, shivering, giddiness, an inclination to vomit, a yellowish-gray color of the skin, obstinate constipation, hoarseness, looseness of the teeth, intense fetor of the breath, and alarming swelling of the mucous membrane of the mouth were observed. There is no absolute demonstration that milk has conveyed anthrax, pleuropneumonia, rabies, and tetanus, though suggestive cases are not lacking, and the bacillus anthracis has been found in the milk.

Concerning the transmission of tuberculosis from cattle to man, apart from cases dating from the first half of the last century (notably the thoroughly-studied series of Klencke), the following data are adduced: Of the 1,013 replies from physicians to Ernst's question whether they knew of cases of transmission, 895 were in the negative; eight reported transmission from mother to child; eleven reported cases of infection through cow's milk, and sixteen reported suspicious cases. Of fifty-four replies to the same question from veterinarians, fourteen reported positive cases, and nine, suspicious cases. Johne reports the case of a child of healthy ancestry, who died, aged two and a half years, of miliary cerebral tuberculosis, after feeding on the milk of a tuberculous cow, the other children remaining healthy. Hermsdorf relates the case of a girl who died, aged fourteen, of tuberculosis of the larynx, ileum, and cæcum, who had been in the habit of drinking warm the milk from a tuberculous cow. Leonhard mentions a family in which the children contracted tuberculosis soon after weaning. Tuberculosis was found in the cow, and the next child remained healthy. He also mentions two cases of tuberculous meningitis traced to the milk of a tuberculous cow. Demme, Sonntag, Meyerhoff, Stang, Schöngen, Herterich, and Uffelmann report cases of infection under similar conditions. Epstein finds that children of consumptive parents rarely develop the disease when provided with a healthy wet nurse, and attributes the frequency of intestinal tuberculosis to infected milk. Brouardel reports the death from tuberculosis of five out of fourteen girls in a boarding house, after drinking milk from a tuberculous cow, and he cites the cases of seven other girls in a convent, believed to have been infected in a similar manner.

Instances of cholera occurring from the use of milk which had been infected through dilution with infected water and in other ways are cited. Of 195 epidemics of typhoid fever, due to the milk supply, in 148 there was evidence of the presence of typhoid at the farm or dairy. In sixty-seven it was probable that the milk was infected through soakage of the germs into the well water used for rinsing the cans, and in sixteen intentional dilution with infected water was a matter of evidence. In four ice cream prepared on infected premises was the carrier, and in one of these, sewage germs were found in the cream. In seven instances the infection was spread through milk delivered at creameries. In twenty-four cases the dairy employees also acted as nurses, and in ten instances the dairy hands had typhoid fever, but continued at work. In seven instances the infection was attributed to the cows drinking of or wading in infected water. As regards scarlatina, ninety-nine epidemics are recorded. In sixty-eight cases the disease prevailed at the farm or dairy. In six instances the dairy hands either lived in or visited infected houses. In seventeen instances the infection was doubtless conveyed by persons connected with the milk business while suffering from the disease, and in at least ten cases by persons nursing the sick. In three cases the milk had been kept close to the sick room. In one epidemic the milk was distributed by two milkmen, one of whom had scarlet fever at his house, and all the cases (fifteen or sixteen) occurred on his route, and none on that of the other. In nineteen instances the disease was referred to disease of the cows; puerperal conditions, four times; inflammations of the udder or teats, nine times; and loss of hair and casting of the skin, six times. Of diphtheria epidemics, thirty-six are reported. In thirteen instances the disease existed at the farm or dairy. In twelve instances it was attributed to inflammatory and ulcerative conditions of the udder. Of the 330 epidemics reported, 243 have been reported by English authors, fifty-two by American, fourteen by German, and eleven by Scandinavian. This is probably due to the use in England and America of unboiled milk.

An Instance of Marked Virility is reported from Barnegat, N. J., where a man who remarried at the age of eighty-two years has had two children since, the youngest having just been born when the father was eighty-six years old.

THE VACCINATION OF PORTO RICO: A LESSON TO THE WORLD.

FROM time to time the medical press has had occasion to sound a note of warning as to the dangers which must inevitably follow relaxation in the matter of compulsory vaccination. In the *Pacific Medical Journal*, Major Azel Ames, late Brigade Surgeon, U. S. V., and Director of Vaccination in Porto Rico, speaks in no uncertain tones. Especially, however, he brings forward his experience—that is to say, *facts*—which forms an object lesson on a vast scale. As the author remarks, there is urgent and grave need, at the present time, for just such a lesson, as is only too evident in view of the recent history of legislation inimical to vaccine protection, both here and abroad, a notable instance being the emasculation of the British law by the "conscience clause," with the consequent large increase in the percentage of infant mortality from variola. The need is, moreover, alarmingly attested by the recent pandemic of smallpox on both sides of the Atlantic. It is only by such clear and incontestable facts that the people can be brought to see the necessity of compulsory vaccination; and the need of their seeing it was never greater, for there never was a time when, through the increased intercommunication of children in the schools, and the increase of house-to-house occupations, the commingling between all classes of the population was so great. Major Ames claims, and, as we believe rightly, that his experience furnishes "the absolute demonstration that comprehensive compulsory vaccination, properly conducted, will alone certainly eradicate smallpox from *any* region or people, as established conclusively in Porto Rico in 1899."

It is impossible to convey in abstract the full force of this excellent article, but the results speak for themselves. When the Spaniards left the island in October, 1898, smallpox was endemic; in December it was epidemic; in January, 1899, it had "honeycombed" the island; and by February there were 3,000 recent cases, and the disease was "spreading at a gallop." In February systematic, compulsory vaccination was begun with fairly equal efficiency in all parts of the island. Vigorous prosecution for four months, until July 1, resulted in 860,000 vaccinations out of a population of 960,000. The work then ceased, completed, and the disease had practically disappeared. In the two and a half years since then, the mortality has been but two per year as against a former yearly average of 621. The author well says: "Can any *honest*, intelligent person doubt, in the face of these indisputable, easily verified facts, *what* it was that in *four* short months drove smallpox from its wide and long-time reign in the island, and has since kept it out? Vaccination alone did it, and will do it effectively wherever compulsory legislation, properly enforced, secures its benefits to all." When first taken hold of, the problem presented the following exceptional aspects: The whole island was involved, and whenever the disease was for a time repressed in the towns, the country districts continually served as feeders to the centers of population.

Among the factors especially favoring the spread of the disease were the tremendous headway it had attained and the numerous centers of contagion; the comparative indifference to it on the part of the natives; the absence of systematic sanitary authority and oversight, rendering detection of cases difficult, especially as, on account of antipathy to removal from home, the natives habitually concealed the disease; and the density of the population, the constant passing back and forth between country and town, and the uncleanly character of the habitations and of the habits of the people. Among the conditions exceptionally hampering measures of restriction and control were the great difficulty in isolating the hundreds of cases occurring simultaneously over a great and inaccessible area, the absolute impossibility of securing isolation in the crowded and thickly-set homes; and the great insufficiency, proportionately, of the medical help. The only conditions exceptionally favorable to the suppression of the disease were its limitation by the seaboard, plenitude of authority, civil and military; a sufficient supply of cattle for vaccine generation; and the fact that a large proportion of the population had had the disease. Some of the conclusions arrived at, as a result of the vaccination work, possess general interest and importance. The author says that be the reason what it may, the fact was conclusively demonstrated that vaccine lymph, especially when glycerinated and in tubes, did not retain its efficacy, when exposed, even briefly and without great variations of temperature, to the change from a temperate to a tropical climate. Further, in their work, the glycerinated virus was found to have nothing to recommend it, and the glass tubes proved "worse than useless." In field work nothing was found so satisfactory as the ivory "point," whether for taking virus or for vaccinating animals or people. Concerning the question of transmitting diseases along with vaccination, the author's experience was decisive. He says: "There is every warrant for positively asserting that although syphilis, tuberculosis, elephantiasis, and tetanus are common in Porto Rico, in no case has it followed that any of them, or any other disease, bovine or human, was imparted to an individual by the process of vaccination." Thus with 818 cases of tetanus occurring in seven months of 1900–1901, out of 860,000 vaccinations, only one case of tetanus occurred, in an infant. Vaccination was always practised, with the sharp edge of the ivory point. Cleanliness and a light antiseptic dressing proved an all-sufficient safeguard against infection, and hot water, freely applied, sufficed for the reduction of undue inflammation, even in the worst and dirtiest regions. "Bad arms" were invariably the result of carelessness and dirty habits. In no instance did serious infection occur. Of the vaccinations 87½ per cent. were successful. Twenty of the successful cases were in persons "seamed and furrowed" from former confluent smallpox. A few cases of smallpox occurred in those who had the disease before. That the protection of vaccination "wears out," was determined "beyond cavil and by abundant evidence." Numerous cases not vaccinated until after exposure incurred smallpox, but in every case the vaccination clearly operated to modify the attack, and in some cases it caused its abortion, usually in the third stage. Many hundreds whose vaccination "took" claimed, with apparent truth, that they had been repeatedly vaccinated without success. In seventy-two persons in one place, whose arms had been washed with bichloride solution, vaccination failed, and upon the bichloride solution being omitted the whole seventy-two were revaccinated. Vaccination repeatedly failed in not a few young children whose mothers had had smallpox during gestation, and a few cases occurred in which the failure appeared to be due to the vaccination of the mother during gestation. Among those successfully vaccinated in recent years no death occurred from variola, and in few cases was there much disfigurement.

CHILD LABOR IN THE UNITED STATES.

Although the United States claims—and rightly to be in the van of civilization, there yet remain in certain parts of the country many survivals of mediævalism. In but few civilized lands at the present time are children of a tender age permitted to work in factories and mines. Nevertheless, in America such a condition of affairs exists. In the mines of Pennsylvania and elsewhere, young children labor underground, in Southern factories they work, while in parts of the West their services are utilized; indeed, it is declared that in most large manufacturing districts child labor is common.

The Illinois Federation of Women's Clubs through its Industrial Committee has recently delivered itself of some weighty pronouncements on the matter, so far as Chicago is concerned.

The New York *Tribune*, November 16, quotes from the report of this committee. The following sentence therefrom serves as a text upon which an incisive and convincing sermon is preached: "The Illinois factory child, trained neither in the schoolroom nor the workshop, promises in coming maturity to be little more than an addition to the mass of wretched, helpless, unskilled labor." The report goes on to say, "Many occupations are found to threaten mutilation and disease. In cigar factories the boys and girls employed become saturated with nicotine, and during some processes are obliged to stay in rooms into which no fresh air can be admitted. There are frequent accidents among the children employed around the dangerous machines used in paper box making. In paint works, soap works, chemical works, rubber works, and photograph shops absorption of poison through the skin is unavoidable. Many young boys in sweatshops are button-holers and every one develops curvature of the spine sooner or later. Those who run foot-power machines develop tuberculosis of the lungs or intestines. The little "hand girls" develop crooked backs over their hemming, felling, and sewing on of buttons, or tuberculosis or other disorders over the foot-power machines." A long list is given of various employments in which children serve and which are unhealthy in a high degree. New York, Ohio, and New Jersey all have laws preventing the night work of children. Illinois also permits children to work who cannot read in any language, who have never attended any school. She demands no educational test before beginning work, such as is demanded in twenty other States. The number of child laborers has doubled since 1897. There are now twenty thousand children under fourteen working in Illinois factories, mainly in Chicago.

This is a state of things which for the interests of the nation at large it would be well for legislators to take cognizance of and to pass laws to regulate child labor. The Committee of the Illinois Federation of Women's Clubs has designed a bill to prevent the employment of children under fourteen, to prevent night employment of children, and to reduce illiteracy. The enactment of such laws throughout the country would be a great public boon.

THE CONGENITAL FACTOR IN HERNIA.

The *Hospital*, in its issue of November 8, devotes that part of the journal reserved for discussion of progress in surgery to a consideration of the different forms of hernia.

R. Hamilton Russel, in the *Lancet*, May 31, contributed an article on congenital hernia. The views set forth by the author are: (1) that oblique inguinal hernia is always caused by the presence of a congenital sac; (2) that there is no evidence that congenital weakness of the abdominal wall is a factor in causing inguinal hernia; (3) that any such weakness met with there is acquired and due to the existence of a hernia and the use of a truss; (4) that complete removal of the sac in the absence of such acquired weakness will not be followed by recurrence, and (5) that the causes of recurrence are: (*a*) the above-mentioned weakness, (*b*) incomplete removal of the sac, and (*c*) traumatism, from faulty operative methods. The writer further holds that these views apply with as much weight to the hernia of adults as to those of children. Dr. Russel is opposed to the generally-accepted opinion that congenital weakness of the abdominal wall is primary and the development of a hernial sac secondary. The occurrence of direct inguinal hernia is attributed to the laxity of the peritoneum in the inguinal region, and this form of hernia seems to occur suddenly and independently of the presence of a preformed sac. This is the only form of hernia to which the name of rupture can be said properly to belong.

Hernia of the sigmoid, rare in children but frequent in adults, is considered to be due to the processus vaginalis in such cases joining the peritoneum close to the attachment of the mesosigmoid, and to the portion of peritoneum to which the sigmoid is attached, for that reason, descending as soon as the neck of the sac becomes sufficiently distended.

Just as inguinal hernia is attributed to the existence of a congenital sac so likewise are femoral, obturator, and ischiatic hernias. The formation of congenital sacs in these other situations, it is suggested, is intimately associated with the development of blood-vessels and their passage through the parietes.

THE STRONG DRINK QUESTION.

A concerted movement is at the present time being made in the interests of temperance, in both Great Britain and the United States. The crusade against drink is headed by prominent churchmen and social leaders. The fact is now clearly recognized that indulgence in alcohol is sapping the strength of almost all civilized countries, and that the more sober a people are the better will they prosper in every way.

The *Quarterly Review*, October, discusses the various modes suggested to solve the drink problem. Referring to a book on the subject recently written by Joseph Rowntree and Arthur Sherwell, the *Review* says: "In Norway wise legislation has converted what was once the most drunken nation of Europe into the most sober. It was in 1865 that the 'Company System' was first established in the town of Gothenburg, whence by private effort and State encouragement it has spread over the Scandinavian peninsula. Its underlying principle is the elimination of private profit from the retailing of alcoholic drink. The houses and bars where drink is retailed are held in monopoly by private companies, constituted under the self-denying ordinance of a strictly limited return to shareholders; and these companies appoint agents for the retailing of drink, under conditions of remuneration which exempts them from any personal interest in the amount of alcohol trade that passes through their hands. Among the advantages attributed by Messrs. Rowntree and Sherwell to this system, the following appear to be most conspicuous: a dangerous trade is placed under efficient control; evils such as gambling, drinking on credit, the pushing of the sale of drink by the publican, disappear; a source of corruption detrimental to social progress is removed; a divorce is effected between drink-selling and politics, and the way made easy for further reform, for where no personal interest is concerned, political propagandism ceases to find a reason for its existence; illicit drinking and the 'club' difficulty disappear, the drink traffic being kept above not driven below the surface; and, finally, large profits that otherwise go to the trade are, after satisfying the modest conditions of interest on shareholders' capital, made available for furthering the cause of temperance by establishing counter attractions to the temptation to drink. The practical conclusions of value to be deducted from the experiments in Scandinavia are thus stated:

'The first, the bed-rock upon which any fabric of effective licensing reform must be built, is to take the trade out of private hands. So long as the private interest of the seller runs counter to the interest of the State, so long will the effort of the State to restrict and control the traffic be baffled. The second is that the trade, when taken out of private hands, shall be worked, locally, not by the State, and should be subject to no other State control than that which is necessary to secure honest administration and the complete carrying out of the conditions determined by the statutory law under which the localities carry on the traffic."

MALARIAL DISEASES IN THE UNITED STATES ARMY.

The report of the Surgeon-General of the United States Army for the fiscal year ending June 30, 1902, states that in the army, as a whole, during the calendar year there were reported 35,180 cases of malarial disease, with a death rate of only 0.59 per thousand of strength.

One of the most important results arrived at from the examination of the blood for the malarial parasite by Contract Surgeon Charles F. Craig, U. S. Army, in the general hospital, Presidio of San Francisco, Cal., has been the great number of cases of latent and masked malarial infections discovered in soldiers returned from the Philippines. Although the fact is well known that malarial infections may remain latent for a long period in some instances, the percentage of cases exhibiting this latency, so far as reported, has not been as large as the results obtained at this hospital seem to show. Of the 1,082 cases in which malarial parasites were demonstrated in the blood, 219 were cases of masked or latent malaria. Thus of the 1,082 cases, 20 per cent. were of this class of infections.

In twenty cases diagnosed as chronic diarrhœa malarial parasites were demonstrated, and in all these the infection was latent. Symptoms of diarrhœa were present in all, but there was no rise in temperature, and no symptoms which could be interpreted as being malarial in character.

Treatment by quinine in these cases quickly caused the disappearance of the parasite from the blood, and, as a rule, resulted in the general betterment of the patient's condition, so that, as the cases have to be classed as latent on account of the absence of symptoms, the improvement in the patient indicates that the malarial infection has some influence in the progress of the diarrhœa.

Cases in which symptoms of pulmonary tuberculosis were clearly defined, also on examination exhibited the presence of malarial parasites in the blood.

This is especially true of cases originating in the tropics, the emaciation being more extreme and the pulmonary symptoms more apparent than in cases originating in the Temperate Zone.

The report rightly lays emphasis on the importance of blood examination in all cases of disease originating in the tropics or in localities which are known to be malarious. The numerous cases observed at the general hospital, Presidio of San Francisco, amply demonstrates the fact that a malarial infection complicating any disease process invariably injures the patient's chances of recovery, and its elimination, greatly facilitates recovery. Not only is this so, the report declares, but cases have been observed in which the discovery of the malarial infection undoubtedly saved the patient's life. The discovery of cases of estivo autumnal malaria is especially important, as it is this form of the disease which may become at any time pernicious and may cause death within a few hours.

Any case of sickness incurred in tropical regions should be examined for malarial parasites, as the presence of these in the blood cannot but hinder the recovery of the patient, whatever other disease he may be suffering from.

Growth by Electricity.—Dr Maurice Springer read an interesting paper at the Academy of Medicine this week on animal growth, specifying four elements of nutrition having most effect in inducing organic development—namely, lecithin, potash, oxides, and water. The doctor also pointed out that electricty is a powerful agent in the development of growth. By applying a faradic current to certain muscles and joints of children both growth and increase of weight have been obtained.—*New York Herald*.

The Importance of the Consideration of Habit in the Treatment of Sleeplessness.—William Wormley says that as pointed out by McFarlane, each bodily organ has its habit. Sleep is the period of repair, but the requirements of the tissues vary greatly during the stages of growth, development, maturity, and decadence; consequently the depth and duration of sleep vary greatly too. Every one has a "sleep habit" normal to himself which should be studied carefully. Does the patient fall asleep quickly, when and how does he awake, is the wakefulness associated with restlessness, discomfort, or unpleasant sensations? Consider the cause of the sleeplessness—is the patient suffering from worry, from over indulgence in alcohol or tobacco, or is there a hypersensitiveness to external stimuli due to neurasthenia or to gouty or rheumatic conditions? The author suggests a number of methods for overcoming the habit of sleeplessness, and deprecates the use of hypnotics. A punch of hot Jamaica rum taken just as one is getting into bed, and made as hot and as strong as can be borne, has overcome many stubborn cases of sleeplessness. It can be gradually withdrawn, as it will not be needed after a week or so.—*St. Louis Medical Review*.

News of the Week

The Cartwright Lectures for 1902.—The Cartwright lectures of the Alumni Association of the College of Physicians and Surgeons (Medical Department of Columbia University) will be given in the hall of the Academy of Medicine, on December 17, 29, and 30, at 8.15 P.M., by Dr. Richard C. Cabot of Boston. The subject of the first lecture will be "A Study of the Urinary Analyses and Post-mortem Findings in 500 Cases of Disease Affecting the Kidneys;" that of the second lecture, "A Clinical Study of the Action of Alcohol in Disease with Special Reference to Its Effect on the Circulatory System;" and of the third lecture, "Truth and Falsehood in Medicine; an Experimental Study."

A Proposed Foreign Service Medical Corps.—A bill has been prepared, for introduction into the present Congress, to create a foreign service medical corps in the medical department of the U. S. Army. The purpose of the bill is to establish a permanent medical corps similar to the British East Indian Medical Service, whose duty it will be to serve the military and civil services of the United States in those countries, which, while under the United States Government, are separated, as to their people and country, from the United States proper. It is felt that properly qualified medical men will not go in sufficient numbers to the tropics to enable the officials and other civil employees of the government to obtain that expert medical attention which they would receive in the United States, unless incentive is offered them. Men who have not devoted time and study to tropical surgery and medicine cannot attain to that proficiency which will be given by those who are specially trained for this work. The provisions of this measure at once place a body of men trained in medical military tropical service at the command of the United States, to be used by either the civil or military authorities as the necessities may require. With a fixed tenure of office, and provision for old age, a better quality of medical service may be had for less cost. These men are needed particularly in the care of the Constabulary, and other native forces, and in the management of epidemic disease, falling under the jurisdiction of civil governments, as well as to replace in the army those volunteer surgeons who are soon to be discharged by expiration of law, and the contract surgeons who are now employed in the tropics.

The Army Death Rate.—In the report of the the Surgeon-General of the Army to the Secretary of War for the fiscal year ending June 30, 1902, on page 45, the death rate from all causes for the year 1901 is incorrectly given as 19.94 per thousand. It should read 13.94 per thousand. These figures are correctly given in Table 1, page 148.

The University of Michigan.—Two new buildings are being erected near the University Hospital, Ann Arbor. One, the psychopathic ward, is to cost fifty thousand dollars. The appropriation was obtained from the State Legislature largely through the efforts of Dr. William J. Herdman. The first stages of insanity will be studied here. The State has generously provided for the maintenance of the ward. The late Mrs. L. M. Palmer bequeathed $20,000 for the establishment of a ward for children. The building, which is to be known as the "Palmer Ward" is fast approaching completion. Mrs. Palmer also bequeathed $15,000 as an endowment for the maintenance of this ward.

A National Plague Conference.—At a meeting of the Connecticut State Board of Health, held last week in New Haven, it was decided to request the Surgeon-General of the Public Health and Marine-Hospital Service to call a convention of State boards of health for the purpose of devising measures for preventing a spread of bubonic plague. At the convention of health authorities held in New Haven three or four weeks ago it was announced that if five States made a request for such a convention the surgeon-general would call it. Connecticut is the fifth State. The board condemned the manner in which the plague outbreak in San Francisco has been handled, the Governor, Mayor, and such health officers as these and other politicians could influence conspiring to deny the existence of the disease.

Congress of American Physicians and Surgeons.—The sixth triennial meeting of this congress will be held in Washington on May 12, 13, and 14, 1902.

An Illegal Practitioner Fined.—A masseuse of this city, who was recently brought to trial on complaint of the Medical Society of the County of New York, has been fined $150 for practising medicine without a license. She had a diploma from one of the defunct bogus medical schools of Chicago.

Dr. Ogden C. Ludlow has been appointed visiting physician to St. Joseph's Hospital in this city.

The "Index Medicus" and the Carnegie Institute.—The announcement is made that the publication of the *Index Medicus* will be revived and put upon a secure foundation by the trustees of the Carnegie Institute.

Western Surgical and Gynecological Association.—The twelfth annual meeting of this society will be held at St. Joseph, Mo., on December 29 and 30, 1902, under the presidency of Dr. James E. Moore of Minneapolis. The secretary is Dr. George H. Simmons, 61 Market street, Chicago. The preliminary program contains the titles of a number of papers on interesting topics.

The Prevention of Pneumonokoniosis.—The Chamber of Mines of Johannesburg, South Africa, has offered three prizes of the value of $2,500, $1,250, and $500 respectively for the three most practical suggestions looking to the prevention of miner's phthisis. The committee of award will comprise two members of the Transvaal Medical Society, two members of the Mine Managers' Association of the Witwatersrand, two members of the Mechanical Engineers' Association of the Witwatersrand, three consulting mining engineers to be chosen by the Chamber of Mines, and two practical rock-drillers, to be selected by the Mine Managers' Association.

Explosion of a Vial of Nitrite of Amyl.—Dr. John J. Abel of the Johns Hopkins University was the victim recently of a peculiar accident which might have had very serious consequences. A bottle of amyl intrite which he had in his hand exploded, cutting his wrist, and the fumes of the drug nearly overpowered him before he could reach the open air. An assistant, who was with him in the laboratory at the time, was similarly affected.

High Death Rate in European Armies.—General André, the French Minister of War, in a recent statement made in the Senate, drew attention to the insanitary condition of the army, saying that since 1870 Germany had only lost 13,000 soldiers from disease, while France had lost 99,000 from the same cause. Tuberculosis and typhoid fever, he said, are the principal factors in this high mortality rate. Commenting on this report, the *Daily Express* of London declares that the deaths in the British

Army exceed those in the army of any first-class Power; the average annual deaths being only 300 less than in the French Army, although the British Army is only one-third as large as that of France. This mortality is largely attributed to unhealthy barracks.

Superintendency of the King's County Hospital.—Dr. Jesse P. Duryea has resigned from the position of general medical superintendent of the Kings County Hospital and almshouse, to take effect about December 10. Dr. John F. Fitzgerald, superintendent of the Rome State Custodial Asylum, has been appointed his successor.

The Philadelphia Neurological Society.—At a stated meeting, held November 25, Drs. D. L. Edsall and R. S. Lavinson presented "a case of senile chorea." Dr. Alfred Gordon read a paper entitled "A Note on Traumatic Syringomyelia, with the Report of a Case Presenting Sensory Disturbances Affecting One Limb and Trophic Changes in the Subcutaneous Tissues of the Entire Limb." Dr. Wm. G. Spiller read a paper entitled "Traumatic Lesions of the Spinal Cord without Fracture of Vertebræ." Dr. F. X. Dercum reported a case of ataxia following injury of the frontal lobe of the brain, in which marked improvement followed operation. Dr. John K. Mitchell reported a case of familial tremor of the head.

Foot-and-Mouth Disease in New England.—Secretary of Agriculture Wilson has notified the managers of railroad and transportation companies of the United States, stockmen, and others, of the establishment of a quarantine on cattle, sheep, and swine in the New England States, and has forbidden the exportation of such animals from the port of Boston until further orders. Recent investigations by the Department of Agriculture have shown foot-and-mouth disease prevails extensively in Connecticut, Rhode Island, Massachusetts, and Vermont. Dr. Mohler of the department, Dr. Leonard Pearson of the University of Pennsylvania, and Dr. James Law of Cornell recently visited the infected districts and united in a recommendation that in order to prevent the further spread of the disease a quarantine should be established immediately. An order quarantining the Brighton Stock Yards, which is the clearing-house for cows for the Boston milk district, and to which the foot-and-mouth disease has been traced, was issued last week by the Massachusetts Commissioners. It is believed, however, that the epidemic originated in Rhode Island. The Connecticut authorities deny that the disease exists among cattle in that State. The last previous epidemic in New England, which occurred about thirty years ago, was traced to some cows brought from Canada.

The Norwegian Hospital.—Ground was broken on November 24 for the new building of the Norwegian Hospital, at Fourth avenue and Forty-sixth street, Brooklyn. M. H. Hegge, President of the Board of Trustees, delivered an address, in which he discussed the work of the institution. Sister Superio Mathilde broke ground with a spade. The benediction was pronounced by the Rev. T. Castberg. The new building is to cost about $140,000.

Award of the Nobel Prizes.—The Nobel research prize has been awarded to Major Ronald Ross of the Liverpool School of Tropical Medicine in recognition of his investigations into the mosquito-malaria theory. Three other Nobel prizes were awarded, as follows: Natural science and chemistry, Dr. Emil Fischer of the Berlin University; physics, Dr. Arrhenius of the Stockholm High School; medicine, Dr. Finsen of Copenhagen, the originator of the form of phototherapy which bears his name. Each prize is of the value of $40,000.

Removal of a Health Officer for an Incorrect Diagnosis.—The Town Health Officer of Baltic, Conn., was removed from office a short time ago because he reported to the County Health Officer that two persons suffering from smallpox had only trifling skin diseases. There are now twenty-five cases of smallpox in the town.

Professor I. Neumann of the University of Vienna is now in the last year of his professorship, having reached the age limit. His successor in the chair of syphilis and diseases of the skin will be Professor F. Mracek, who is now an extraordinary professor of the same subjects. Dr. Mracek will be fifty-five years old in April.

The American Association for the Cure of Inebriety will hold its thirty-second annual meeting in the hall of the Washingtonian Home, Waltham street, Boston, Mass., December 18, 1902. The first session, beginning at 2 P. M., will be devoted to a symposium on the Treatment of Inebriety. Papers will be read by Dr. Coles of the MacLean Asylum Dr. Drew of the Asylum for Insane Criminals, Dr. Ellsworth of the Washingtonian Home, Dr. Elliot of the Willard Hospital, Dr. Rodebaugh of Parkview Home, Ohio; Dr. Stearne of the Norway Sanatorium Indianapolis; Dr. Shepard of the Brooklyn Sanatorium, N. Y.; Dr. Osgood Mason of the Retreat New York City, and others. In the evening session beginning at 8 P. M., the president, Dr. L. D. Mason of Brooklyn, N. Y., will deliver the annual address. Dr. T. D. Crothers of Hartford, Conn., will read a paper on "Inebriety in Ancient and Modern Times," and addresses will follow by Drs. Marcy, Madden, Didama, Kellogg, and others.

The Philadelphia Almshouse and Hospital.—The Finance Committee of Philadelphia Councils has recommended an appropriation of $215,000, to be obtained through a temporary loan, for the purchase of a site for an almshouse, a hospital for the insane, and a municipal hospital for infectious diseases.

Subscriptions for the Virchow Memorial.—The German committee in charge of the celebration in honor of the late Professor Rudolf Virchow's eightieth birthday, has begun collecting funds for the purpose of erecting a monument in memory of that great man and physician. The following-named men in this country are ready to receive contributions, which will be duly acknowledged: Frank Billings, 100 State street, Chicago, Ill.; Thomas D. Coleman, 505 Greene street, Augusta, Ga.; A. Jacobi, 19 East Forty-seventh street, New York City; W. W. Keen, 1729 Chestnut street, Philadelphia, Pa.; Wm. H. Welch, 935 St. Paul street, Baltimore, Md.

Philadelphia County Medical Society.—At a stated meeting, held November 26, Dr. Wm. S. Wadsworth presented a specimen of ruptured ectopic gestation-sac. The pregnancy was evidently of tuboovarian type, and the sac had become lodged and adherent in Douglas's cul-de-sac. Rupture had taken place in this situation, with the escape of a vast amount of blood into the peritoneal cavity The condition had not been suspected during life a diagnosis of gastralgia and one of metritis having been made by different practitioners. Dr David Riesman presented a communication entitled "Chronic Rigidity of the Spine, with the Report and Exhibition of Two Cases Presenting Different Types." In the one case there was marked kyphosis in the dorsal region of the spine, without rigidity of the shoulder-joints and hip-joints, while in the other the kyphosis was less pronounced and rigidity was marked at the hips and knees and only less so at the shoulders. In both cases the disease had been observed for some ten years. The one, however, was in an old man in the neighborhood of seventy-five years, and the other in a comparatively young man about forty years old. In neither were noteworthy nervous symptoms present. Dr. Chas. K. Mills presented a case of spinal rigidity with similar involvement of the joints of the trunk, in a comparatively young man, who was unable to stand or move about. Dr. Wm. G. Spiller presented a case with rigidity of the spine and deformity, associated with tremor, strongly suggestive of paralysis agitans. Dr. Jas. Ely Talley presented a report of a case of splenic anæmia. The patient was a woman who had previously suffered from malarial fever with enlarged spleen in the West Indies, and in whom there subsequently developed a moderate degree of anæmia with epistaxis and persistent enlargement of the spleen. Dr. Robert N. Wilson, Jr., read a paper entitled "The Meaning and Significance of Leucocytosis."

The Late Dr. A. M. Phelps.—At a meeting of a committee appointed by the President of the Medical Board of the City Hospital on November 22, 1902, the following resolutions were passed:

Whereas, The late Dr. A. M. Phelps served the City Hospital as visiting surgeon, in a faithful and unselfish way, for upward of thirteen years, thereby contributing to its renown and efficiency, and,

Whereas, During these years of service, Dr. Phelps endeared himself to the visiting staff of the hospital, by virtue of his character, his energy and tirelessness in the work for the benefit of the hospital, and aroused in them an admiration of his skill and manifest ability.

Be it resolved, That the Medical Board of the City Hospital record an expression of its regret in the untimely death of Dr. Phelps at the zenith of a career of usefulness, and further

Be it resolved, That a copy of these minutes be sent to the family of the late Dr. Phelps, to the principal medical journals, and inscribed in the minutes of the meeting.

(Signed) JOSEPH COLLINS,
GEORGE E. BREWER,
EDWARD S. PECK.

Philadelphia Hospital.—It is proposed by the Mayor of the city of Philadelphia to remove the Almshouse and the Insane Department of the Philadelphia Hospital from their present to a new location and to designate the former the Philadelphia Hospital for the Indigent and the latter the Philadelphia Hospital for the Insane, and to reconstruct the present hospital buildings and to designate them the Philadelphia Hospital General. Already new buildings for the Children's Department and for the Venereal Wards have been erected, and it is purposed further to erect a series of pavilions for the especial treatment of cases of tuberculosis.

Obituary Notes.—Dr. MIRZA NESTOR BENJAMIN died in Dunkirk, N. Y., on November 27, at the age of fifty-nine years. He was born in Urimia, Persia, where he began the study of medicine. He came to this country when nineteen years old, and completed his medical course at the University of Vermont in 1864 afterward, serving a term as interne in Bellevue Hospital, New York. He was a veteran of the Civil War, in which he served as a surgeon. He was proficient in nine languages and made a translation of the Bible for the American Bible Society.

Dr. EDWIN GRANVILLE died at his home in Kansas City on November 24, at the age of fifty-nine years. He had long suffered from tabes dorsalis. He was born in New York City in 1843, and was the son of Dr. Edwin Granville, for many years professor of anatomy at the New York University. He himself was a graduate of the Kansas City Hospital College of Medicine in the class of 1885.

Dr. THOS. H. PRICE died in Philadelphia on November 22 of septicæmia at the age of fifty-eight years. He was a graduate of Jefferson Medical College in the class of 1876, and was at one time vaccine physician and a member of the Philadelphia Emergency Corps.

Dr. CHAS. P. LEONARD of Niantic, Conn., died on November 22 at the Medico-Chirurgical Hospital in Philadelphia, where he was a resident physician, in the sequence of an operation for appendicitis. He was graduated from the Medico-Chirurgical College in the class of 1902.

Dr. HENRY MELVILLE SMITH died at his home in South Orange, N. J., on November 28, from cardiac disease, at the age of fifty-one years. He was born in Meredith, N. Y., and was graduated from the College of Physicians and Surgeons in this city in the class of 1871. He practised for many years in Jersey City before going to South Orange.

So-Called Scarlatiniform Eruption Following the Serum Treatment of Diphtheria.—Karl Leiner has observed six cases, all of which presented the following characteristics: (1) The eruption first appeared within five days after the injection of the antitoxin; (2) It was followed by a typical lamellar desquamation; (3) A glomerulonephritis was a frequent sequel; (4) Other children in the same room which had not been in any way sick or inoculated with antitoxin developed a similar eruption after exposure to these cases; (5) The contagium was very tenacious, since a formalin disinfection of the apartments was not followed by a disappearance of the infection; (6) The eruption and desquamation was most abundant in the region of the site of inoculation, a circumstance which greatly reminded one of surgical scarlet fever. All of these facts show that in these cases a genuine scarlet fever was present.—*Wiener klinische Wochenschrift.*

The Autointoxications of Pregnancy.—W. A. Potts regards as causes of this class of maladies flatulency and constipation, they leading to toxic influences and frequently causing abortion. Pernicious vomiting is another result of toxæmia. Colitis and appendicitis, ptyalism, cramps, phlebitis, and chorea, are all toxic manifestations. As regards eclamptic seizures, the author says that (1) all cases of eclampsia are found to have recently suffered from constipation, generally of extreme degree. (2) All remedies which have met with any general measure of success are remedies either of elimination or of dilution of toxins. (3) In 85 per cent. of cases of eclampsia examined post mortem, the kidneys, which are the safety-valves of toxin elimination, are found to be diseased. (4) The only other lesions frequently found post mortem are in the liver, the organ chiefly concerned in the metabolic processes, and lastly, serious disease of organs other than the kidney and liver does not predispose to eclampsia. The obvious consequence of all the foregoing is to bring the eliminative plan of treatment to the front and to place greater reliance upon it than upon all other measures combined. Potts advises also the use of thyroid extract as increasing the excretion and greatly stimulating metabolism.—*Birmingham Medical Review.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HONORS—GORDON COLLEGE—KOCH'S VIEWS—GENEROUS GIFTS TO MEDICO-CHI—POISONOUS ICE CREAMS—BACTERIA OF LONDON AIR—STREPTOTHRIX—KING'S COLLEGE—SMALLPOX

LONDON, November 14, 1902.

A HEAVY shower of honors fell on the King's birthday, and a few of the drops sprinkled the profession, viz., C. B. for Inspector-General Woods and Mr. W. H. Power; a C.M.G. for W. H. W. Strachan, Chief Medical Officer, Lagos; M.V.O. for Drs. Hewitt and D. J. Mackintosh; C.I.S.O. for Dr. McNaughton of the Scotch Prison Service.

Dr. Andrew Balfour of Edinburgh is going out as director of the chemical and physiological laboratories at the Gordon Memorial College, Khartoum, which was opened on Saturday by Viscount Kitchener. These laboratories are equipped with the most modern appliances, and are the gift of Mr. H. S. Welcome, who recently visited the Soudan. Dr. Balfour will have abundant opportunities for research, and we may look for important results, especially in the field of tropical pathology.

There have been persistent rumors that Koch had abandoned the position he took up two years ago, that human and bovine tuberculosis were not interchangeable. But the reports of the Berlin Congress received here show that these rumors have no foundation in fact, and they seem to have arisen from inaccurate statements in French newspapers. Professor Koch repeated that of all the cases of alleged infection of cattle not one could bear all the tests of scientific examination. Yet he scarcely claims perfect immunity for man from bovine infection, as he admits that he has seen instances of such communication, but so seldom, that he thinks the money spent on regulations against the sale of diseased milk and meat would be better devoted to the establishment of sanatoria—an opinion which meets with no support here.

The Royal Medical and Chirurgical Society has received a very handsome and useful present from a donor who wishes to remain anonymous, and who is not even a member of the profession. This gift is an epidiascope, with all the accessory apparatus, worth about £150. This will enable demonstrations to be given of a superior kind to the lantern illustrations. By it colored representations of opaque objects can be thrown on the screen quite as well as transparent ones. Jar specimens, bones, or the limb of a living person can be thrown on the screen and examined in a magnified illustration; so, too, can charts, tables, graphic records, and other objects. An appropriate resolution of thanks to the donor for his valuable and practical gift was passed.

The recently passed law as to the sale and manufacture of ice creams has been put in force with energy by some of our authorities. The need of this legislation was notorious, and has now been placed on a scientific foundation by Dr. Klein, who has just read a paper before the Pathological Society, in which he shows how frequently varieties of bacillus coli are present in ice creams offered for sale. His investigation of samples sent to him by the M. O. H. for the city, and others, shows that it is not only Gaertner's bacillus, but other varieties, that give rise to the attacks of acute gastroenteritis which have been observed. In the Carlisle and Portsmouth outbreaks, after eating meat pies, a virulent variety of bacillus coli, which certainly did not belong to the Gaertner group, was found. Dr. Klein detailed the characters of the B. Gaertner as recognized by bacteriologists, and contrasted them with the virulent form of B. coli which he found, and which differs much from the Gaertner group. The culture of that new form caused, on inoculation of minute doses into rodents, general hemorrhagic septicæmia, including acute gastroenteritis and peritonitis, with death within twenty-four to forty hours. After death the whole of the small intestine was deeply congested, relaxed, filled, and distended with sanguineous exudation. The subcutaneous and muscular tissues of the chest and abdomen, the lungs, the pleural and pericardial cavities and peritoneum of an animal that died in twenty hours after injection of a minute quantity of a particular sample of ice cream. The exudation was everywhere densely crowded with microbes belonging to the coli group, but differing in some respects from the typical B. coli communis. Specimens of this pathogenic ice-cream bacillus were exhibited and were shown side by side with B. Gaertner and B. coli. The virulent bacilli were found in various samples of ice cream taken on different dates from different shops, but all supplied by one maker. All were poisonous until this maker complied with the requirements of the medical officer and removed the insanitary conditions of his premises. When he had done this his ice cream became harmless. The materials employed in his [illegible] less but were manipulated by [illegible] places. Large amounts of stock [illegible] in filthy localities, and the quantity of [illegible] the day frozen, the remainder being stored [illegible]

Dr. F. W. Andrews then exhibited a [illegible] tures of the bacteria he had found in the London [illegible] phere. He used an apparatus similar to [illegible] to aspirate a known volume of air through [illegible] glass-wool and sugar in a narrow glass tube.

As a means of comparing different samples of air he considered the plan useful. It had given [illegible] results. His exhibits included about fifty species, among them cocci, sarcinæ, bacilli, streptothrices, and [illegible]. No pathogenic microbes had been detected. Dr. Klein remarked that it was strange that in air taken from the streets no bacilli coli were found. On this Mr. S. G. Shattock referred to a paper by Miss H. Chick ("Report of the Thompson-Yates Laboratory"), who had experimented in a similar way in America, and whose result was the same, so far as bacillus coli goes, for although large volumes of air were drawn through by [illegible] the organism was not detected. Dr. R. T. Hewlett suggested that they might have been killed by desiccation. Dr. Andrews, in his reply, said the number of microbes varied greatly in different samples. The average number of varieties were fifty, but sometimes he had found only two.

At the same meeting, Mr. Foulerton related five cases of streptothrix infection. In one no organisms were detected, and Mr. Foulerton thought they were dead, no young forms being seen in the pus, which was from an empyema of about three months' duration. In two others he found streptothrix hominis previously described and named by him. In another case a similar organism, but with some differences. In the remaining one (a case of alveolar abscess) he obtained a culture of streptothrix and no other organism. He considers it certain that the majority of cases of actinomycosis in man are not caused by the common streptothrix found in the ox, and that the difficulties of cultivation are the cause of the differences of description by various writers.

King's College, as I predicted, has come forward with an appeal for endowment, as University College did a few weeks ago. These two institutions are the only ones that provide for teaching in all the faculties and claim to be of university rank. King's, as I explained, is a church college, and has its theological faculty, and was established in opposition to University, which is undenominational, and does not teach divinity, and so used to be called the "Godless college." Both want to be incorporated in the new London University, and for this purpose both want money, and a good deal of it, too. I have previously told you about University's appeal. Now comes King's with a demand for a cool half-million sterling. The objects stated are to secure (1) The removal of a debt of £35,000; (2) Efficiency in laboratories and other equipments for higher education and research. (3) Adequate remuneration of the teaching staff. It is proposed to endow six chairs in the faculty of theology, thirteen in arts, eight in science, five in applied science, and four in medical science. No chair to have more than £500 a year. The half-million for which the college asks is not proposed as sufficient for its complete endowment, but only as the irreducible minimum to enable its work to be efficiently carried out as an integral part of the reorganized University of London.

As King's is only one of the colleges to be incorporated, it looks as if the new university will be a costly one before all the teaching institutions to be included have discharged their debts and set to work on an enlarged basis.

An outbreak of smallpox in a Lancashire town of 33,000 inhabitants has been traced to a barber's shop. The proprietor and his family had had the disease, had not notified it, and the business was carried on as usual. The barber declared he had no notion of the nature of the disease, and could not afford to employ a doctor. It seems incredible that he should not have sought help at a dispensary or a hospital.

THE PLAGUE IN SAN FRANCISCO

TO THE EDITOR OF THE MEDICAL RECORD.

SIR:—In several medical weeklies I have noticed [illegible] comments upon the plague situation in California which are unjust to the City Board of Health of San Francisco. An instance may be found in a news item in your issue of November 15, which concludes: "These resolutions" (of the Conference of State and Provincial Boards of Health) "denounce the San Francisco authorities for failing to stamp out the disease, and especially for seeking to suppress the full facts regarding the situation." It happens that I moved the adoption of the resolutions which were proposed by the State Board of Health of

Maine, and I have an intimate acquaintance with the evidence upon which the resolutions were based.

If the resolutions did not hold up one set of men to greater scorn than can justly be aimed at any other set of men, they missed one of their purposes. The conference "*viewed with abhorrence the irretrievable disgrace of the State Board of Health of California.*" From the beginning of the story, the City Board of Health of San Francisco has maintained a consistent and honest attitude. Under a heavy fire of most malignant abuse it has not swerved for a moment from the truth. Those members of the State Board of Health who could not be bent to the will of Governor Henry Theophilus Gage were long ago removed and their positions filled by men who were definitely committed to the policy of concealment. Among those who filled the places thus vacated, the foremost is a man previously unknown as a sanitarian, but well known as a medical editor, and a professor of gynecology and abdominal surgery. With the aid of the six members of the present State Board of Health, Governor Gage and Mayor Schmitz were able to defeat both the City Board of Health of San Francisco and the United States Marine-Hospital Service. Mayor Schmitz tried to remove the City Board of Health, and to reconstruct it on the same lines which Governor Gage had successfully pursued with the State Board of Health. But the City Board of Health held on by means of an injunction, and though deprived of means to combat the plague in an effective manner, the City Board of Health has been able to keep fairly well informed of the progress of the disease, and has never prevaricated either to the people of San Francisco or to the world outside. The course of the City Board of Health has been as honorable as that of the State Board of Health has been deplorable.

The quality of the defeat administered to the United States Marine-Hospital Service may be estimated from the fact that since July 15, 1900, the Public Health Reports have published nothing on the subject of plague in California except three or four-word items at the end of each weekly résumé of smallpox, etc., in the United States. It is only fair to believe that the United States Public Health and Marine-Hospital Service is as successfully excluded as other outsiders are from a knowledge of the facts. At the New Haven meeting, October 28 and 29, the reported cases included those of October 16 and 17, of which the former is recorded in Public Health Reports of October 31, while the latter, that of October 17, has not yet been recorded, and must, therefore, have remained unknown to the Surgeon-General. While the conference was in session, a white man, living a mile away from Chinatown, died of plague, and the source of his infection remains a mystery. The case is recorded in Public Health Reports of November 7 in these words: "October 28—1 case, 1 death." Besides the case of October 17, there is indefinite information as to other cases dying between that date and October 28. No case was counted at New Haven of which the name and address were not then and there known.

The New York *Herald*, on October 30, printed an apparently authoritative statement that sixty-five white citizens of San Francisco had died of plague, twelve times as many as were accounted for in our list exhibited at New Haven. Suppose we apply this ratio to our information. We should have an estimate that 1,000 deaths from plague have occurred in San Francisco. Probably not so many deaths have occurred, but we are amply justified in believing that our information is but fragmentary. The City Board of Health of San Francisco has done its utmost to prevent the disgrace and danger which the conduct of the State Board of Health has brought upon the City and State. JOHN S. FULTON, M.D.,

Secretary State Board of Health of Maryland.

BALTIMORE, MD., November 18, 1902.

Recurrent Appendicitis.—Émile Tartière reports the case of a young man in the army who came to him for a furlough, on account of a recent operation for appendicitis. The patient was thirty-two years old, and had had two operations for appendicitis in less than two years. At the first operation an abscess was discovered, and in consequence the appendix was not removed. During the next year he suffered from dull pain in the side of his abdomen, on the march. He was obliged to enter the hospital again and have the appendix removed. The writer concludes that appendicitis can not offer cause for exclusion from the army. If it is of recent date, the patient should rest for six months or more, in order that the cicatricial tissues may become very firm. The recurrence of appendicitis is possible, even after a comparatively short interval, when the appendix has not been resected. In such cases, patients are not entirely cured, and they run the risk of another attack and of another operation.—*Lyon Médical*, November 9, 1902.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Nov. 27, 1902.

A Case of Poisoning by Thallium.—William N. Bullard reports the case of a physician who had taken thallium for purposes of experiment. The symptoms induced were slight diarrhœa, numbness in fingers and toes with extension up the lower extremities, involving the lower abdomen, the perineum, the inside of the thighs, and the inner surface of the legs. The nerves of the lower extremities were painful, and there was considerable weakness and partial paralysis of the lower extremities. Treatment consisted in rest in bed, dry heat to the limbs, and iodide of potassium in small doses. Later, when the pains had ceased, electricity was applied to the lower extremities. The condition was plainly a multiple neuritis. It followed the usual course of this affection, and the patient eventually recovered completely.

Tetany in Gastric Disorders.—Lawrence W. Strong gives the following summary of his article: (1) The condition is a symptom-complex, indicative of an increased nervous irritability, probably central in location. (2) The muscular spasm is a reflex phenomenon, set loose by some mechanical stimulation, as vomiting or lavage, with possibly a direct action, in the case of pressure and electrical stimulation of peripheral nerve trunks. The spasm, however, cannot be produced without the antecedent nervous irritability. (3) The chief factor in the diagnosis is the muscular spasm itself, affecting the arms in a characteristic manner. Other symptoms, while usually present, are not of absolute diagnostic value. (4) The etiology of the underlying nervous hyper-irritability is unknown. The theory of intoxication is the only one adequate to explain the condition.

The Normal Appendix; Its Length, Its Mesentery, and Its Position or Direction, as Observed in Six Hundred and Fifty-six Autopsies.—George H. Monks concludes as follows:—(1) Length: The average length of the appendix in men, women, and children, indiscriminately, is 7.9 cm. (or three inches); the extremes being 1 cm. and 24 cm. There is apparently no relation between the body, the sex or age of the subject, and the length of the appendix, except that children are apt to have an appendix proportionately longer than adults. (2) Mesentery: Fully one-half of all appendices have a mesentery (meso-appendix), which reaches nearly to, or quite to, the tip. Of the other half, by far the greatest proportion have mesenteries reaching as far as the middle point of the appendix, or beyond it. Occasionally an appendix has no mesentery at all. (3) Position (or direction). The commonest position or direction for the appendix is "down and in" (that is, toward the pelvis), the appendix very frequently hanging over the brim. The second commonest position is "behind the cæcum," the third is "down," and the fourth is "in". The appendix is in one of these four positions in about three-quarters of all cases.

Journal of the American Medical Association, Nov. 29, 1902.

Symmetrical Gangrene (Raynaud's) versus Endarteritis Obliterans.—J. D. Morgan gives a general description of the former affection, stating that in it the smaller blood vessels are first affected. The smaller the artery the more muscular is its middle coat, and so it is more capable of active changes in its caliber. Raynaud said the disease was due to a vicious innervation of the capillary system. The nerves, which are derived from the sympathetic system, penetrate the outer coat of the arteries to reach the muscular tissue of the medium, and these nerves, which are the dilators and constrictors of the blood supply, are controlled through their center in the spinal cord—the messages coming either from the periphery in the way of cold, heat, dampness, etc., or from the center by the toxicity of the blood or by way of higher mental and psychical impressions. It is a fact that uric acid in the blood is capable of causing vasomotor disturbance. Two clinical histories are given, one of endarteritis obliterans and the other of Raynaud's disease. Both maladies occur in middle life. Typical instances of the latter present one essential, viz., successive paroxysms of syncope asphyxia, and finally gangrene. The paroxysms are spasmodic, and there are frequent and recurring contractions of the walls of arterioles supplying the extremities attacked. Rare contributing causes of symmetrical gangrene are valvular defects and congenital narrowing of the aorta and systemic arteries. Of the modifications of sensation, analgesia is the most common. Although the sense of touch is blunted, the appreciation of heat and cold remains distinct. There is a similarity between hemoglobinuria and Raynaud's disease in that exposure to cold produces paroxysms, but in the one case the nerves and walls of the blood vessels suffer, in the other the blood and the blood-producing organs, in hemoglobinuria we often find albumin, hemoglobin, and even red corpuscles in the urine. Cases of erythromelalgia seldom lead to gangrene, and are aggravated by warmth and relieved by cold; the pain is generally present and the ulceration is confined to one extremity. Associated conditions are tuberculosis (6 per cent.) and nephritis (17 per cent.). Heredity is considered responsible for 8 per cent., and rheumatism for 7 per cent. Malarial fever seems to be associated with the disease. As far as treatment is concerned, it has been found that the iodides and nitrites are of use. Among the baths, a course of Nauheim (which can be followed here or abroad) give best results. A scrupulous regulation of all the functions of the body, with the avoidance both of alcohol and of choking the system with improper and too much food, and a regular and systematic out-door life and exercise, are the cardinal points. If gangrene should appear in endarteritis obliterans, the sooner operation is done the better the result.

Report of Four Cases of Syphilis Mistaken for Smallpox.—The cases are reported by J. F. Schamberg, who makes some remarks on the differential diagnosis of the two diseases. The cause of the confusion is the occurrence in both diseases of a papulopustular eruption, and while the cause of the malady in a given case will usually clear up the diagnosis in the course of a day or two, immediate diagnosis is not always easy. So far as differential symptoms are concerned, it may be noted that in syphilis the onset of acute symptoms is gradual, while it is sudden in variola. The rash in the former comes out for a number of days, that is, in crops; in the latter, it is generally universal at the same time. The distribution of the rash may be the same in both, but frequently there are variations observed. The pustular syphilide may involve the trunk more copiously than the face. This would be excessively rare in a well-marked smallpox. The dorsal surfaces of the wrists and hands are nearly always involved in smallpox, but may escape entirely in syphilis. The palms of the hands and the soles of the feet are always involved in severe smallpox. In moderate eruptions they nearly always present some lesions; in mild cases of varioloid they may or may not escape completely. The pustular syphiloderm affects the palmar and plantar surfaces with the greatest rarity. As to the character of the eruption, it may be stated that in the beginning the eruption may be so nearly identical in the two diseases as to make a diagnosis from this symptom alone quite impossible. It will be noted, however, that the efflorescence of smallpox presents a much greater degree of uniformity, a more uniform development of the lesions over the body than does syphilis. (It should be remembered, however, that the lesions on the face in smallpox are, as a rule, a little in advance of the eruption elsewhere.) Syphilis is characterized by an essentially multiform eruption; it is not uncommon to find small pustules, large pustules, and papules interspersed, and these in varying stages of evolution and involution. The lesions of syphilis may be grouped in the form of circles or segments of circles, particularly about the border of the hair, the commissures of the mouth, etc. The vesicles and pustules of syphilis are usually conical, and involve merely the summits of the elevation. They never become full and globular, filling the entire lesion, as do those of smallpox. The pustules of syphilis may remain small or may grow to large size, drying into brownish or greenish crusts, beneath which there is generally considerable ulceration. According to the severity of the latter, there will be seen, on separation of the crusts, a reddish brown pigmented oval or round stain or an excavated ulcer. The latter heals with the production of depressed scars. The superficial and non-ulcerated pustules frequently exhibit at their base a scaling collarette.

Medical News, November 29, 1902.

Appendicitis.—Lewis S. Blackwell declares that appendicitis has been raised to the rank of an entity on account of improved methods of diagnosis and greater accuracy in examinations. Its apparent increase to-day is due chiefly to the distinction recognized between this disease and cases of typhlitis and peritonitis disclosed by many postmortems. The gravity of the disease and its mortality rate, which is about 25 per cent. of all cases, demand the closest scrutiny at its beginning, and the greatest skill in its treatment. Besides the typical symptoms of the disease, the diagnosis is materially aided by the fact that about 90 per cent. of all inflammatory affections in the right iliac region are due to catarrh of the appendix. The location of pain and tenderness at McBurney's point is generally accepted as pathognomonic, and is the most salient factor in the diagnosis. It is admitted that one-half of the cases of appendicitis recover under medicinal treatment. This should lead to the restriction of operative procedure within legitimate bounds.

The Early Diagnosis of Intussusception.—F. Huber states that the difficulties in diagnosis, especially early diagnosis, are not great, provided the possible occurrence of intussusception is kept in mind. This early recognition is imperative, as prompt recognition of the condition improves the chances of the patient. The onset is generally sudden. If the vitality is low, the progress may be insidious. Colicky pains, recurring in paroxysms, repeated vomiting, and bloody stools are a sufficiently characteristic symptom complex of the condition. The presence of a tumor, especially if "sausage-shaped," is conclusive evidence. There is more or less prostration or collapse and change of facies. At the outset the temperature is low or even subnormal. Later, there develops more or less fever from sepsis, gangrene, or peritonitis. One or more of the usual symptoms may be late or even absent. Pain is striking. It occurs early, is sudden, of great severity, and is attended by screaming spells and other signs of great suffering. It is paroxysmal. At first the abdomen will, as a rule, be found to be relaxed and soft. Spasmodic contractions are to be noticed, and now and then a swelling can be made out. It is often a loss of valuable time to wait for the "sausage-shaped" tumor. Intussusception is no longer regarded as a borderland condition. It is a surgical disease from its very onset. To sum up, the pain is the earliest sign, followed by more or less change in the facies. Vomiting takes place, followed by the escape of blood or bloody mucus from the rectum. There is more or less collapse. There is a swelling, or rather fulness in the right iliac fossa, particularly during the attacks of colic.

New York Medical Journal, November 29, 1902.

Tent Life in the Treatment of Tuberculosis.—A. M. Holmes describes tent life in Colorado, dwelling especially on the so-called "tent cottage." Full details for the construction of the latter are given, together with such rules for governing tent life as experience has commended. Clinically summarized, the results of tent life may be thus stated: Increased appetite, improved nutrition, disappearance of cough, cessation of night sweats, improvement of sleep, increase of weight, fall of temperature, lessening of tendency to take cold, improvement in respiration, and diminution of pulse rate. Several pictures illustrate the architectural ideas of the author.

Uric Acid Bothers.—W. S. Stoakley says that when the treatment of uric-acid conditions is undertaken, success will depend on the status of normality—whether it be low or high in this particular case. The cells are feeble in some persons *a puero* and sometimes inherited. Having freed the burdened eliminants—not by storm, but rather through persuasion of the skin, with a tender touch of the kidneys and mild opening of the *viæ primæ*, it can then be seen to what eccentric degree the emunctories have wandered. They may have labored so hard that a little *rest* and a "toning up" may be absolutely required before any regular procedure as to drugs can be determined upon. In the meantime, noting the antagonisms to normality in this case, wherever they may harbor—in the earth, the air, the water, the age of the patient, the sex, the habits of the person, and all the little things in connection therewith—as men have learned what the little cell can do by way of cure in consumption, so it can do the same service in the affections under consideration, provided it is not handicapped at the time, or of anæmic birth.

American Medicine, November 29, 1902.

The Importance of a More Careful Examination and Treatment of Women after Childbirth.—B. C. Hirst says that every woman should be subjected to three examinations after labor: One at once, or within forty-eight hours, to determine the injuries of childbirth; the second before the patient leaves her room, to find out the position of the uterus; the third at the end of the puerperium, six weeks after labor, to observe the condition of all the pelvic organs and structures, the abdominal wall and coccyx, and the position of the kidneys. The various consequences of childbirth enumerated could all be prevented or cured before they have affected the individual's health. At the first examination, any injury of the cervix, the anterior vaginal wall, the posterior vaginal wall, the pelvic floor, and perineum should be repaired. At the final examination, uterine displacements, pelvic inflammations, nephroptosis, former injuries, etc., should all be corrected. These careful examinations would ensure a practical immunity from all the ill consequences of childbearing.

The Use and Abuse of Bromides in the Treatment of Mental Diseases.—A. R. Defendorf declares that the value of bromides in cases of insanity is very limited. The indications for their use would seem, according to the writer, to be mental disturbances characterized by states of nervous tension and of excitability of the motor cerebral centers. The drug finds its best use in acquired neurasthenia, in relieving insomnia and that peculiar state of inner nervous tension. In conditions of mental excitement in which motor excitation is the primary factor, the bromides are almost universally recommended. The type of mental excitement must be carefully distinguished, however. Another indication for the use of the bromine salts is in those forms of mental disease which seem to bear a close relation to sexual excitement, particularly if periodic. The writer describes several cases which present some unusual symptoms of bromism. In all of the cases exaggeration of the deep reflexes occurred, and in two were accompanied by ankle clonus. The mental symptoms were also unusual.

Philadelphia Medical Journal, November 29, 1902.

The Local Use of Iodine in Corneal Ulcers.—J. Lawton Hiers believes in regard to the preparation of iodine to be employed, that preference should be given the tincture. The eye should be first cocainized to complete anæsthesia. An eye speculum should be introduced and the ulcer scraped thoroughly with a spud. The part should be well dried, and the iodine be thoroughly applied to the ulcer by means of an applicator. The excess should be dried off, and none of the drug should be allowed in direct contact with the healthy parts of the eye. The eye should then be bathed with sterilized water or boric solution, and then treated as a recent traumatism of the cornea. The writer believes that iodine is especially adaptable to ulcers that are indoleat in type. It lessens rather than increases scar tissue. The after-treatment should vary according to the indications of each individual case. The judicious use of iodine deserves the warmest praise. In some cases two, and even three, applications have been necessary to effectd cure, but the majority of cases have readily yielded after its first employment.

Some Experiments upon the Immunization of Cattle against Tuberculosis. Leonard Pearson and S. H. Gilliland believe from the experiments here recorded, that they are justified in concluding: ()1 That after repeated intravenous injections of cultures of tubercle bacilli from human sputum the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures that are capable of causing death or extensive infection of cattle not similarly protected. (2) That intravenous injections of much larger quantities of culture of human sputum tubercle bacilli than are necessary to confer a high degree of resistance, or immunity upon the vaccinated animal, may be administered without danger to that animal. The writers add that they are now experimenting upon young cattle to test the duration of this immunity and the extent to which it is effective in protecting cattle against infection from natural sources. They are also experimenting to find the minimum quantities of culture of nonvirulent tubercle bacilli that it may be necessary to administer in order to confer a serviceable degree of immunity, and whether it may be possible to simplify the process of vaccination by successive injections of a few cultures of progressive degrees of virulence.

The Lancet, November 22, 1902.

Pure Urea in the Treatment of Chronic Pulmonary Tuberculosis. The clinical histories of seven cases are given by S. V. Pearson, who adds a note on the action of urea From a comparison of series of cases treated according to the usual methods, he comes to the conclusion that pure urea exerts no special action on chronic pulmonary tuberculosis His general conclusions are as follows (1) Urea given by the mouth in patients with chronic pulmonary tuberculosis increases the output of urea; but the total increase in this output does not, as a rule, equal the total quantity administered. (2) Urea acts only to a slight extent as a diuretic; this action is variable and, on the whole, untrustworthy. (3) In both the output of urea and in the output of urine the effect produced by the administration of urea is more marked at first. After a time the body seems to accustom itself to the intake of urea, and tends to return to the normal output (4) Urea does not act as a cardiac stimulant.

Transplantation by Exchange.—C. R. B. Keetley refers to a case operated on by him some fifteen years ago Photographs are given of the patient as a baby and again at the age of fifteen. The girl suffered from a hairy mole on the face, which was transferred to the left arm "by exchange" that is, by transplanting the smooth white skin of the arm to the area occupied by the mole. From a considerable experience with this class of cases, the author would lay stress upon the following points: (1) Not only the outline of the flaps, but the chief points of suture should be carefully marked before the flaps are cut. (2) The knife used to divide the skin should be sharp. (3) Twelve days are not too long to leave the arm and face in contact. (4) It is neither necessary nor desirable to cover the site of operation with plaster-of-paris; on the contrary, the plaster bandages should be so applied as to leave it freely accessible, and the dressings should be changed occasionally. (5) The stronger sutures should be of silkworm gut. (6) Care should be taken not to leave a fragment of mole behind. Cutting the flaps free is a difficult step in the operation, as they have to be cut where folded, and it is in some cases difficult to get a good view. A very sharp knife should be used, and a strong light should be thrown into the hollow. At the same time the skin should be carefully swabbed free from blood. (7) It should be made absolutely sure that both flaps are *entirely* cut through before the arm is allowed to move an inch away from the face. (8) The strapping used should be old-fashioned diachylon, and not the irritating plasters often sold on rollers. (9) The iodoform gauze should be well rinsed out in warm sublimate solution, 1 in 2,000. (10) No drain of any kind should be inserted between the flap and its bed; it is not necessary, and may be mischievous.

Lodgment of a Foreign Body in the Air Passages for Seventy-two Days.—The patient of R. A. Wilson was a man of forty-five years, who, while intoxicated, met with the accident referred to in the title of the article. The next morning he presented the following symptoms: Great pain over the lower posterior portion of the right lung, dyspnœa, and severe paroxysmal cough, with the expectoration of much frothy muco-purulent sputum streaked with blood. No bony crepitus could be elicited. His temperature was 100° F., his pulse rate was 84, and his respirations were 24 per minute. There was dulness on percussion over the infrascapular region on the right side, and the vocal fremitus was much increased over this portion of the lung. Loud whistling, breathing, accompanied by snoring and silibant râles, together with great intensification of the vocal resonance, was heard over the same area. After a week in bed he resumed work, though continuing to have paroxysms of cough and dyspnœa, in one of which he expectorated the proximal portion of a vulcanite pipe stem half an inch long by one-third of an inch broad, which he then recognized as belonging to the pipe he had in his mouth at the time of the accident. A few days after the event the signs above noted disappeared, and the cough and dyspnœa no longer troubled the patient. The noteworthy features of the case are: (1) The patient's unconsciousness of having swallowed the foreign body; (2) the length of time that it remained undiscovered; and (3) the physical signs. When a foreign body becomes impacted in a bronchial ramification, one would naturally expect to find collapse of the portion of lung supplied by it. The pipestem, however, was peculiar in that, although acting as a plug, it also probably allowed air to enter through its perforation; and it is uncertain whether the signs of consolidation were true and were caused by the presence of the foreign body, or whether the signs were false and were produced by the vulcanite acting as a resonator.

British Medical Journal, November 22, 1902.

Psoriasis Inherited (?) from a Myxœdematous Parent.—Evelyn A. W. English was recently consulted by a young woman, aged twenty-seven years, who had been suffering from a persistent attack of psoriasis for the last four years. No treatment had proved of any benefit. Vapor baths were tried with some improvement, but when the writer learned of the myxœdema of the mother, thyroid extract was ordered. Recovery from this time was rapid, and in less than a fortnight the psoriasis had disappeared. The general health was good, and there was no other evidence of thyroid deficiency.

Treatment of Rheumatoid Arthritis.—W. J. Midelton calls attention to this case of rheumatoid arthritis, which occurred in a woman of forty-three years. She was treated by blisters and massage. The blisters were first applied one on each side of the tenth dorsal vertebra, and were kept open with savin ointment about twelve days. About a month later others were applied, one on each side of the lower cervical and upper dorsal vertebræ. The patient improved so much that she could do house work. She had been bedridden. The writer states that this treatment is based on what he believes to be the true pathology of the disease—the neural theory, others urging the infective theory. He sees no reason why the two should not go hand in hand. He thinks if this disease were called poliomyelitis many misconceptions of its true nature would be to a large extent removed.

Case of Complete Paraplegia Successfully Treated by Forcible Extension of the Spine.—T. Outterson Wood and James Cantlie report this case. The patient was a boy of ten years. On his admission to the hospital he was found to be suffering from complete paralysis of both lower extremities. This had lasted for about six months. There was marked rigidity and a good deal of adductor spasm, but there was no flexion of the knees or thighs. The knee-jerks were greatly exaggerated, and there was ankle and pattellar clonus. The plantar reflex was increased and Babinski's sign was markedly present. The patient was kept on his back for three months and passive extension was applied to the lower extremities by means of pulleys and weights, the shoulders being fixed at the same time the legs were massaged daily. At the end of three months the spine was forcibly extended under an anæsthetic and a Sayre jacket applied, while the extension was kept up by means of the pulleys. All the night following the operation the child complained of great pain in the knee-joints, and the extension was discontinued. The patient was still kept on his back in the jacket. When it was taken off, he could move both legs. Sensibility to pain had also increased. He was kept on his back for some months, and then he began to attempt to walk. He has improved steadily ever since, until now he can run and jump. The other disturbances have almost entirely cleared up.

Case of Motor Aphasia, with Hemianæsthesia, but No Hemiplegia.—William B. Bennett describes this case, which presents four prominent features: Motor aphasia, right-sided hemianæsthesia, no hemiplegia, and paralysis of the tongue on the right side. As to localization of the lesion the writer says that hemianæsthesia may be caused by a lesion in any one of the following situations: (a) The posterior third of the hind limb of the internal capsule, where the different fibers of general sensation ascend to the brain. Such a lesion without any hemiplegia is extremely rare, and when present is usually accompanied by at least partial paralysis of the leg, also by hemianopsia, disturbance of hearing, and sometimes of taste and smell, none of which were present. (b) The cortex. This would of necessity be an extensive lesion, and would involve the motor areas, causing considerable paralysis and probably twitchings. (c) The subcortical area. That is somewhere in the white matter which lies between the cortex and the internal capsule (corona radiata), and this the writer considers the most likely position. Applying the same tests to the motor aphasia, the same conclusion is reached; for if the lesion had been in (a) the internal capsule, it must have been at the anterior end of the hind limb, at the genu, since it is here that the fibers to the tongue and those concerned in motor aphasia pass through. (b) The cortical center concerned in motor aphasia is at the posterior end of the third left frontal convolution, but this is unlikely from the absence of paralysis or twitchings. Thus we are compelled to fall back upon the subcortical area as the most likely position for the lesion; and this would also account for the very slight weakness down the right side. The writer believes that the lesion in this case was a softening in the subcortical area of the brain.

Deutsche medicinische Wochenschrift, November 6, 1902.

Enlarged Thymus and Sudden Death.—M. Penkert reports two cases which show that the thymus gland, if sufficiently enlarged, may cause marked pressure upon the upper air passages, and thus give rise to sudden death through strangulation. The first case was a new-born child who lived only three hours after birth. The respirations were bad from the moment of birth, and artificial respiration was attended with but little result. Upon autopsy the child was found to be normal in all respects except in the possession of a very large thymus gland. This gland was 5 cm. long, from 2 to 6 cm. broad in different portions, and 1½ to 2 cm. thick. The second patient was six months of age, and had never been sick up to the time of the fatal attack. This was a sudden development of dyspnœa, which speedily resulted in death. Upon autopsy nothing abnormal except an enlarged thymus was found. This consisted of two lobes, the right being 10 and the left 8½ cm. in length. Small hemorrhages were present throughout its substance.

Berliner klinische Wochenschrift, November 10, 1902.

Meningococcus Septicæmia.—H. Salomon reports a case of septicæmia in which Weichselbaum's meningococcus intracellularis was twice cultivated from the blood in pure culture. Only two endeavors to thus obtain this organism were made, one upon the fourth and the other upon the twenty-seventh clinical day. Both were successful. Lumbar puncture was also tried, and the above organism demonstrated therein; this fluid, however, was not cultivated. Clinically, the case was characterized by an irregular fever, and the other familiar constitutional symptoms of general septicæmia. A macular eruption was present which was more or less varying in character and transient in appearance. The entire course of the case covered about five months, during which many remissions and exacerbations took place. Recovery ensued.

Munchener medicinische Wochenschrift, November 11, 1902.

Croupous Pneumonia and Sepsis Due to the Pneumobacillus of Friedlander.—E. Phillipi reports a fatal case of lobar pneumonia in which Friedlander's bacillus was cultivated from the blood during life, and was obtained from the pulmonary lesions at autopsy. In the latter lesions other microorganisms were present, but the pneumococcus of Fraenkel was not found. This shows that the latter organism is not the sole producer of typical lobar pneumonia in man.

Cerebrospinal Meningitis and Purulent Rhinogenous Meningitis.—Theodor Struppler reports three cases which show that a cerebrospinal meningitis may have its origin in a chronic purulent process located in the antrum of Highmore. In all of the cases such a chronic process had been in existence for some time when cerebrospinal meningitis suddenly developed and proved rapidly fatal. Lumbar puncture was practised in all cases, but was negative. Upon autopsy the characteristic lesions of cerebrospinal meningitis were found, together with the evidences of the chronic process above mentioned.

Value of Cryoscopy in the Diagnosis of Death by Drowning.—Revenstorf, by experimental work upon rabbits, has endeavored to ascertain whether an estimation of the freezing point of the blood taken from the right and left sides of the heart respectively is of any value in the diagnosis of death by drowning. The supposed value of the method is based upon the fact that in drowning a certain portion of the drowning fluid finds its way into the pulmonary capillaries, and from thence into the left side of the heart, so that the blood there contained would be of less molecular concentration, and have a higher freezing point than that on the right side of the heart. Revenstorf finds that in many cases of death by drowning the freezing point of the blood in the left side of the heart is much higher than that in the right side, the difference being from ten to twenty-seven degrees. In many other cases, however, no such difference can be demonstrated, so that this sign is only of value when the freezing point of the blood in the left heart is quite perceptibly below the *normal*, thus showing that the blood in that location has been diluted by water absorbed from the lungs.

French and Italian Journals.

Surgical Treatment of Appendicitis.—Moty depends upon the state of the pulse in doubtful cases. When it beats 100 times to a minute, he discusses the urgency of operative interference, and does not hesitate in this course if, from hour to hour, the pulse-rate increases. If, on the contrary, after several examinations, he does not find any change in the number of beats, he waits, ready to operate in case of acceleration.—*Journal des Praticiens*, November 8, 1902.

Hypertrophy of the Prostate and Perineal Prostatectomy.—Loumeau reports two cases of hypertrophied prostate operated on by Albarran's method of total perineal prostatectomy. They were perfectly relieved of numerous urinary disorders; the cure in one case now being of seven and one-half months' duration, and the other of five months. The first patient had suffered from retention for four years, with acute crises, particularly painful for the last two months. He can now empty the bladder entirely without a catheter. The second patient, who for twenty-seven months suffered from complete chronic retention, has been relieved in the same manner from all of these disturbances.—*La Médecine Moderne*, November 5, 1902.

Experimental Researches and Anatomico-Pathological Observations in Regard to Segmenting Myocarditis.—Giuseppe Giacomelli concludes that fragmentation and disintegration of the myocardium are the lesions most frequently met with in autointoxications, in acute poisoning, and in poisoning by chloroform, mercury, fungi, etc. The rapid contractions of the heart produced by electricity do not cause segmentation, neither do the brusque contractions of the heart produced in animals by faradization preceded by experimental intoxication. Fragmentation and disintegration of the myocardium are of more serious import than fatty degeneration. There is no relation between general degeneration of the fibers and segmentation.—*La Riforma Medica*, November 3, 4, and 5, 1902.

Pericardial Hæmatoma from Rupture of a Branch of the Right Coronary Artery.—M. J. Delépine presents this case. The patient was a man of sixty-six years, suffering from the sequelæ of an attack of grip—anorexia, constipation, and asthenia. The objective examination was almost completely negative. A saline purgative was ordered, and it was thought that rest, combined with tonics, would restore the patient again to health. Two days after his entrance to the hospital, in getting out of bed, he fell, and died in a few minutes. At the autopsy the pericardium looked like a distended sac, bluish in color. On incising it, there escaped a rush of blood with clots, the whole weighing about 250 to 300 grams. The internal surface of the pericardium was normal, showing not a trace of hemorrhagic pericarditis. The heart was carefully examined. There was neither thrombosis nor rupture of the main branches of the right coronary artery. The hæmatoma seemed to have been caused by the rupture in a small artery, which sprang from the bifurcation of the two branches of the right coronary artery. This tiny branch showed fatty degeneration.—*Journal des Sciences Médicales de Lille*, November 8, 1902.

Filaria Medinensis.—Nicola Cantàfora says that the usual method of treating this disease is to exert gentle traction of the worm, being careful not to injure it in any way and trusting to its gradual exit from the skin. In a case which he recently had to treat, he cut the parasite with the scissors, allowed the milky thick fluid which it contained (masses of embryos) to flow out, and then injected within the parasite about a quarter of a Pravatz syringeful of a 3-per-cent. solution of carbolic acid. Several other injections were then made around the cutaneous lesion. The parasite was then tied at its cut end with a piece of silk and placed as usual around a little rod. Two days later, about 10 cms. of the filaria came out spontaneously, and by gentle traction 12 more were easily extracted. Another recision of the parasite was performed with subsequent injection of carbolic acid, and two days later the whole worm came out. Recovery was complete. The author is aware that one case alone is not convincing, but suggests that this method, having been so successful, be given further trial.—*Giornale Medico del Regio Esercito*, October 31, 1902.

Annals of Surgery, October, 1902.

Acute Suppurative Pancreatitis.—F. W. Murray reports the case of a man, aged fory-one years, alcoholic, and with a history of a series of supposed bilious attacks. When seen by the author he was vomiting and had severe epigastric pain. The abdomen was distended with marked prominence in the left epigastric region, which contained a mass about as large as a cocoanut, tense, well-defined, and tender, giving dulness on percussion. A diagnosis was made of acute suppurative pancreatitis. Through an incision in the left rectus muscle, some twenty ounces of a brownish seropurulent fluid escaped, and the swollen pancreas could be felt lying at the back of a large cavity. This was cleansed and irrigated. The discharge from the opening continued for some weeks, but the patient gradually improved, and was discharged from hospital in a little over four months with his wound completely healed. Eight months later he was reported as having gained sixty-five pounds and as being well in every respect.

A Case of Trigger Fingers.—F. Griffith reports the case of a Polish woman, aged fifty-seven years, who suffered from a sudden locking of the knuckle-joints of the left second and third fingers. The affection had lasted fifteen years. The cause could not be ascertained. The condition was manifested in movements both of flexion and extension. Upon attempting to grasp an object, as, for example, a chair-back, with the left hand, the thumb, index, and little fingers clasped naturally, but the ring and middle fingers, after describing about one-third of the arc of flexion, suddenly became locked at their metacarpophalangeal joints, and the woman was utterly unable to accomplish further movements of those fingers unaided. She had, by long practice, established a complementary action of her other hand, when, by pushing the affected fingers beyond the lock, an apparent dislodgement took place almost audibly, and the woman was then able to hold the object or to clinch her hand. Movements of extension were carried out in a similar but reversed manner. Opening through the first third of the arc was entirely voluntary; during progress through the middle third absolute fixation took place; aided by the other hand, release with a jerk was obtained, followed by full and easy straightening.

Results of Operations on the Kidney for Tuberculosis.—E. Garceau presents the following conclusions: (1) Tuberculosis is rarely, if ever, primary in the kidney, and the original focus is in some other organ in more direct contact with the external air in the majority of cases. (2) The presence of a primary focus of disease in the body, even if the disease has been thoroughly eradicated from the urinary tract, makes the ultimate prognosis in these cases doubtful at least. (3) Such foci may remain permanently quiescent, but they may also become excited to activity by a generally low condition of the system, or by causes unknown to us. (4) Patients should be told of the danger as regards the future for them, and they should lead lives of the greatest regularity, with strict attention to hygiene. A change of climate is very beneficial in these cases. (5) Reported cures of long duration occur, but they have been few. (6) Nephroureterectomy should be done in all cases in which the ureter is diseased and the patient's condition allows of it. The bladder should be subsequently treated if diseased. (7) An abandoned tuberculous ureter is an especial source of danger on account of the great liability of subsequent tuberculosis. (8) Nephrotomy alone should be rejected except as a preliminary to a later nephrectomy. (9) Resection is not justifiable, for we can never be sure that the portion removed is the only portion diseased.

Total Excision of the Scapula with Preservation of the Upper Extremity.—The patient of S. P. Delaup was a negro twenty years of age. Without apparent cause he began to have stiffness in the movements of the right arm with a moderate swelling of the shoulder. Examination at the time the patient was seen revealed a suppurating at the sinus at the back of the junction of the spine with the spinal border of the scapula. Under anæsthesia the sinus was laid open and conjoined caries and necrosis of the scapula were found, and so extensive that excision of the whole bone was called for. The author describes the technical steps of the operation, and congratulates himself upon the successful functional recovery obtained. The patient can lift readily any moderately heavy article. He can place his hand on either ear or shoulder, on the back of the neck, and can pass his hand over the whole of his forehead and face and behind his back. He can bring his hand to sweep over the whole face and cheek. There is a considerable amount of hard, fibrous material about the new joint, and, as a result of this rigid condition of the parts, the upper extremity of the humerus, itself involved in the mass, is held much more firmly in position than would otherwise be the case, assuring the stability of the humerus. Two excellent pictures illustrate the anterior and posterior aspects of the joint after operation.

Gunshot Wound of the Thorax Involving the Heart.—L. J. Hammond was called to see a man of fifty-one years of age, who had been accidentally shot in the chest, the wound of entrance being one and one-half inches above the ensiform cartilage, and about the same distance to the left of the sternum. A large hemorrhage extended from the nipple line of the posterior axillary line and from axilla to diaphragm. The patient did well for nearly three weeks, when he was suddenly attacked with vomiting, and died almost instantly. Autopsy revealed the following conditions: At the wound of entrance the bullet had fractured the rib at that point, passing through the pericardium and through the apex of the heart, making a wound about one-quarter of an inch in depth. It then passed through the pleura and gained exit from the thorax between the sixth and seventh intercostal space, being found in the subcutaneous tissues, after having passed through all the deeper tissues of the back. Its presence could not be early detected on palpation because of the presence of the immense hæmatoma, and later because of its being embedded in organized blood-clot. The entire heart muscle was enveloped within a well-organized blood-clot, and about a gallon of serum and blood was removed from the pericardium and pleural cavities. All the other organs were apparently normal. The peculiar feature of the case is the absence, after recovery of shock from the wound, of any cardinal symptoms of wound of the heart.

Excision of the Lumbar Lymphatic Nodes and the Spermatic Vein in Malignant Disease of the Testicle.—J. B. Roberts says that if the exact nature of the pathological process is known, it may be sufficient to excise the nodes and leave the vein untouched in carcinoma, or to resect the vein and leave the nodes untouched in sarcoma. If the nature of the process is unknown, it is better to operate on both nodes and vein. The operation is thus described: The abdominal incision should be median and extend about two inches above and about two inches below the navel. The small intestines should be pushed to the right side of the patient, and the posterior layer of the peritoneum opened over the aortic bifurcation. Care must be taken to avoid injuring the inferior mesenteric artery, alongside of which will be seen lymph nodes. These nodes are not to be disturbed, because they receive lymph from the intestines and not from the testicles. The nodes to be excised lie upon and at the sides of the aorta from its bifurcation up to the level of the renal vein. They vary in size, being often not larger than a grain of wheat, and may be embedded in fatty tissue. The safest course, probably, is to remove all the adipose tissue found in front of the aorta and cava and at the sides of these great blood vessels. It is, perhaps, wise to excise the glands on both sides of the median line, though only one testicle be diseased. Resection of the spermatic vein should be restricted to the side corresponding to that of the malignant tumor. One illustrative clinical case is narrated.

Fatal Acetonæmia Following an Operation for Acute Appendicitis.—The patient of G. E. Brewer was a school boy of twelve years. A perforated gangrenous appendix was found in a small abscess cavity containing two drachms of foul pus. Duration of anæsthesia was twenty-five minutes. On the third night after operation he suddenly awoke and began to scream. These attacks were renewed at intervals during the next day. The wound conditions appeared normal, and there was no evidence of cranial nerve palsy or irritation. No cause for the peculiar mental condition could be discovered, but a peculiar sweetish, ethereal odor of the breath was noticed, and a diagnosis was made of acute autointoxication from the presence of acetone and diacetic acid in the blood. This conjecture was confirmed by finding large quantities of both substances in the blood and urine. Free catharsis, diuresis, and intravenous injections of chemically pure sodium bicarbonate were instituted, but the patient died about twenty-four hours later. In the final hours the mental symptoms assumed more of a passive type. Brewer has never known of a similar case. Possible causes are trauma, sepsis, drug action, and autointoxication (ptomains, uræmia, and acetonæmia). As regards the possible relation of anæsthesia to the condition, Brewer notes the presence in the urine of a pathological amount of acetone in seven out of thirty-three cases following anæsthesia, the records being taken from his hospital service. In five of these chloroform had been used, and in two ether. None of the cases were diabetic, and in none was there a reaction for acetone before the administration of the anæsthetic. In all the acetone appeared on the day following the operation. In two it was found on the second and third days, in the remaining five on the second. In six of the cases there were no symptoms which could be attributed to acidosis; in the seventh death occurred thirty-six hours after a gastroenterostomy for carcinoma, with rather indefinite symptoms of so-called secondary shock.

University of Pennsylvania Medical Bulletin, Nov., 1902.

Thrombi Composed of Agglutinated Red Blood Corpuscles.—Simeon Flexner concludes that the agglutination of red corpuscles *intra vitam* is not uncommon in infectious diseases in man and animals. A special variety of thrombi is produced through this agglutination, which may be denominated agglutinative thrombi. When such thrombi are old, or when the agglutination is compact, they may present appearances to which the name of "hyaline thrombi" has been applied. Other alterations of the blood than those arising in infectious diseases may bring about agglutinative thrombosis, the nature of this alteration being little understood. Poisons which destroy corpuscles rapidly are provocative of agglutinative thrombosis. The so-called "fibrin fermen thrombi" are probably nothing else than agglutinative thrombi.

Vaccination and Serum Therapy against the Bacillus of Dysentery.—Frederick P. Gay concludes that the bacillus of dysentery (Shiga's) is the cause of acute and other forms of dysentery in tropical and temperate climates, and, probably, of a part of the summer diarrhœas prevailing in warm countries among infants. The bacillus of dysentery, cultivated outside of the human body, quickly suffers a reduction in virulence for guinea-pigs, but the virulence can readily be increased by successive passages through the bodies of these animals. The passage of B. dysenteriæ through guinea-pigs permits of the establishment of a uniform grade or degree of virulence in the organism, irrespective of its sources, which adapts it for the production of vaccines of quite uniform activity. From experiments made with these vaccines the author judges that a useful serum therapy of bacillary dysentery and of certain forms of the summer diarrhœas of infants is rendered highly promising.

Study of the Bacteriolytic Serum-Complements in Disease.—Warfield T. Longcope says that normal individuals show slight fluctuations in the bacteriolytic complement-content of their blood. In many prolonged chronic affections, such as nephritis, cirrhosis of the liver, and diabetes mellitus, there is a marked decrease in the bacteriolytic blood complement, which becomes more marked toward the end of the disease. Terminal infection in chronic disease is probably the direct result of the diminished state of the bacteriolytic complement. The blood serum of certain individuals suffering from chronic [illegible] not show a [illegible]. These individuals appear to escape t[illegible]. [illegible] leucocytosis is frequently associated with [illegible] complement-content of the blood serum for typhoid and [illegible] bacilli. The blood serum of some typhoid fever [illegible] shows a diminution in the specific complement for the typhoid bacillus. Human blood serum contains a multiplicity of bacteriolytic complements.

Bubonic Plague.—Simon Flexner considers the [illegible], mode of spread, and clinical manifestations of bubonic plague, and states that in spite of all efforts, it has invaded the Western Continent. A stupendous progress has characterized the study of the present epidemic. The discovery of the bacillus of plague has centered attention upon the one agent of propagation; the study of the life history of the germ has eliminated the indefinite agents of conveyance included in air, soil, and water and substituted tangible means of dissemination. This knowledge is bearing fruit already, as observed in the beneficial effects of evacuation of villages and quarters with thorough disinfection or destruction of premises. Inoculation with Haffkine's anti-plague remedy, according to the conclusions reached by the Indian Commission, is found to diminish the incidence of plague attacks, and diminishes the death rate. It does not appear to confer any great degree of protection within the first few days, but the protection lasts for some weeks, possibly for a number of months.

A Study of Immunization Hæmolysins, Agglutinins, Precipitins, and Coagulins in Cold-Blooded Animals.—Hideyo Noguchi concludes from his researches that (1) Artificial hæmolysins, agglutinins, antiagglutinins, serum precipitins, aqueous humor precipitins, and milk coagulins can be produced through immunization in certain cold-blooded animals. (2) The hæmolysins and agglutinins for erythrocytes can be produced in animals which do not possess erythrocytes. (3) Iso-agglutins and iso-hæmolysins can be produced in certain species of turtles. The iso-bodies thus developed have a slight erythrolytic action upon the blood of other, though related, species of turtle. (4) The complements of turtle's blood are rendered inactive by a temperature of 50° C., maintained for thirty minutes. (5) The precipitins and coagulins for aqueous humor and milk, respectively, can be produced in animals which do not possess the corresponding fluids in the strict sense. (6) The above facts demonstrate the widespread distribution of common receptors through the animal kingdom and extend the chief tenets of Ehrlich's hypothesis to invertebrates and vertebrates among the cold-blooded animals.

Leptothrix Infection in Animals.—Richard Mills Pearce says that the confusion which exists concerning the filiform organism which is the subject of his article is shown by the fact that although it has been the subject of [illegible] five original communications, it is referred to in the literature of bacteriology under eleven different names. The painstaking investigations of Flexner, which were confirmed by Muscatello so describe the organism, its morphology, and the character of the lesions that no doubt of its identity with the Streptothrix cuniculi remains. The variations of cultures led Flexner to classify it as a new species. The difficulty, however, is not so much one of variation in the results of cultivation as it is one of lack of uniformity in the methods of cultivation. Until some one with fresh material at hand suggests anew a comparative study, it seems advisable to consider all the forms described to be identical. The establishment of such identity would lead to a change in nomenclature. The term streptothrix must be dropped, for in the [illegible] of seven different investigators true branching has not been discovered. The author considers that the adoption of the cognomen leptothrix necrophorus is imperative.

Recurrent Vomiting in Children.—Henry [illegible] Shaw reports four cases of the disorder which is characterized by a sudden onset of persistent vomiting without other gastrointestinal symptoms. Some authors believe that it is only one of the manifestations of the uric-acid diathesis. In the cases reported there was a marked neurotic or gouty tendency inherited from [illegible] both parents. The vomiting is the chief and often the only symptom and may be mild or severe. It may occur with or without provocation. Thirst is constant, but there is no desire for food. The disease lasts from [illegible] hours to eight days. Recovery is almost instantaneous. The disorder is apt to recur, but without regularity. Prognosis is favorable, but treatment is unsatisfactory. The indications are to give the stomach absolute rest and to get the bowels to act. Marfan found that large rectal injections of normal salt solution twice a day [illegible] the best results.—*Archives of Pediatrics.*

Society Reports.

THE PRACTITIONERS' SOCIETY.

173d Regular Meeting, Held on Friday, October 10, 1902.

George L. Peabody, M.D., President pro tem.

Operations upon the Uterine Appendages for Sterility.—Dr. W. M. Polk read this paper (see page 881).

Dr J. W. Brannan said that about two years ago he received a letter from a well-known New York surgeon stating that he had devised an operation for the transplantation of sound ovaries into women who had lost their ovaries, and asking Dr. Brannan whether he had any patient who would submit to the operation for the sake of having children. This surgeon subsequently informed Dr. Brannan that he had sent a similar letter to thirty physicians, and among their combined clientele not a single sterile woman was found who wished to have this function restored.

Dr. T. Mitchell Prudden, in reply to a question, said that at an operation upon the ovaries in which the operator was confronted with alterations so slight or so obscure that he was in doubt as to his further procedure, the frozen-section methods of rapid microscopic diagnosis were not likely, in his opinion, to be very helpful. The reason of this was that these methods were not sufficiently delicate to permit of such accurate differentiation of tissues as would under these conditions alone be helpful.

Rupture of the Retina and Choroid.—Dr. Charles Stedman Bull reported this case. The patient was a man, who, while riding in the Central Park last March, was thrown from his horse, striking on his head. He was picked up unconscious and taken to the Presbyterian Hospital. There was bleeding from the left ear, and it was supposed that he had sustained a fracture of the base of the skull. There was a scalp wound about the middle of the left parietal bone, but no fracture of the vault could be discovered. The left pupil was contracted.

After thirty-six hours the man regained consciousness, and his condition gradually became normal, but two or three days later he stated that he could not see with his right eye. An examination showed that the right vitreous body was filled with blood. This condition gradually cleared up, disclosing a rupture of the retina and choroid, leaving the white sclera showing through. The retraction of the ruptured parts have left a gap of considerable size in the fundus, reaching to the optic nerve. The patient has no central vision whatever, but that from the eccentric portion of the retina has come up so remarkably that he can now read diamond type with the affected eye. The left eye was normal and has remained so.

With the exception of a rather extensive subconjunctival hemorrhage on both sides, Dr. Bull said this patient showed no further evidences of a fracture of the base of the skull The rupture of the drum membrane of the left ear, which occurred at the time of the accident, has healed; his hearing on that side is now practically restored, and he has no subjective symptoms referred to the ear.

Dr. George F. Peabody said he had seen two cases of what he believed to be fracture of the base of the skull in which the middle ear was filled with blood, but in which there was no rupture of the drum membrane. Both cases ultimately recovered, after having suffered from delirium.

A Case of Paralysis with Unusual Symptoms.—Dr. Brannan said that two weeks ago he was called to see a woman who was at first supposed by her husband to have a hysterical attack. He found her almost unconscious, with loss of the power of speech and almost completely paralyzed on the right side of the body. This led him to believe that he had to deal with a case of hemorrhage or embolism on the left side of the brain, involving the speech center. Later in the day, the left side of her face became paralyzed, and the power of speech returned to some extent. On the following day she was unable to move her eyes to either the right or the left; she could raise them slightly, but was unable to close her left eye. Since then she had gradually recovered the use of her right arm and leg—the arm recovering its power first, which was unusual—but there was still some incoordination. The paralysis of the left side of the face and that of her eyes continued; the latter seemed to be equally affected. Sensation on the right side, including the face, was impaired, while the opposite (paralyzed) side of the face was hypersensitive. The pupils were about medium in size, and reacted to light equally. The hearing was much dulled and there was considerable difficulty of articulation.

This patient, Dr. Brannan said, was forty-six years old, and gave an indefinite history of some recent menstrual trouble. The heart was apparently normal. The urine at first contained considerable albumin, but since then it had cleared up, and was now normal.

Dr. Brannan said that while he was uncertain as to the nature of the lesion in this case, he thought that it was located in the lower portion of the pons, involving the nuclei or roots of the third, fifth, sixth, seventh, eighth and ninth nerves. The pyramidal tracts were evidently affected in the beginning of the attack, recovering later. Thrombosis of the basilar artery with consequent softening of the pons seems the most probable lesion.

Ascending Spinal Paralysis.—Dr. Andrew H. Smith reported this case, which he saw in consultation at the Long Branch Hospital. The patient was a man who was injured while diving in shallow water. He was taken to the hospital, and found to be completely paraplegic below the waist. Nothing could be made out in the way of a lesion of the spinal column, but there was an absence of sensation and motion of the lower part of the body. The paralysis gradually ascended, involving the intercostal muscles, respiration being carried on entirely through the movements of the diaphragm. Death occurred forty-eight hours after the accident, and was due to the accumulation of secretion in the lungs, which could not be expelled on account of the paralysis of the intercostal muscles.

Dr. Smith also mentioned another case in which this ascending paralysis of the spinal cord was very well illustrated. The lower part of the body was first involved; the paralysis gradually crept up, affecting the lower intercostal muscles, then the upper, while the diaphragmatic breathing continued until death occurred from the collection of secretion in the lungs, coughing being impossible by the action of the diaphragm alone.

A Case of Spontaneous Subarachnoid Spinal Hemorrhage in a Bleeder.—Reported by Dr. Edward G. Janeway. The patient was a young man, who, while apparently recovering from a slight attack of grippe, fell to the floor, and upon examination it was found that there was a complete loss of power and sensation of the legs and lower portion of the body. The onset and character of the symptoms, a rigidity of limbs occurring on bending the body, led to the probable diagnosis of spinal hemorrhage in a hæmophilic. The fact was elicited that the patient's brother was a bleeder, and had lost the sight of one eye from a retinal hemorrhage.

The patient died at the end of two weeks from gradual ascending paralysis. An autopsy showed a hemorrhage filling the subarachnoid space, and extending up to the middle cervical region. There was also some blood between the dura and arachnoid, due to small rupture in arachnoid membrane over cauda equina.

If this patient had not been a bleeder, Dr. Janeway said, an operation would have been advised. The speaker said he had never seen nor heard of a similar case.

A Case of Acute Ascending Paralysis, with Recovery.—Reported by Dr. W. M. Polk. The patient was a woman, about fifty years old, who, during the course of the menopause, began to suffer from an acute ascending paralysis, which gradually involved the entire body as high up as the chin, respiration being continued by means of the diaphragm. She remained in this condition for about a week, and then gradually made a complete recovery, and has apparently remained well up to the present time. During her illness she was carefully examined by several neurologists, who failed to find any evidences of hysteria or simulation. Her treatment consisted of enormous doses of potassium iodide. There was no distinct evidence of syphilis, but there were some grounds for believing that she had not been entirely proper in her method of living.

Minute Sarcoma Involving the Sixth Nerve.—Dr. Janeway reported the case of a man who developed a paralysis of the sixth nerve. He was operated on for strabismus and died within a week after the operation. The autopsy showed a sarcoma, about half the size of a pea, which sprang from the dura under the pons, pressed on the sixth nerve and pons at this site, subsequent acute softening of the pons had produced the fatal result. The ophthalmologist was severely blamed by the patient's family for operating on the strabismus, attributing the fatal result to the operation.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held November 17, 1902.

Alexander Lambert, M.D., President.

A New Trachoma Forceps.—Dr. H Davison Saril presented this instrument, which he had recently devised for the expression of the lymphoid bodies in trachoma. He claimed that it would grasp any portion of the conjunctiva without slipping, and would remove the lymphoid matter with the least traction and the least trauma.

Unscientific and Careless Prescribing; Secret and Proprietary Remedies.—Dr. Harry R. Purdy presented a paper with this title. He said that he had been astonished to see the apparent lack of knowledge of incompatibles in prescriptions by men who are very capable and well-informed in other respects. Various examples of prescriptions illustrating this were given. Emphasis was laid upon the fact that corrosive sublimate was incompatible with almost everything, yet was often prescribed in tablet form along with various other drugs. The author condemned the practice of using ready-made and often stale, insoluble and inert medicines. In certain quarters, said the speaker, it seemed to be the fashion to decry all drugs, and to pose as if as much afraid of them as the whilom drunkard is of liquor. But more to be condemned even than these physicians were those who prescribed patent medicines. By doing so these practitioners not only confessed that they were incompetent, but violated the code of ethics. The author said that the difference between a proprietary and a patent medicine was more apparent than real. A definition of a patent medicine, which seemed to him very good, was, "a medicine the formula of which is printed on the label, but which formula does not give a true indication of what the remedy contains." The principal reason for the present state of affairs, Dr. Purdy believed, was that graduates of medicine were not taught either pharmacy or pharmacology.

Dr. E. Eliot Harris said he had been particularly struck by the author's assertion that there was very little distinction between a patent medicine and a proprietary medicine. To his mind the latter was the generic term, and the designation patent medicine a specific one. At the present time, in order to secure a patent on a medicine, it was necessary to file at the capital not only the formula but the working formula—that is, one which a competent pharmaceutical chemist could use for the reproduction of the article in question. The patent medicine, therefore, was a perfectly ethical medicine, and gave the medical practitioner all that he needed to know with regard to the medicine. Old-time patent medicines were very different, and this fact should be borne in mind when criticizing them. The manufacturers of certain proprietary medicines were willing to give to the profession their ingredients, but would not divulge the exact mode of manufacture.

Dr. Frederick Holme Wiggin said he coincided fully with the views expressed by the last speaker. The committee on publication of the New York State Medical Association had endeavored to bring the advertising columns of their publications up to the proper standard, and the success or failure of such efforts must depend upon the medical profession. With regard to the use of tablets and the giving of medicines by physicians in their offices to their patients, the speaker said he had adopted this plan for a long time and felt that it was a good one. All physicians knew that patients were in the habit of having prescriptions filled over and over again, even when the physician distinctly intended its use should be limited to a short time. By office dispensing the physician controlled this important part of his work. Such patients do not come back for medicine, but for the physician's advice. Nor could he agree with Dr. Purdy that a great many of our medicines did not preserve their potency well when put up in tablet form.

Dr. George D. Stewart said that Dr. Purdy had presented a good sermon, yet he was not one of those who believed the profession was going backward. On the other hand, he firmly believed that the profession was going forward, at times almost too fast. Such papers as the one now under discussion were, therefore, most important by causing us to pause and think. He would personally plead guilty to a number of counts in the indictment presented in this paper. He agreed with the author that the usual method of office dispensing was wholly unscientific and undignified. It was certainly undignified and unscientific to have to look over a price-list to find out the ingredients of various tablets. It would be a good step if the medical colleges would introduce a proper course in pharmacology. The older graduates would find it the part of prudence, at least, to prescribe very few drugs, and to know those drugs very thoroughly, and as for the matter of incompatibility, this could be largely avoided by prescribing simples.

A Complete Change in Prescription Writing in the Last Decade.—Mr. Thomas J. Keenan spoke from the standpoint of the pharmacist. He said that pharmacists viewed with alarm the growing tendency among physicians to prescribe proprietary articles. A comparison of the prescriptions written in the last decade with those of the decade immediately preceding showed a complete change in the mode of prescription writing. Taking fifty prescriptions at random from a drug store doing a family prescription business, it was found that, whereas in 1882 out of fifty such prescriptions forty-eight were for official preparations, in 1901 forty-one out of the fifty prescriptions were for proprietary articles. While the standard of pharmaceutical education was being raised from year to year it must be said that the medical profession had not always shown a corresponding disposition to recognize the professional status of the pharmacist. The pharmacist of the present day groaned under the burden of dead stock of synthetic drugs made in Germany and having a very ephemeral popularity.

Dr. James J. Walsh cited examples of the folly and danger of informal prescribing—the giving of advice to the laity by physicians when they are, so to speak, off duty, or on a vacation. A case of belladonna poisoning was referred to which had been caused by a lady taking "rhinitis tablets," because she had learned of the name of this remedy through a physician who had prescribed it for her. A strong moral impression was produced by the physician's writing or having printed on his prescription blanks a warning against the refilling of the prescription without his knowledge and consent.

Dr. Emil Mayer said he doubted very much whether any pharmacist of to-day made his own fluid extracts and elixirs, and whether the pharmacists were not themselves largely responsible for the present attitude of the medical profession in regard to prescribing. He thought we should distinguish between elegant pharmaceutical preparations, made and marketed on ethical lines, and those which are simply made for gain. Not infrequently physicians and their patients had been annoyed by the wholly uncalled for and illegitimate criticisms made by pharmacists on certain prescriptions. The speaker indorsed the position taken by Drs. Harris and Wiggin with regard to the differentiation between proprietary and patent medicines, and the lines which should be drawn around ethical advertisements.

Dr. EDEN V. DELPHEY said that he had secured the aid of certain pharmacists to determine the proportion of proprietary articles called for. Out of 2,000 prescriptions it was found that only one in eight were simple mixtures. These simples, together with semi-secrets, constituted 9.3 per cent., and secrets, $3\frac{2}{5}$ per cent. Many of the proprietary preparations were mentioned by name, and criticisms were made on the often conscienceless mode of their manufacture.

Mr. KEENAN remarked that the United States and England were the only countries that allowed a patent on a preparation that is not worked in the country in which the patent is allowed. It was often claimed that these patented articles could be reproduced by any competent pharmaceutical chemist, but, as a matter of fact, such was not the case.

Mr JAMES TAYLOR LEWIS, speaking of the patent law, said that if it could be shown that a patented medicine could not be made according to the formula on file in the Patent Office, then the patent on that article was void.

The Venous Hum in Relation to Blood Count.—Dr. C. N. B. CAMAC read this paper. He said that it was the custom at the clinic of the Cornell Medical College to send all patients thought to be anæmic to the laboratory for blood examination. It was found that many persons with normal blood exhibited a marked pallor; hence no cases were regarded as anæmia unless the characteristic blood changes of that condition were present. The venous hum was audible on both sides, but was most often noted on the right side of the neck. The usual explanation was that the vibration in the walls of the vein was due to a change in the caliber of the vein, giving rise to the formation of a fluid vein; yet he would ask why, if this were the true explanation, was it present in some cases of anæmia and not in others. To foretell it in chlorosis was a safe prophecy. There was an old hypothesis that the hum was due to the thinness of the blood, yet this theory had not received much consideration from medical authorities. It had been recently revived by Potain as a result of certain experiments that he had made. Anæmia might exist without the cervical bruit being present in from 33 to 50 per cent. The relative frequency of the venous hum in chlorotic anæmia pointed to some peculiarity of this variety of anæmia. The author queried whether this might not be due to the known instability of the vasomotor system in such persons. He divided the cases observed into four groups, viz.: (1) Those in which there was a cervical bruit and the hæmoglobin was 90 per cent. or over; (2) those in which this bruit was present and the hæmoglobin was between 75 and 90 per cent.; (3) those in which, with the presence of this bruit, the hæmoglobin was below 75 per cent., and (4) cases in which there was no cervical bruit, and the hæmoglobin was below 75 per cent. Of the twenty-two cases reported, twenty-one had a bruit in the neck. There were fourteen cases in the first group, two in the second, and six in the third group. The important deduction was that pallor, and even the presence of a cervical bruit, did not necessarily indicate blood impoverishment. Again, it was evident that, in some cases, cardiovascular drugs might be more helpful than the administration of iron.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held November 24, 1902.

CHARLES N. DOWD, M.D., PRESIDENT.

Address of the Retiring President.—Dr. FRANK VAN FLEET, in this address, said that one year ago, when taking the office of president, he had expressed a strong desire to bring about the union of the two medical organizations of the State. It was his pleasant duty to say now that the committees of conference appointed to promote this object had held meetings in which the greatest harmony and good feeling prevailed, and that all concerned seemed eager to secure this union of the medical profession of the State. There was reason to believe that the efforts of the committees would in time be crowned with success. The speaker said that 114 new members had been added during the year, and that twenty-four had removed from the county or resigned. The society had continued to be active in the detection and prosecution of illegal practitioners of medicine. The law afforded the community very slight protection in this important particular. The enforcement of the medical laws was laid upon the medical profession. It was true that the fines were turned into the society's treasury, and although they amounted to about two thousand dollars in the past year, the net cost to the society of enforcing the medical laws had amounted to $1,500.

Address of the President-Elect.—Dr. CHARLES N. DOWD presented this address. He said that in the early days of this society the board of censors examined and passed upon candidates desiring to practise medicine. That power had since been transferred to the State Board of Medical Examiners of the State Society. The county society was still working in many ways for the good of the profession and of the community at large.

Inspection of Pharmaceutical Products.—The speaker then took up the question of the relation of the physician to the manufacturing and retail pharmacists. He said that as these products were now too numerous to allow of proper individual examination, it was suggested that the inspection of them should be made by some competent party beyond commercial influences. Many of the profession would be both surprised and pleased to learn that such examination and inspection would be made either by the State Board of Health or by the City Department of Health. This examination would be made free for any physician furnishing the necessary particulars.

Relation of the Medical Profession to Military Organizations.—Under this head the speaker discussed the lack of efficiency of the medical department in the late Spanish-American war, and the apparent need for more power being conferred upon this department in order that there might not be a repetition of the history of that period. Thus, the Adjutant-General's report for that time showed that there were 207 killed and 107 died of wounds, while 4,795 died of disease; in other words, there were more than twelve times as many deaths from disease as from bullets. While there were officers of high rank in large numbers for the army, the medical department was composed of one brigadier-general, five colonels, and seven lieutenant colonels, and this department was dependent upon the quartermaster's department for the transportation of its supplies. From information he had received with regard to the soldiers just returned from strike duty, there had not apparently been much improvement in medical matters in military organizations. The statistics of one regiment during the period of the Spanish-American war were instructive. They showed that, as a result of four months and a half of camp life alone, and without any active service, there were 32 deaths and 373 cases of serious illness. This would mean an annual death rate of 6 per cent., and a morbidity rate of over 71 per cent. In view of these facts, it seemed not unwise for the County Medical Society to endeavor to assist the medical corps of our military organizations in promoting the efficiency of their medical service. In accordance with this suggestion, and on motion of Dr. Wendell Phillips, the president was empowered to appoint a committee to confer with the surgeons of the National Guard as to the best means of equipping the military medical organizations so as to meet the demands of present sanitary science. The following were appointed on this committee: Drs. James Ewing, W. H. Park, L. K. Neff, George G. Ward, and Albert F. Brugman.

The Relation of the Dysentery Bacillus to Dysentery and Summer Diarrhœa in New York and Vicinity.—Dr. W. H. Park presented a communication on this subject. After reviewing the facts connected with the discovery by Shiga of the bacillus bearing his name, and the more recent discovery in Baltimore of the bacillus in connection with the summer diarrhœa of children, reference was made to the recent epidemic of dysentery occurring in Mount Vernon and Tuckahoe. He said that this bacillus was similar to the typhoid bacillus, but did not agglutinate with the serum of typhoid patients. They had taken the blood from twenty-nine cases, and in eighteen of these had obtained a very marked serum reaction, usually with a dilution of one in fifty. Five cases gave an uncertain reaction, and in six there was no reaction. In New York City he had found seven cases of dysentery in the hospitals. Of this number three gave the reaction indicative of the dysentery bacillus. Apparently most of the summer diarrhœa in this city is not due to the dysentery bacillus. Moreover, he believed that the dysentery bacillus gave rise to an affection which was as characteristic as typhoid. In nearly all of the cases there were some of the well-known symptoms of dysentery, *e.g* pain, with blood and mucus in the stools. Just as in diphtheria there might be some cases so mild that it was impossible to say positively from inspection whether or not the disease was true diphtheria, so it was probable that in Baltimore there were some cases of dysentery so mild as not to be recognized as such by the symptoms and signs. A report from Dr. Martha Wollstein showed that in the past month there had been five cases at the New York Foundling Hospital in which there were blood and mucus in the stools, and in these cases the Shiga bacillus was found by Dr. Wollstein. Dr. Park said he did not think the time was yet ripe for giving ordinary cases of summer diarrhœa the serum treatment, although Shiga's reports concerning the serum treatment of dysentery in Japan were very encouraging. In cases of typical acute dysentery, on the other hand, it would seem to be worth while to give a fair trial to this method. The diagnosis should, of course, be confirmed by examinations made by the health department. Epidemics of dysentery were usually closely connected with contamination of the wells by drainage from privies.

The Recent Epidemic of Dysentery at Tuckahoe.—Dr. William A. Payne presented this paper. He said that about one-half of the houses were supplied with New Rochelle water, while the others were supplied by wells. The population of the built-up portion of the town was about 2,300, and many of the people were utterly regardless of sanitary laws. In only four instances did the disease enter the houses of the better class. There is no system of sewerage there. According to the official records, there were twenty-three deaths among children of an average age of three years. The average duration of the illness was two and three-quarter days. Where the disease attacked only one or two members of a family, it was usually found that the members of this family were more cleanly than the average. There appeared to be no connection with the milk supply. These patients suffered at first from malaise, headache, and fever; then the stools became frequent and of a mucous character. Subsequently there was much abdominal pain, and the stools became very bloody. The mild cases lasted from ten to twelve days, the severe cases four weeks, and the very bad ones between two and three months. Vomiting of a mild type was present in 75 per cent of the cases. Pain of a severe character was present throughout the disease. Only one autopsy was obtained at Tuckahoe, and this was by the State officers He had been told that in this case there were numerous small ulcers throughout the intestine, increasing in number from the ileum to the rectum. In this town the mortality was about 5 per cent. Above the age of five years the disease rarely proved fatal, except in the aged and feeble. This epidemic, comprising about 300 cases, occurred during the months of July, August, and September.

Epidemic Dysentery at Mount Vernon.—Dr. F. W Shipman described this epidemic briefly. He said that the disease was not of the amœbic type. The Shiga bacillus was proved to be the specific cause of the dysentery, and this raised the interesting question as to how this organism could have been so suddenly and widely disseminated. The infected district was about one mile wide and eight or ten miles long, and occupied the valley of the Bronx river. In this district there were, perhaps, half a dozen different water supplies, and the Bronx river is not a water supply, but is an open sewer. The first death from dysentery occurred at Mount Vernon on July 8, yet he had not seen any cases of dysentery until July 24, when he had been called to see four cases in different families. The prostration was one of the most noticeable symptoms—indeed, it was most diagnostic. Within twenty-four hours it was found possible to decide whether the case would be mild or severe. The mortality was about the same as at Tuckahoe. The latter place was about the center of the infected district. The results of treatment were largely negative, but hot applications and high saline injections seemed to yield the best results. He had looked up the statistics of Mount Vernon with regard to the prevalence of ordinary diarrhœa, and had learned that it was not so prevalent the past summer as in other years. If, therefore, the Shiga bacillus was the cause of summer diarrhœa there should have been an unusually large number of such cases.

Dr. W. N. Hubbard said that he had treated a small epidemic of dysentery last summer, occurring many miles away from the district already referred to. The average duration of the disease was three or four days, and there was no mortality. In this epidemic the water supply was beyond criticism, though the same could not, perhaps, be said of the drainage.

Dr. Jacob Sobel said that the investigations of both European and American observers showed that summer diarrhœa was due to a number of factors, not only the Shiga bacillus, but streptococci, the pyocyaneus, and the colon and paracolon group, to say nothing of the products of fermentation of food. It was dangerous to assume that all summer diarrhœas were the result of an infection with the Shiga bacillus, but the promulgation of this opinion, erroneous though it was, had proved useful by directing attention to one definite form of diarrhœa. The serum treatment should prove useful as a therapeutic measure, provided there were laboratory facilities at hand to determine what cases should be so treated. It was his opinion that unless the first cases were promptly and judiciously managed the disease would spread rapidly.

Committee on Coroner's Office.—Dr Frank Van Fleet introduced the following resolution which was unanimously adopted:

Resolved, That the President appoint a committee of three or five to inquire into the movement now being agitated to reorganize or abolish the office of coroner in this city; that the committee be directed to confer with other committees and individuals interested in this subject, and to report the fact, with a recommendation, at the stated meeting of this society in December, 1902. Drs William J Polk, J Winters Brannan, and Frank Van Fleet were appointed this committee

Discrimination against Physicians in Licensing Auto-

mobiles.—Dr. Frank Van Fleet moved that the Comitia Minora be directed to protest, in the name of the society, against the enactment of any ordinance taxing vehicles, if it imposes a greater tax upon vehicles owned and operated by physicians than upon vehicles owned and operated by others. Carried.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Held October 8, 1902.

Observations on Malarial Parasites.—Dr. L. B. Goldhorn presented some observations on malarial parasites. In protracted cases of tertian fever, he said, certain forms of the parasites were quite constantly met with which differed essentially from the ordinary ones of the asexual cycle. They took no part in segmentation, and were never seen in recent primary infections. At least two of them were the analogue of the crescentic and ovoid bodies of tropical malaria; they were the macrogamate and the microgametocyte of tertian fever. They were readily recognized when fully developed, in the following manner: in smears stained with chromatin dyes, the male, or microgametocyte, was a rather large parasite with large acromatic zone, in which a mass of unevenly staining chromatin lay in the form of filaments. The parasite's body took the basic dyes poorly, and its coarse, blackish pigment was brought out more distinctly than in any other form. It never had multiple chromatin bodies. In the moist chamber it flagellated, and the flagella originated within a limited area which corresponded to the zona achromatica. Before it flagellated, its usually quiescent pigment became unusually agitated. It disengaged itself from the corpuscular remnant, assumed a spherical form, and flagellated. In stained preparations many variations in the position of the chromatin mass were seen, but on the whole the characteristics remained those given. The female or macrogamete was still larger when fully developed; in the chromatin-stained smear it presented a large well-stained body, with or without a corpuscular remnant, and a small irregular chromatin mass, in an illy-defined zone, situated rather constantly peripherally, rarely ever centrally, but at times just within the body. Its pigment was somewhat finer than that of the microgametocyte. A third form had a round chromatin kernel well within the parasite's body. This kernel was surrounded by a lightly stained reticulated area, which also took on the chromatin dye, and was therefore pink. The body of this form stained well with methylene blue, and it is usually smaller than the two forms just described. The speaker had never seen it extracorpuscularly, and believed it to represent no phase of the schizogony, as he had never met with it in recent primary cases.

Much confusion arose from the promiscuous study of parasites seen in cases of relapse or old cases. Many atypical forms were seen, such as multiple chromatin bodies in young forms, premature segmentation, abnormal position of chromatin, and queer positions of the parasites on the corpuscle. But the number of segments (schizonts) varied even in perfectly fresh cases. As each young parasite received an equal share of the mother's body, and as there was no waste apart from the transformed hæmoglobin and corpuscular remnant, the speaker thought that the number of segments depended upon the size of the infected corpuscle and upon the amount of nourishment it contained. (Double infections of one corpuscle might also be considered, but frequently one parasite atrophied.) As the parasite forming the greatest number of segments might require more time for the completion of the cycle than one forming a small number only, it would by segmenting later fall behind the other parasites. This irregularity, if exaggerated, might influence the length and periodicity of the paroxysms. As a matter of fact, one could find segmenting bodies for some time after a chill, and sometimes the duration of the chill was protracted in advanced cases. By diligent study of animal malarial parasites the speaker had found much which had led to a better understanding of the human malaria. In a paper read before the University Medical Society he described a parasite found in a species of African monkey. He had since had occasion to study the parasite again, and now felt certain that nearly all forms seen by him were gametocytes. What he had said about the staining and chromatin characteristics of the human tertian parasite was, in the monkey, still more clearly defined; and the third form, with karyosome and paler staining reticulated area, was readily found. Febrigenous forms were not seen. Bone-marrow and spleen contained no segmenting bodies. A peculiar notch at the edge of this last (third) form and of the macrogamete was rather constantly observed, and helped to confirm the belief that these third forms were related to the gametes, most closely to the macrogametes. The monkey parasite was probably the analogue of tertian fever. In birds with Halteridium infection one saw the above enumerated characteristics of gametocytes. The staining differences and those in the chromatin were pronounced. The microgametocyte stained very poorly, had a very large central achromatic zone and more or less polar pigment; in the achromatic zone lay delicate filaments of chromatin. The deeply staining macrogamete had, on the other hand, a small chromatin mass, usually at the edge, in a small achromatic zone, and the relatively finer pigment lay all over the body of the protozoon. Dr. Goldhorn said he believed these "hantelforms" to be the analogue of the human estivoautumnal gametocytes, the so-called crescents. Several preparations in his possession showed some details in crescentic bodies which he had not seen demonstrated before. The pigment was removed from these gametocytes and a large achromatic zone became wonderfully distinct; in it lay the chromatin, always in a single body, never split up into segments. As a matter of fact, the speaker had never seen evidence of parthenogenesis in crescents. There were some curious differences in the staining of crescents, some had marked polar staining, others stained lighter blue throughout. It was possible that the one staining deeper might be the female. This year it had been impossible to obtain cases with crescentic bodies, and experimental work that had been planned had to be abandoned. Most instructive material was, however, obtained in the form of tertian cases. Only a brief review of the more interesting cases was given. An old case of one and a half year's standing, with frequent relapses, showed only a few queer young forms and many gametocytes; no parasites with multiple chromatin bodies were found. Another case of seven-weeks' standing, with a rich infection, showed an unusual number of corpuscles with two parasites maturing side by side, or one developing at the expense of the other. A case of a woman from Costa Rica, where the malaria was contracted, was most instructive, because no strictly normal segmenting bodies such as one is accustomed to find in the recent primary infection were seen; instead there were ring forms with a small accessory chromatin body in the thickened portion of the body; or two, three, or even five, unevenly staining, large, round chromatin bodies in a large ring of even diameter throughout. There were never more than twelve segments, usually not over ten, and the parasite's body was always exceptionally small. Yet the case was one of tertian fever. A case with indistinc tmalarial history in a child a little under ten years of age showed large ring-like parasites with a single chromatin body and large achromatic zone with heavy pigment, in a deeply-notched corpuscle, but totally unlike the rings seen in estivoautumnal cases in the crenated corpuscles. It seemed to the speaker that malarial parasites formed what one might term involution forms at a time when gametocytes, which he considered an expression of the necessity of sexual reproduction, made their appearance. The parthenogenetic impulse exhausted itself and the vitality of the febrigenous forms was lowered. We did not know how much the production of possible antibodies might have to do with the phenomenon. That such bodies were formed was reasonable to suppose, as cases of immunity existed, and the study of kindred hæmatozoa (of trypanosoma, for instance) helped to confirm the belief. To-day the practitioner who owned a microscope was, as a rule, satisfied with the finding of the hæmatozoon of tertian fever, but the kind and form and characteristics were not usually considered. As soon as all typical forms had been recognized a better understanding of the asexual cycle and gametocyte formation would be reached. If gametocyte formation could be prevented, transmission of malaria from one individual to another by mosquitos might also be prevented, as the perpetuation of the parasite depended upon them; hence cases containing the more resistent gametocytes would require greater attention and possibly somewhat different treatment than cases of recent infection with immature parasites. The value of positive recognition of mature forms (gametocytes) in tertian fever, therefore, became paramount.

Dr. Ewing said that he had been extremely interested in the facts brought out by Dr. Goldman. He thought that the question of the differentiation of the sexes in malaria was at the present time one of very live interest. He had himself been over much of this ground without, however, getting all the points obtained by Dr. Goldhorn. Some two years ago he had thought he was able to identify the macro- and microgametes, but was not certain, because he was not able to follow the cases through a series of paroxysms. Since that time one writer at least had attempted to differentiate the male and female parasites in the blood (Argutinsky, *Archiv fur microscopische Anatomie*, Bd. 59, 1902.) As the malarial paroxysm progressed the morphology changed and the male and female parasites became clearly differentiated. He could not agree in every particluar with Dr. Goldhorn's conclusions. In the first place, Dr. Goldhorn found that the male stained lightly with methylene blue; in his specimens the male stained darker than the female, though that was possibly due to some difference in technique. He had always found, as did Dr. Goldhorn, that the flagella were extruded from one point in the microgamete, but before the extrusion of flagella he had sometimes seen the chromatin subdivided into four or six groups.

Several Cases of Dysentery Referable to the Bacillus of Shiga.—Dr. Wm. H. Park presented several tubes of cultures of the bacillus of Shiga and of the typhoid and colon bacilli. He had become interested in dysentery while staying at Mt. Desert this summer with Dr. E. K. Dunham and Dr. Flexner. There was an outbreak of a number of cases of dysentery in some of the families living nearby. There were probably twenty cases in all, occurring mostly in children. Dr. Flexner kindly sent to Philadelphia for cultures of the Shiga bacillus, so that, in case of failure to obtain cultures from these cases, they might test the serum reaction. The day the cultures came Dr. Dunham succeeded in getting serum from two children sick with dysentery, and both specimens gave a marked reaction with the cultures from Philadelphia. The same day Dr. Park himself saw a case of dysentery and obtained some mucus directly after its expulsion from the rectum, which he plated, and from which he got the dysentery bacillus of Shiga, which he showed in one of the tubes. This bacillus appeared to have the same characteristics as those isolated by Shiga in Japan and by Flexner in this country and in the Philippines. Dr. Park also presented three tubes showing the growth in the Hiss media of the Shiga dysentery bacillus, and of the colon and typhoid bacilli. The dysentery bacillus remained isolated and did not disseminate through the media nor produce gas. The colon bacillus passed throughout the media producing a general cloudiness, varied by little streaks, due to the passage through the media of gas bubbles. The typhoid also passed throughout the media, but caused no appreciable gas, and therefore left no streaks. This investigation made, therefore, the interesting fact apparent that there was an epidemic in Mt. Desert in which the Shiga bacillus was the exciting factor, giving rise to acute dysentery. On his return to the city, Dr. Park thought it interesting to see how much dysentery was present in New York and how prevalent was the Shiga bacillus. Inquiries made among the hospitals and asylums developed the fact that there was very little dysentery then present in the city. One case, accidentally found, was that of a man who had come from the Philippines three years before, and who, ever since, had had subacute dysentery. For two or three weeks he would be fairly well, never entirely so, and then he would have an acute attack. His blood showed a marked reaction with the Shiga bacillus, and this bacillus, as well as the amœba coli, was found in his stools. This case then seemed to be one of chronic dysentery due to mixed infection with the amœba coli and the Shiga bacillus. Two cases were found, of a man and a baby, who had had dysentery six weeks before, and whose blood gave the specific reaction. In thirty cases in which the blood from suspected typhoid patients was examined, one gave a reaction with the Shiga bacillus. This blood caused agglutination of both the typhoid and dysentery bacilli. The blood of a number of children who had recently suffered from acute enterocolitis did not agglutinate the dysentery bacilli, even when used in a dilution of one part of serum to ten of bouillon. This is interesting in view of the preliminary report from Baltimore, where the Shiga bacillus was abundantly present in the stools of children suffering from acute enterocolitis.

A Solitary Tubercle of the Brain.—Dr. David Bovaird presented this specimen, which, he said, was of rather peculiar clinical interest. The specimen was taken from a girl six years of age, whose family history was entirely negative. When first seen, November 29, she gave a history of having had a fall the previous July. The symptoms dated from that time. Two weeks later there was a loss of power in the right leg, and still later in the right arm and right side of the face. On examination there was found to be a paralysis of most of the muscles of the leg and of the muscles of the arm as well. The tongue deviated to the right on protrusion, and on smiling the right side of the face showed no action. A diagnosis was made of cerebral paralysis. A brace was applied to prevent the dropping of the leg, but the improvement was not satisfactory, and in March she was admitted to the hospital for the correction of the condition in her right leg. Upon her admission her leg was put in plaster of Paris. Finally the child developed symptoms of pneumonia and gradually developed meningitis. The disease ran the ordinary course of tuberculous meningitis and the child died. At autopsy the brain was found generally congested. Over the base of the brain there was a thick, greenish-yellow exudate. In the sulci, especially along the middle cerebral arteries, were multitudes of miliary tubercles. In the left hemisphere, just beneath the upper end of the fissure of Rolando, and about 1 cm. from the surface, was a solitary tubercle, about 4 cm. in diameter. Immediately posterior to this was a second mass, about one-half the diameter of the first. Several bronchial glands were tuberculous; one was calcareous. There were scattered areas of bronchopneumonia in the lung. The viscera was otherwise normal. This case was of especial interest because of the size of the tubercle, which was very unusual for a child of six years—the largest that the speaker had ever seen in a child's brain. The history was interesting as evidence that this solitary tubercle developed as a tumor of the brain, and was responsible for the condition found in the right leg, in the right arm, and in the right side of the face, and that the tuberculous meningitis was a secondary development following the child's admission to the hospital. It was the only case of this character that the speaker had ever come in contact with—a solitary tubercle developing in the brain of a child just as a tumor might have done, and during its early stages entirely devoid of any symptoms pointing to its tuberculous nature.

Mixed Tumors of the Parotid.—Dr. F. C. Wood gave a brief description of two mixed tumors of the parotid which had recently come under his observation. In one of these tumors, which showed a typical endothelial type of growth, there were numerous epithelial pearls containing spine cells. In the second case there was a tumor of long duration, in which flat-celled carcinoma had developed in the substance of a congenital endothelial tumor.

Dr. E. Libman said that during the past year they had had at the laboratory of Mt. Sinai Hospital a case of mixed tumor of the parotid in which they had found distinct areas of epithelioma.

A Case of Traumatic Disease of the Aortic Valve.—Dr. E. Libman showed a heart which had been obtained at the post-mortem examination of a man thirty-three years of age, who had succumbed to an infection by the paracolon bacillus. The history of the case, in so far as it appertained to the heart, were as follows: There were hypertrophy and some dilation of the left ventricle; there was a slight systolic murmur at the apex and over the aortic valve; there was a rough systolic murmur over the pulmonic orifice, without visible pulsation. The second sound was louder over the pulmonic than over the aortic orifice. The murmur was not heard in the vessels of the neck. The diagnosis wavered between several conditions. In the first place, the patient's wife had borne him six children, nearly all of whom had died in early infancy, having been "blue babies." This being taken into consideration, it was thought possible that the patient might have a similar condition, but no one of the usual congenital lesions in itself would very well account for the physical signs present. The possibility of an acute endocarditis, due to the paracolon bacillus, was also entertained. A lesion of the aortic valve, in which the murmur was heard over the pulmonary orifice, was the third diagnosis considered. The relatives of the patient stated that he had been perfectly well up to the age of three years, when he was run over and three of the upper ribs on the left side anteriorly were fractured. After that a very marked cardiac impulse had been noticed, and he suffered from palpitation. It could not be ascertained whether fever was present after the injury or not. The lesion found in the heart was of such a nature that it could only be explained as the result of the traumatism. The anterior and the right posterior flaps of the aortic valve were found torn loose from their attachment to the aorta. There was considerable thickening found at the place from which the flaps were detached, and the two flaps were found to be agglutinated by fibrous tissue with calcareous deposits. Furthermore, there was a line of calcareous tissue running directly across the anterior flap, which also extended down over the endocardium for a distance of about one-half of a centimeter. There was no atheroma of the aorta. One could not help coming to the conclusion that the trauma sustained thirty years before death had resulted in a tear across the anterior flap of the valve, and in a detachment of two flaps from their attachment to the aorta. The question remained open whether the changes found were due in part to an infectious process following the traumatic lesions or not. Professor Prudden had shown that endocardial changes could result after trauma without the occurrence of any infection.

A Case of General Tuberculosis.—Dr. Roper presented this specimen because of the condition observed in one of the ovaries. The patient was a colored woman, aged thirty-seven years. Seven months previously, after giving birth to her fourth child, she had had a slight cough and expectoration. Two weeks after delivery night sweats began, and she lost flesh and had considerable pain in the abdomen. On physical examination there was found to be a distended mass in the abdomen with considerable fluid. At autopsy the retroperitoneal glands were found to be enormously enlarged and tuberculous. There was also a general miliary tuberculosis of the spleen and lungs. The right ovary was filled with numerous large tubercles. The other ovary was normal. The exact seat of the original lesion could not be definitely determined.

Dr. Ewing asked if there had been any intestinal lesions found.

Dr. Roper said there were no intestinal lesions. Dr. Biggs had been inclined to think that the pulmonary glands might have been the original seat of the trouble; but they were but moderately involved, while the retroperitoneal glands were enormously enlarged.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Diseases of the Pancreas and Their Surgical Treatment. By A. W. Mayo Robson, F.R.C.S., and B. G. A. Moynihan, M S. 8vo, 293 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $3.00 net.

The Development of the Human Body. By J. P. McMurrich, Ph.D. 527 pages, 8vo. Illustrated. P. Blakiston's Son & Co. Price, $3.00 net.

The Mind of Man, a Text-Book of Psychology. By Gustave Spiller. 8vo. 552 pages. Swan Sonnenchein & Co., L'td., New York. Price, $2.75 net.

Biological Laboratory Methods. By P. H. Mell, Ph.D. 12mo. 321 pages. Illustrated. The Macmillan Co., New York. Price, $1.60.

A Handbook of Materia Medica, Pharmacy, and Therapeutics. By Samuel O. L. Potter, M.D. Ninth edition. Royal octavo, 951 pages. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $5.00 net.

Elements of Chemical Physics. By Josiah P. Cooke, Jr. 8vo, 739 page. Illustrated. Allyn & Bacon, Boston.

Medical News Visiting-List, 1903. Lea Brothers & Co., New York. Price, $1.25.

The Medical Record Visiting List, or, Physicians' Diary for 1903. William Wood & Company. Price, 30 patient, $1.25; 60 patient, $1.50.

The Boy, How to Help Him to Succeed. By Nathaniel C. Fowler, Jr. 8vo, 320 pages. Oakwood Publishing Co., Boston, Mass.

Human Anatomy. By various authors. Edited by Henry Morris. Royal octavo, 1,328 pages. Illustrated. Third edition. P. Blakiston's Son & Co., Philadelphia. Price $6.00 net.

De L'Intervention Chirurgicale dans les Nephrites Médicales. By M. le Dr. Alfred Pousson. 8vo, 100 pages. Illustrated. A. Maloine, Paris, France.

The Practice of Surgery. Third edition. 8vo. By Drs. H. R. Wharton and B. F. Curtis. 1,241 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa.

A Text-Book of the Science and Art of Obstetrics. By Henry J. Garrigues, M.D. Royal octavo, 844 pages. Illustrated. J. B. Lippincott, Philadelphia, Pa.

International Clinics. Vol. III, 12th Series. 8vo, 306 pages. By Henry W. Cattell, M.D. J. B. Lippincott Co., Philadelphia, Pa. Price, $2.00 cloth.

The Work of the Digestive Glands. By Prof. J. P. Pawlow and W. H. Thompson, M.D. 8vo, 196 pages. Illustrated. Charles Griffin & Co., Ltd., London, Price, $2.00.

Text-Book of Medical Jurisprudence and Toxicology. By John J. Reese, M.D. Sixth edition. 8vo, 660 pages. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $3,00 net.

A Text-Book of the Diseases of the Ear. By Prof. Adam Politzer. 8vo, 884 pages. Illustrated. Fourth edition. Lea Brothers & Co., New York.

A Treatise on Diseases of the Eye, Nose, Throat, and Ear. By various authors. Edited by Wm. Campbell, M.D. and Jonathan Wright, M. D. 8vo, 1,238 pages. Illustrated. Lea Brothers & Co., New York.

Book Reviews.

Recherches sur les Corps Étrangers du Cœur et des Gros Vaisseaux. Par le Dr A. Marique, Aide du service de chirurgie infantile à l'Hôpital Saint-Pierre. Ixelles-Bruxelles: N. Vandersypen, 1902.

Any contribution to a subject of such importance and interest as this is always welcome. The writer has incorporated in the text valuable tables, in which the principal points of the cases he describes are enumerated. Numerous experiments on animals are carefully catalogued and commented upon. The arrangement is clear and systematic. An extensive bibliography is appended.

A Text-Book of Materia Medica, Therapeutics, and Pharmacology. By George Frank Butler, Ph. G., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, Medical Superintendent of Alma Sanatorium, Alma, Michigan; Member of the American Medical Association, Illinois State Medical Society, Chicago Medical Society, Chicago Pathological Society, and Chicago Society of Internal Medicine; Fellow of the Chicago Academy of Medicine, etc Fourth edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Company, 1902.

A work on the subjects of which this volume treats is always of wide interest, for it touches every branch of medicine. The name of the author is a guarantee of the value of this present volume (the fourth edition), in which important alterations and additions have been made. The subject matter dealing with each drug has been carefully reviewed, and all of the modern advances in pharmacodynamics have been interpolated. The more definite knowledge that has been attained concerning the value of certain drugs, especially some of the synthetics, has necessitated various changes. Considerable attention has also been devoted to their incompatibles. Certain chapters, for example those on organotherapy, serum therapy, and related subjects, have been carefully revised and largely added to. An interesting addition is the chapter dealing with the newer theories of electrolytic dissociation and its connections with pharmacotherapy, and also the discussion of the relations of chemical structure to the action of drugs. The writer distinguishes between and treats under separate heads "Untoward Action," and "Poisoning." The Latin accent and quantity of medicinal nomenclature have been given. The Pharmaceutical section has received special attention; but only such drugs which have been proved to be of standard value have been included in the descriptive enumeration. The book has both a general and a clinical index.

Essentials of the Diseases of the Ear. Arranged in the form of Questions and Answers. Prepared Especially for Students of Medicine and Post-Graduate Students. By E. B. Gleason, S.B., M.D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia; Surgeon in Charge of the Nose, Throat and Ear Department of the Northern Dispensary, Philadelphia; One of the Laryngologists to the Philadelphia Hospital. Third edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Company, 1902.

The present volume is the third edition of this work. The author states that the book is intended especially for physicians who desire to take a post-graduate course in otology, as well as to supplement the brief course of lectures given to undergraduates in this subject. A number of excellent formulæ are given. The text is concise, though clear.

The Medical Directory of the City of New York. Published by the Medical Society of the County of New York, 1902.

The directory of the County Society appears this year under new editorship, that of Dr. Edmund Prince Fowler, Assistant Secretary of the Society. The general arrangement of the book is the same as in previous years. The inconvenience of double lists, one of all legally-qualified practitioners in Manhattan and The Bronx, and in Brooklyn, and another of the members of the Medical Society of the County of New York, and those of the Medical Society of the County of Kings, is retained, but it is softened somewhat by a difference of type in the two lists, the names in the general lists being in heavy-faced type.

Anatomy and Histology of the Mouth and Teeth. By I. Norman Broomell, D.D.S., Professor of Dental Anatomy, Dental Histology and Prosthetic Technics in the Pennsylvania College of Dental Surgery, Philadelphia. Second edition. Philadelphia: P. Blakiston's Son & Co., 1902.

Like most works upon medical and surgical subjects which have merit this one has required another edition in order to bring it up to present-day requirements. In these days the student [illegible] that any scientific advances or novelties shall be promptly included in the textbooks, which are offered. In the last few years it has become necessary for the dental student to inform himself much more extensively than formerly upon the anatomy, physiology, and histology of the parts with which he is to deal, and, in consequence, the character of the textbooks has greatly improved. This volume is one of the best on its subject, and in its present form meets all requirements. A number of illustrations have been added, and the text has, to a certain extent, been rewritten.

Compend of Special Pathology. By Alfred Edward Thayer, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College; Pathologist to the City Hospital; Formerly Fellow in Pathology, Johns Hopkins University; Instructor in Anatomy, Yale Medical College, and Professor of Pathology and Bacteriology, West Virginia University. Philadelphia: P. Blakiston's Son & Co, 1902.

These little quiz compends occupy their own special niche in every medical library. In the present volume the various systems of the body are considered, with regard to the pathological conditions peculiar to each. This arrangement reduces the labor of research to a minimum. Ewing's "Clinical Pathology of the Blood" has been freely consulted on that subject, and Johnston has written the chapter on the Pathology of the Skin. There is a short chapter on Death by Violence and Poison. The index is quite full and adds value to the book. The work is well calculated to fulfil the purpose for which it has been written.

Essentials of Histology. By Louis Leroy, B.S., M.D., Professor of Histology and Pathology in Vanderbilt University, Medical and Dental Departments. Bacteriologist to the State of Tennessee; Pathologist to Nashville City Hospital; Associate Editor of *Medical Examiner and Practitioner*, etc. Arranged with questions following each chapter. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders & Company, 1902.

Owing to the rapidity with which the first edition was exhausted, this second edition appears with few changes in the text. There are some new illustrations, mostly photomicrographs. The chapter on Technic has been added to. The essential facts in histology are presented in a compact and convenient form.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX, Physiology, Pathology, Bacteriology, Anatomy, Edited by W. A. Evans, M.S., M.D., Professor of Pathology, College of Physicians and Surgeons Chicago, and Adolph Gehrman, M.D., Professor of Bacteriology, College of Physicians and Surgeons Chicago: The Year Book Publishers, August, 1902

The arrangement of this volume is different from that of the rest of the series. The subjects are discussed from the standpoints of various authors, as taken from their writings. The writer's name, with the reference from which his statements are taken, follows the heading of each subject. Thus the volume really comprises in its text a generous bibliography. The editors believe that this plan will prove more satisfactory to the reader, as well as fairer to the views of the quoted authorities. There is a good index. This volume is worthy of its predecessors in this series.

The Nose and Throat in Medical History. By Jonathan Wright, M.D. St. Louis: The Laryngoscope Co, 1902.

The series of papers presented by Dr. Wright during the last year in *The Laryngoscope* have been brought together in book form. The scope of the papers has been, says the author, 'to link together the story of the nose and throat in medicine with the general drift of medical history, with the salient features in the history of civilization and with the general literature which has a bearing upon the central subject of the work." How well this task has been accomplished is well known to the readers of *The Laryngoscope*, and in their present form the results of Dr. Wright's monumental research will become more accessible to the general reader. Nothing like the present series of essays has ever before been attempted, and the work will become a classic in American medical literature. The writer is too well known, both as a physician and as an author, to require any eulogy here. Suffice it to say that out of what might seem to be dry material he has constructed a fascinating story, and added a new wreath to his well-earned laurels.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 29, 1902:

	Cases.	Deaths.
Measles	132	3
Diphtheria and croup	354	38
Scarlet fever	137	7
Smallpox	5	..
Varicella	83	..
Tuberculosis	213	136
Typhoid fever	118	19
Cerebro-spinal meningitis	..	..

Treatment of Typhoid Fever with Castor Oil.—C. C. Bass holds that the serious muscular and nervous symptoms in typhoid fever are, to a very great extent, if not altogether, due to the absorption of toxins from the intestinal canal. The results of the castor-oil treatment prove this, he thinks, clearly enough. Take any case of uncomplicated fever, he says, in which the temperature ranges above 103° F. Give a dose of castor oil every twelve hours, giving no other medicine at all, and the temperature will invariably be reduced; in three days it will generally be below 102°, and always below 103°. Mild delirium will subside in the same length of time. The effects of the oil are confined to the bowel. It eliminates from the intestines germs and toxins which would otherwise be absorbed. Diarrhœa and dysentery are prevented, or checked if they already exist; the disease runs a milder and shorter course, and patients do not lose flesh and strength so fast as they usually do under any other treatment. The last named result is its greatest advantage over any antiseptic treatment. The dose given varies with each case, but may be from one to eight drachms every twelve hours. Enough to act in from three to five hours should be administered, but not so much as to act more than twice. After one or two doses have been given, the amount can easily be regulated.—*St. Louis Medical Review.*

Exophthalmic Goiter; Clinical History and Symptoms of One Hundred and Twenty Cases.—G. R. Murray gives a careful analysis of the cases, though nothing new is brought out. For treatment he advises electricity and exercise in the open air. Thyroid extract he believes to be harmful, but has given thymus extract and suprarenal extract with good results. No special diet is necessary. In his cases belladonna was frequently prescribed but with doubtful results. To be of service in exophthalmic goiter, any line of treatment must be steadily maintained for some weeks or even months, and patients often dislike to continue taking belladonna in sufficient doses to produce physiological effects. Convallaria proved useful in cases in which the frequency of the pulse was very high, and was more effectual in lowering the pulse rate than other cardiac tones. Bromides were useful in cases in which there were marked nervousness and tremors. Arsenic was useful in nearly all cases, and was combined with other drugs with advantage. The best results were obtained by giving small doses of three or four minims of Fowler's solution three times a day for a month or two, or for the first three weeks of each month for five or six months.—*Medical Press and Circular.*

The Presence of Tetanus in Commercial Gelatin.—John F. Anderson reports that of seven samples of gelatin examined one showed tetanus spores. Two samples showed an oval end-spore rod, whose identity was not proved, but in stained specimens it would be hard to distinguish from tetanus, if, indeed, not tetanus with diminished virulence. In tetanus investigations it is important to use freshly-made bouillon, as the organism is apt not to germinate in bouillon over ten days old. The thermal death point of the organism isolated was found to be between twenty and thirty seconds at 100° C. It is important, therefore, that gelatin to be used for injections should be boiled at least ten minutes, on account of the variability of the thermal death points in different species of tetanus. It is suggested that when, as in hospitals, there is likelihood of gelatin injections being used for hæmostatic purposes, the gelatin solution be sterilized by the fractional method on three successive days and kept ready for use in sterile containers.—*Bulletin No. 9 of the Government Hygienic Laboratory.*

A Case of Cretinism Treated with Thyroid Gland.—Ezra Price reports the case of a child of three years, typically a cretin. May 20, 1901, the patient was put upon thyroid-gland treatment, one 5-grain tablet of the desiccated gland being given three times a day. After a month the dose was increased to four tablets a day. Improvement began at once with relief of obstinate constipation and appearance of teeth. Weight increased, the child began to walk, and in about eight months the skin was normal. the hair fine and wavy, the face had lost its dull expression, and the patient acts like other children.—*Indiana Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended November 29, 1902:

		Cases.	Deaths
SMALLPOX—UNITED STATES.			
California, Sacramento	Nov. 8-15	2	..
San Francisco	Nov. 9-16	3	..
Colorado, Denver	Nov. 8-15	3	..
Illinois, Chicago	Nov. 15-22	6	..
Indiana, Indianapolis	Nov. 15-22	3	..
Kokomo	Nov. 15-22	1	..
Kentucky, Lexington	Nov. 15-22	1	..
Maine, Biddeford	Nov. 15-22	9	..
Massachusetts, Boston	Nov. 15-22	36	4
Clinton	Nov. 15-22	1	..
Weymouth	Nov. 15-22	1	..
Michigan, Grand Rapids	Nov. 15-22	6	..
New Hampshire, Nashua	Nov. 15-25	12	..
New Jersey, Camden	Nov. 15-22	2	..
Jersey City	Nov. 8-16	1	..
New York, New York	Nov. 15-22	1	..
Ohio, Cincinnati	Nov. 14-21	6	..
Cleveland	Nov. 15-22	12	4
Dayton	Nov. 15-22	1	..
Hamilton	Nov. 15-22	4	..
Toledo	Nov. 8-22	15	..
Pennsylvania, Altoona	Nov. 15-22	2	1
Erie	Nov. 15-22	23	..
Johnstown	Nov. 15-22	5	1
McKeesport	Nov. 15-22	4	1
Pittsburg	Nov. 15-22	46	7
Rhode Island, Providence	Nov. 15-22	1	..
South Carolina, Charleston	Nov. 15-22	2	..
SMALLPOX—FOREIGN.			
Austria, Prague	Nov. 1-8	17	..
Belgium, Ghent	Oct. 18-Nov. 8	..	10
Brazil, Bahia	Oct. 19-Nov. 1	6	..
Ecuador, Guayaquil	Nov. 1-8	..	2
Great Britain, Dundee	Nov. 1-8	2	..
London	Oct. 25-Nov. 8	6	..
India, Bombay	Oct. 21-28	..	3
Calcutta	Oct. 18-25	..	1
Italy, Naples	Nov. 3-10	4	..
Palermo	Nov. 1-8	2	..
Mexico, Mexico	Nov. 2-16	1	2
Russia, Odessa	Oct. 18-26	1	..
St. Petersburg	Oct. 24-Nov. 1	16	3
Straits Settlements, Singapore	Sept. 27-Oct. 11	..	3
YELLOW FEVER.			
Colombia, Panama	Oct. 10-17	5	..
Costa Rica, Port Limon	Nov. 1-8	1	1
Ecuador, Guayaquil	Oct. 26-Nov. 8	..	3
Mexico, Mexico	Nov. 2-16	2	1
Vera Cruz	Nov. 8-15	16	2
CHOLERA—INSULAR.			
Philippine Islands, Manila	Sept. 28-Oct. 5	32	24
Manila	Oct. 6-12	23	13
Provinces	Sept. 28-Oct. 5	263	0,276
Provinces	Oct. 6-12	5,658	3,274
CHOLERA—FOREIGN.			
Egypt, Alexandria	Oct. 26-Nov. 1	29	32
India, Calcutta	Oct. 18-25	..	16
PLAGUE—UNITED STATES.			
California, San Francisco	Nov. 15	1	1
San Francisco	Nov. 18	1	1
PLAGUE—FOREIGN.			
Australia, Queensland, Brisbane	July 1-31	..	1
India, Bombay	Oct. 21-28	..	142
Calcutta	Oct. 18-25	..	9
Karachi	Oct. 19-26	14	10
Madras	Oct. 11-17	..	1
Russia, Odessa	June 1-Oct. 26	49	7

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Original Articles.

THE RÖNTGEN RAY AND ULTRAVIOLET LIGHT IN THE TREATMENT OF MALIGNANT DISEASES OF THE UTERUS, WITH REPORT OF AN INOPERABLE CASE.*

By MARGARET A. CLEAVES, M.D.,
NEW YORK.

IN the recent address in Obstetrics by Dr. J. M. Baldy[1], delivered at the annual meeting of the Pennsylvania State Society, September, 1902, statistics are given, showing the utter futility of any known method of treatment of uterine cancer. From an analysis of the cases of Johns Hopkins Hospital, the most reliable and complete as yet presented in this country, Baldy finds that of 141 women presenting themselves for treatment but fifteen remained alive after six years, some of the patients having died as late as five years after operation. The claim of Volkmann, that after two years' freedom from recurrence or metastases a permanent cure was usual, and that after three years, without exception, such cure was sure to be the case, is absolutely untrue. Labhardt collected 112 cases of late recurrence, *i. e.* after the third year. The majority he found recurred in the fourth or sixth year after operation, and he even cites cases of recurrence in the fourteenth to twentieth year. He substantiates the fact that these were cases of recurrence by showing that they all developed as local growths in the scar from the operation. There is not only an indefinite period of recurrence, as stated by Duplay, but Labhardt also found a late period of metastases in his cases. Baldy concludes that a patient can not be considered cured under six years; hence, he states Johns Hopkins Hospital, since it has been founded, has not with certainty cured a single case of cancer of the cervix. At the Ninth German Congress of Gynecology, Freund was only able to report two cases of cancer of the uterus permanently cured by operation in an experience extending over twenty-three years. Baldy's experience of eighteen years fully bears out these results, and he states that nothing he has seen or heard in the last year has caused him to alter his estimate of but 5 per cent. of cures of cancer of the cervix, made in June, 1901. Recent published statements of Frederick of Buffalo, McMonigle of San Francisco, as well as others concerning the results of their operations upon cancer of the cervix, command earnest attention.

At Saratoga Frederick made the statement that the condition was a fatal one, and supported his avowal by the statistics of McMonigle who, in 481 hysterectomies for carcinoma, had 479 deaths from the previous operation or from recurrence, while Baldy, in June, 1901, at the St. Paul meeting of the American Medical Association, had stated that all of is cervical cancer cases were dead.

Of the dread nature of the disease, no words are necessary. The term cancer conveys it all. The constant and strenuous efforts of the medical profession to find a means of curing or ameliorating it are of common knowledge. There is no doubt that the problem will be an easier one if the pathologist succeeds in telling us what cancer is, and what causes it. But, until that is done, the clinician must proceed in his battle on empiric lines.

"Surgery, the only and best-known cure," says Baldy, holds but a third place in his estimation, and, while waiting for the fruition of other efforts, it must be regarded as the sheet anchor. "In cancer of the superficial tissues, Röntgen rays give promise of some usefulness—how much, is doubtful, and only the future can determine." He regards the results as yet too meagre and uncertain, and states that, so far as it pertains to uterine cancer, absolutely nothing has as yet been demonstrated.

To the writer's mind, the work already done with the *x*-ray, in the treatment of cancer of the superficial tissues, epitheliomas, sarcomas and carcinomas, is of such character as to cause it to be regarded as more than a promise of some usefulness, although the fact is recognized that experience with it is necessary, in view of the almost universal recurrence of this disease.

Johnson and Merrell[2], in August, 1902, presented a résumé of their work, extending over a period of two years. Twelve cures of epithelioma, sarcoma, and lupus are reported. In these cases from one month to two years had elapsed since the last exposure.

The following case is reported to show what has been accomplished in a case of inoperable cancer of the cervix uteri and adjacent tissues, by means of the *x*-ray and chemical rays of light, and in order to encourage its further use in similar cases.

On May 14, 1902, the reader was consulted by M. C., age forty-two years, of English parentage, native of South America, married.

Family History.—Mother lived to age of seventy-five years, and died of liver and heart trouble. Father died of strangulated hernia, at the age of seventy-four years. Patient, one of seven children. Three sisters living and well; one dead of heart disease. One brother drowned and one died of fever. No tubercular, cancerous, or specific history.

Past History.—Patient born and always lived in South America, save for five years spent in a boarding-school in England and a few short trips to France and the United States. Diseases of childhood not known. Malaria at sixteen years, whooping cough at seventeen years. Several attacks of malaria previous to marriage at age of twenty-five years. Menstruation, established at fourteen years, regular every twenty-four to twenty-eight days; as a rule, under time. Duration, three to four days; flow scant, but little pain. No children, but believed to have had two or three miscarriages in early married life. Grippe at thirty years, the only acute illness since marriage. In August, 1900, while patient's husband was under the writer's care, the patient consulted her for an inactive condition of the liver, with constipation, and for this she was treated, with relief. In October, 1890, she was in good general health, save for a leucorrhœa, from which she had suffered more or less all her life. From the last of October, and for the following six months, she suffered from severe uterine hemorrhages, occurring twice a month. These came on at times very suddenly, and were very profuse; color, bright red. Sometimes the flow continued for several weeks at a time. Owing to the revolution in Columbia, the patient's husband was from home, and during these months she looked after their coffee plantation, going farther up the mountain to a sister's house for her meals. This involved much climbing and walking, to which she attributed the hemorrhages, pain in the pelvis, and aching of limbs. At the same time she suffered from vertical and suboccipital headaches.

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*Read before the Section of Obstetrics and Gynecology, New York Academy of Medicine, October 23, 1902.

In June, 1901, a yellow intramenstrual discharge was established, and patient began to feel very ill and miserable. Owing to their isolated life, no physician was consulted. In August all the symptoms had increased, and the physicians at their port-town ordered, without examination, the administration of hot bichloride douches. His directions were not followed, as the patient began to suffer from hemorrhoids, which she attributed to the hot water. Cool, non-medicated douches were used instead. In August the hemorrhages became less frequent, but the discharge persisted and became very offensive. About this time she began to lose much flesh, became weak, nervous, and every two, three, or more days she suffered from chills, followed by fever and perspiration. Loss of flesh was progressive until treatment was instituted May 15, 1902.

Physical Examination. Inspection. — Medium height, weight 104 pounds, face drawn, haggard, marked cachexia, skin, pale yellowish cast, dry to touch. Conjunctiva and all mucous membranes pale. Tongue coated, breath foul.

Genitalia.—Labial mucous membrane very pale, vaginal introitus constricted, digital examination difficult because of pain consequent upon narrowing of the canal, both from loss of normal elasticity, and by reason of the presence of the friable tissue extending into vaginal fornices, especially in left. Cervix one mass of cauliflower excrescence, which crumbled off at touch and bled profusely; both broad ligaments infiltrated, left more marked than right. Uterus somewhat enlarged and immobile because of pelvic infiltration. Characteristic dirty and ill-smelling discharge. Vaginal mucous membrane in posterior cul-de-sac sloughing off, and vaginal folds or rugæ showing ragged ulcerated edges, the whole bathed in the characteristic dirty discharge, of overpowering odor. Perforation seemed imminent. Speculum examination was attempted, but was not successful, owing to the rigidity of the parts and encroachment by infiltration upon the vaginal canal. Attempt was followed by severe pain and bleeding. Heart's action normal, but weak. Circulation poor. Urine not examined. An examination had been made by the Columbian physician at their port-town, just prior to their sailing for New York, who expressed great surprise that the rectovaginal septum had not given way.

The patient was very feeble, unable to sit up but a few minutes at a time, and able to walk only a short distance, *i. e.* across the street from her boarding-house to writer's office. Obliged to lie down and rest after the slightest exertion. Appetite poor, liver and bowels sluggish, hemorrhoidal veins much enlarged, at times bleeding. She was also very nervous and much depressed. Hemorrhagic discharge every few days, at times excessive. Pain constant through pelvis and down inside of legs.

On the day following the above examination, May 15, and before instituting treatment, the writer called upon **Dr. H. C. Coe, to see** and examine the patient for the purpose of securing a surgical opinion before undertaking the treatment of the case. His findings were involvement of the cervix uteri, infiltration of anterior and posterior vaginal walls, also of broad ligaments, with diagnosis of an inoperable cervical cancer. He said he would not operate upon such a case, and that he did not know a surgeon who would. Treatment was initiated May 15, 1902, by means of a vaginal hydro-electric douche, temperature 100° F., four quarts medicated with 10 grains bichloride of mercury and used at the positive terminal of a source of continuous electromotive force, indifferent contact, fifty square inches in area, to the abdomen, with 40 m.a. of current. This was followed by the use of a general application of the convective discharge of the Franklinic current, for the purpose of initiating nutritive changes.

In instituting the treatment, the mercuric cataphoric douche was given not only for the purpose of cleansing the entire vaginal tract, but to sterilize the tissues more deeply, by the electrical transfer of the mercury into the subcutaneous structures, than was possible by simple irrigation.

On the morning of the 16th she reported less discharge, less offensive odor, and a sense of well-being in contrast to her general feeling. On inspection of the mucous membranes at the introitus, the circulatory conditions were found improved. The treatment was repeated, with 15 grains of bichloride of mercury instead of 10, and 35 m.a. of current. A hemorrhagic discharge began at 4 P.M. of same day. This continued on the 17th, and patient was very weak and faint when she reported for treatment. Because of great weakness, local treatment was not administered, and she was placed on a cot, nude, in the arc-light cabinet. The light of one arc was focussed directly upon the abdomen, especially over the pelvic organs, for twenty-five minutes. This was followed, as before, by the Franklinic current. On the 19th the arc-light bath and Franklinic treatment were repeated. Hemorrhage continued, with but little odor; slight recurrence of chills.

May 20, hemorrhage continued. Treatment with ultraviolet light, the beam projected through speculum to vagina and cervix uteri for ten minutes.

May 21, patient looked very ill and had a severe chill in office, followed by prostration before treatment. Since use of light, flow markedly diminished and odor much lessened. Improved circulatory condition.

Treatment Instituted with X-Ray.—Technique.— Tube enclosed in a box, painted on its interior with many coats of white-lead paint, with an opening for the ray through a series of diaphragms of various diameters, and arranged with a sliding door in the event of having to reverse the position of the tube because of change of polarity of the static machine with which the tube was energized. Patient placed upon the operating table in dorsal position, an ordinary bivalve speculum introduced, and a sheet, 12x18 inches, of tin, with an opening the size of the external part of the speculum, placed over the parts, to shield them from the action of the ray. The buttocks were brought to the extreme end of the table, which was placed within six inches from the opening in the tube-box, and the tube adjusted so that the point of the greatest energy of the rays was directly over the opening in the box, and that, in turn, adjusted so as to bring the opening directly opposite the speculum. An exposure, ten minutes in duration, was made.

May 22, patient had fever the afternoon of the 21st, and is still weak and feverish. Flow very slight; no odor to discharge. During the first two weeks of treatment chills and slight rise of temperature from 100° to 101° F., with great prostration, nervous tremblings, and "rattled" feeling were pretty constant. These phenomena presented themselves much more markedly after the first *x*-ray treatment. On May 21, one week after coming under care, the blood was examined by Dr. E. E. Smith, with the following result: Hæmoglobin (Fleischl), 74 per cent.; red corpuscles, 3,320,000 in a cu. mm.; white corpuscles, 11,560 in a cu. mm.; ratio, 1:287; color index, 1.1; fibrin formation, not increased; morphology of red cells, variation in size, polychromatophilia and fine granular degeneration are apparent.

Differential Count of Leucocytes: Polymorphonuclear neutrophiles, 71.4 per cent.; large mononuclear and transitional, 6.8 per cent.; lymphocytes, 19.4 per cent.; mast cells, 0.2 per cent.; eosinophiles, 2.0 per cent.; myelocytes, 0.2 per cent.; malarial parasites, none, Widal's test.

Hæmatological Diagnosis.—Well-marked anæmia, with pathological leucocytosis.

After four *x*-ray and violet-light applications, the following record was made: (1) Temporary arrest of hemorrhage; (2) diminution and changed character of discharge; (3) disappearance of odor; (4) relief from pain and pelvic discomfort; (5) gain in strength and vigor; (6) loss of extreme cachexia, with return of pink coloring to face and hands; (7) improved appetite; and (8) the appearance of healthy granulations where before a ragged and bleeding fungoid condition of the cervix prevailed. The nodules steadily diminished in size, and the patient progressed favorably in every way. During May and June there were at times frequent, profuse, and alarming hemorrhages, great weakness, and exhaustion. After June, while there were now and then blood stains, there was no hemorrhage. The menstrual function appeared every twenty-four days, as had been her habit. It lasted from three to five days, rarely excessive. In the middle of each menstrual month there were evidences of a good deal of congestion, with slight bloody discharge, until September. With September there was none, and the October period was postponed one week. During this period there was scarcely any perceptible lowering of general tone, as had characterized former periods. There has been no mid-month discharge for October.

It was not until the last of June that it became possible to expose with the speculum the full extent of the destruction of tissue in the posterior cul-de-sac. The rigidity of the tissues had prevented such exposure up to that time.

August 12 the writer obtained the original tube, devised by E. W. Caldwell, for throat work. Following its use a change promptly appeared in the condition of the posterior vaginal wall. The ragged, bleeding folds took on a more healthy appearance, the discharge steadily lessened, and by August 27 every rugæ of the vaginal mucous membrane to the vault had healed and were covered with perfectly sound mucous membrane, normal in texture and coloring. The ulcerated area diminished in size at the same time. The condition of the cervix has varied from time to time. The last of August it was very clear from evidences of disease. In the beginning of this month evidences of cauliflower excrescence again appeared, which were promptly cut down by the intravaginal use of the ray with the Caldwell and Tesla tubes. The nutritional gain has been steady. At no time has there been a return of the odor.

Present Condition.—Appetite and digestion are both good, bowels regular; sleep is absolutely normal. In fact, since the establishment of her treatment she has eaten with zest and slept as peacefully as a child. There has been a steady gain in strength, and to-day she feels strong and well, having no sense of anything being wrong, and goes about as she pleases.

Physical Examination, October 20.—General condition excellent, weight 112 pounds, a gain of eight pounds more than ever before in her life

Abdomen.—Negative on inspection; good note elicited on percussion; liver and spleen normal.

Genitalia.—Mucous membrane of vulvæ at introitus and of vagina, normal in color and character; tissues soft and non-resistant; cervix short on left side, seems almost a continuation of left fornix, somewhat longer on right, of irregular contour, covered with normal mucous membrane, save at point of last heat burn from the anode of Caldwell tube; healing not quite complete.

Cul-de-sac.—Free on right side; left fundus of the uterus drawn over to a considerable degree by scar tissue; fundus normal in size, immobile; no enlarged glands, nor evidence of pelvic infiltration; os patulous; ovaries and tubes not palpable; no nodules in broad ligaments.

During the progress of the case every attention has been paid to the minutest detail of hygiene. The matter of baths, douches, food and drink, fresh air, sunshine, and, as strength returned, exercise, received careful attention. She has been pretty constantly fed on hemaboloids arseniated. Arsenic and iron has been given for a change, but could not be continued long on account of increasing the tendency to constipation. The tendency to hepatic sluggishness has been overcome by the administration of calomel in divided doses, one-tenth every hour, until a grain was taken, three or four times during the time the patient has been under care.

The patient has been buoyed up in every way, and has resolutely set herself to fulfilling directions in order to get well.

The patient has been under care five months and one week, during which time 110 treatments have been given. For the first two and one-half months daily, Sundays excepted, and then three times a week; of these, fifty have been with the *x*-ray and fifty of local light applications. The *x*-ray applications have not been made at regular intervals, but according to the conditions of reaction—thrice, twice, and once a week. Irradiation has been supplemented by intravaginal applications of the chemical rays of light, both at the same sitting, and in the intervals between the *x*-ray seances. The general light bath has been used during the menstrual function, as well as in initiating the treatment, not only to secure the action of the chemical rays, but to bring the organism under the influence of the entire radiant energy of the arc, and permit the inhalations of ozone as well. In this way the entire body has been exposed to all the radiant energies from sources of 4,000 total nominal candle-power (the arcs of 2,000 candle-power each), and the tissues of the patient's body kept under the influence of the light vibrations at a time when the local treatment was prohibited by reason of the physiological function. In three instances the *x*-ray was also used through the abdomen during menstruation. In an experience extending over a period of ten years, with the arc light, the writer had found it successful where other therapeutic measures, medicinal and physical, had failed in improving secondary anæmic conditions, and had treated successfully profound secondary anæmias, cases of pulmonary tuberculosis, as well as other conditions. The improvement secured in incurable pulmonary cases, and the recovery of the curable cases presenting themselves for treatment, as well as the prompt healing of a tubercular ulcer of the larynx, under influence of general applications of the arc light, led to its use in building up the general health of the case in question, and the utilization of the chemical rays to assist in combating the local lesion.

Immediately upon the appearance of a chill, with fever and marked disturbances of the nervous system, the local applications of the *x*-ray were either omitted or given at a longer distance from the tube and for shorter periods of time, in order not to set up conditions leading to the release of more infectious material than the system could throw off. The first chill after the patient came under care followed the first application of ultraviolet light, but it was not so profound, nor followed by so much disturbance of the nervous system, as the one which followed the first *x*-ray treatment. Long use of the Franklinic current in the treatment of chronic disease, had familiarized the writer with the untoward effects following its use, where, from its action, the toxic products of incomplete tissue change, with imperfect elimination, were thrown into the system more rapidly than they were thrown off; hence, from the very outset, the patient was guarded in every avenue from such a result.

Prognosis and Further Treatment.—No opinion is offered as to the ultimate outcome of the case, although from the progress much is hoped for. At the outset the writer told the patient's husband that it would be necessary for her to remain under observation for at least one year. No different opinion is held at the present moment.

The case is not reported as one of cure, but to demonstrate what has been done in a desperate condition and to call attention to the value of the *x*-ray and ultraviolet light in combination, for this class of cases.

In watching the case from day to day, as well as in considering it in retrospect, the writer is free to say that she does not believe the case would have been brought to its present condition without both the general and local applications of light. The technique in future cases will be simplified, by reason of experimental work already done, but both the ultraviolet light and the *x*-ray would be used. For, by the expenditure of the lesser energy, it is possible to keep the diseased area constantly under the influence of vibrations which are inimical to the retrograde cell development, characteristic of malignant disease. In every instance it is an expenditure of energy within the tissues—in the one the energy of the electrical vibrations, in the other the rhythmic short and high-frequency vibrations of light, or, in the latter, the irregular, short, and high-frequency vibrations of the *x*-ray.

Various observers report cases showing the untoward effect of too rapid release of infectious material in the treatment of malignant growths by means of the *x*-ray.

The question may pertinently be asked, What becomes of the malignant tissue and its toxic products. Dr. A. E. Sterne[3] endeavors to throw some light upon this subject. A patient who for a year and a half had had a tumor formation of the glandular structures, especially of the neck region, of enormous size, filling the space between the shoulders and the chin, extending into the chest cavity, and affecting the axillary and inguinal glands, came under treatment. From pressure upon the trachea, breathing had become very difficult and the heart's action was markedly influenced. A noticeable change in the tumor masses became apparent after twelve daily sittings; softening on the side being treated was first noticed, then a gradual decrease in size was noted. Breathing was much easier. When this side was reduced one-half, exposure was discontinued there and begun upon the other side. The patient's general condition improved during this period of about three weeks, and a similar result was obtained on the opposite side. Then attention was turned to the tumors beneath the sternum and adjoining thoracic regions, with like gratifying results. During the latter part of her treatment considerable mental dulness, tremor of the extremities, irregular heart action, persistent bronchitis, diarrhœa, and sweating had been noted. The tumors continued steadily to diminish in size, even after exposure to the *x*-rays had been discontinued, but the spleen which had been carefully kept in view, as steadily increased in volume. The *x*-ray exposures were stopped altogether, and every effort used to counteract the overwhelming empoisonment of the entire system. But the efforts were fruitless. The tumors continued to diminish until they had practically disappeared; the spleen, however, continued to increase until it reached the brim of the pelvis, the liver, too, augmented in volume, the patient grew more and more weak, until finally coma ensued, convulsions set in, and the patient died with every mark of violent general sepsis, not only clinically, but microscopically demonstrated through blood changes. One of the tumors was examined, and was found to be as first diagnosed—a small-celled sarcoma. A control examination gave the same result.

This case has been detailed at some length because it is most instructive. The *x*-ray by its action upon the more unstable molecules and compounds of the morbid tissue, destroyed them, but the decomposed toxic material of these tumors destroyed the patient's life. Dr. Sterne very justly points out that a slower, more intermittent treatment, would have had less disastrous results, for the system might have been able to throw off the septic material more gradually. The *x*-ray exposures were stopped before the tumors had disappeared, and still they continued to melt away. This shows the cumulative effect of the agent which in the use of electricity is familiar to every electrotherapeutist. An expenditure of electrical energy may be made in the tissues of patients up to a certain point, *i.e.* a point approximating normal metabolism, to a patient's good; and improvement will not only maintain itself, but go on to a greater nutritive activity, with improved function after its cessation. Doubtless energy is stored in the supreme nerve centers and ganglionic nerve cells which tends to further promote nutritive changes.

Pusey reports a case of extensive carcinoma, involving all the structures in and around the orbit of the right eye, which had progressed into the cranium when the treatment was begun. Two months' treatment resulted in great amelioration in the condition for a while, in both the appearance of the growth and the pain, but later evidences of rapid intercranial growth appeared and the treatments were discontinued. In the second month of treatment the *x*-ray effects were pushed to the point of producing *x*-ray irritation, the tumor increased and localized, and excruciating headaches appeared. The character of the headache indicated that the tumor was developing rapidly in the meninges, and as the disease was progressing even where the *x*-ray effect was greatest, and apparently was uninfluenced by the treatment, Pusey concluded that the case was certainly beyond control, and that further treatment was useless. On November 23, 1901, the man was discharged, having at the time an acute *x*-ray inflammation over the whole involved area. There seemed every reason to believe death imminent. Five months later Dr. Sprague of Sheffield, Ill., sent the following letter to Pusey: "Dear Doctor: I write you regarding the condition of Mr. ——, an old gentleman whom you treated for carcinoma of the right eye, discharged as incurable (if I am correctly informed by Mr.——) about the last of November. He was a charity patient, and I think was referred to you by Dr. Wilder. He called on me on his return from Chicago, had a recipe calling for tablets of a quarter of a grain of morphine, to be taken when in pain. I saw that he had about twenty tablets. I noticed the condition of his eye at that time, and concluded from my examination that it was only a question of time, and a short time at that, with him. I saw him yesterday, and he presents an entirely different appearance. The mass that occupied the orbit has shrunken, allowing the lids to close. He is free from pain, eats and sleeps well, uses no anodyne. There are a few little nodules on the nose near the commissure of the eyelids. With that exception he looks quite well. He has certainly gained since coming home, and I feel assured it is the result of the *x*-ray treatment. I should like you to see him again, but, of course, his means being limited, he would have to go to the Eye and Ear Infirmary as before."[4]

This case demonstrates that the action of the *x*-ray in producing progressive and long-continued ill effects, characteristic of *x*-ray-injuries, may, on the other hand, serve to influence progressively the retrograde influence set up in malignant growths. At times the vaginal mucous membrane left exposed by the bivalve speculum has been protected by means of strips of tinfoil, but, as a rule, no effort has been made to cover it, and part of the time the *x*-ray has been used with the cylindrical glass speculum which was blown for the writer to use in connection with the ultraviolet light. But, while this has been my practice, I do not advise the leaving of the healthy tissue unprotected, nor the use of a glass speculum for the purpose. In all medical work the individual factor is of such moment that one can not assume the responsibility of recommending to others a seeming lack of proper precaution. The writer has not found the mucous membrane more susceptible to the action of the ray than the skin. But, on the contrary, the danger of systemic absorption and sepsis she believes to be greater in the mucous membrane, because of the more direct and intense action upon the morbid growths, as well as from the abundance and proximity of the lymph channels. At no time has there ever been any tendency to an *x*-ray irritation upon the healthy mucous membrane or about the introitus. The only trouble has been in using the special tube devised by Mr. E. W. Caldwell for throat work. In this tube the anode becomes so hot that on three occasions a heat burn has been produced, which, however, has promptly healed without untoward effect. This action was at first attributed by the writer to the metal speculum or shield provided with the tube. It was therefore discarded as unsuitable. Similar burns have been produced twice since, however, showing that they were due to the heating of the anode. For the last week a Tesla tube has been used. As it is only provided with a cathode, the patient serving as anode, there is no danger of undue heating effects. The positive terminal of the machine is grounded, and by insulating the patient the high-frequency discharge accompanying its use is obviated. During the more active progress of the disease, the writer believes that the profound molecular as well as mechanical effect of the high-frequency discharge tends to increase the danger of too rapid release of septic material. When this stage is passed, it may be used additionally, for the patient's good. The improvement in this case was established by the use of an ordinary *x*-ray tube, and the short, high frequency waves or ultraviolet rays of light, and the technique of treatment was evolved step by step as the case progressed. At first the outlook seemed so hopeless that there was little to stimulate especial effort in securing the best means to the end. With the progress of the case no effort has been spared to perfect appliances, and at this time it is possible that similar cases would make much more rapid progress.

Exposures were made with the ordinary tube, at a distance from six to ten inches from the target, and for from five to ten minutes. With the Caldwell and the Tesla tube the applications have been from one to five minutes, with an average of three minutes. With these tubes there has been no effort to protect the vaginal tract, and all the tissues from the introitus to the cervix and vaginal vault have been brought directly under the influence of the *x*-ray vibrations, while the penetration, especially with the modified Caldwell tube, must profoundly influence all the pelvic tissues.

The writer prefers to use the Caldwell tube without a Ferguson's speculum, so as to secure the action not only on the cervix, but upon the entire vaginal tract, especially in the fornices and cul-de-sac.

The heating of the anode has, as has been pointed out, caused slight heat burns, but the tube is now being constructed so as to permit of its use without burning and without using a speculum, a detailed description of which, by Caldwell, will appear in the *New York Medical Journal* of an early date.

The Tesla tube should preferably have a long, well-insulated handle of hard rubber, to cover the tube as a shield to the introitus. This, for two reasons: (1) To prevent the operator from being exposed to the action of the ray, and (2) The high-frequency discharge. The *x*-ray energy is much less with the Tesla tube now in use than with the Caldwell. The vacuum tube electrodes, which the writer has in daily use for percutaneous, intraaural, nasal, vaginal, rectal, urethral, and intrauterine applications, when connected with a multiple spark-gap, give not only the characteristic vacuum-tube discharge, but a true *x*-ray effect as well, demonstrable with the fluoroscope. A localization of the *x*-ray energy within the cervix to just beyond the internal os is in this way possible.

The best results cannot, in the writer's opinion, be secured without direct intravaginal and uterine localization. The chemically-disorganizing action of the *x*-rays in the tissues of the human body, assuming that the chemical substances encountered have equal stability, should diminish with the depth, partly by reason of the increased distance from the radiant source, or anticathode, and partly by reason of increased absorption and attenuation at each successive layer of traversed tissue. Hence, the nearer the seat of the lesion the *x*-ray energy is expended, the better the result.

The physiological effect of the ultraviolet rhythmic light, from all the evidence secured, does not differ, save in degree, from that of the ultraviolet jangle of the *x*-ray. It is shown that the "histological changes do not resemble those produced by burning or cauterization; that certain cells are acted upon, and the process resembles a microbiosis." The first point of attack Sack[5] has shown to be the blood vessels. Cells which are not hopelessly diseased are capable of undergoing a retrogressive metamorphosis under the influence of light. The action of the *x*-ray is more intense, and with it there is danger of producing disastrous results if pushed too far. Therefore, the best results are to be secured by the use of the light energies during the intervals of irradiation, in order that the diseased tissues may be constantly influenced. The use of both of these agents should be considered, not only in inoperable, but in operable cases, and in the latter should at least follow the use of the knife, for carcinoma cells are often left in the deeper strata, which cannot be reached by the knife.

Hopkins[6] reports a case of cervical cancer brought to him on a stretcher, with profuse bleeding, in which the x-ray and light were used, with control of hemorrhage and improvement of the conditions.

Stuver[7] reports a case of cervical cancer, with involvement of vaginal walls, excessive discharge, and great debility, in which he used the x-ray through the speculum, with marked amelioration.

Skinner[8] reports twelve pelvic cases in all, and a fibrosarcoma of anterior abdominal wall, recurring after extirpation of uterus and ovaries for original lesion.

The fibrosarcoma of the anterior abdominal wall, secondary to the removal of the uterus and ovaries for the original lesion, had been under care nearly eight months, and had been rayed eighty-five times. The patient had so far improved as to be able to resume her duties as a teacher. In a tumor of left broad ligament, with ascites, an inhibitory action upon the growth, with improved general health, had been secured. In two cases of uterine cancer with involvement of adjacent tissues, a like inhibitory influence seems to have been established after six weeks' and three months' treatment respectively. Two similar cases were treated three and eight times respectively. The former without effect, the latter was reported as having derived some benefit. One uterine cancer, with involvement of vaginal vault and bladder, is still under care, but up to time of report maintained improvement but four days at a time, when all the untoward symptoms reappeared. Five other cases, four of carcinoma, with involvement of adjacent tissues, and one of sarcoma, died from toxæmia and exhaustion in from one to three months after coming under care. One, a small, nodulated, palpable tumor, probably sarcomatous, situated deeply in the lower lumbar and upper sacral regions, was, during a period of four months, rayed thirty times, with complete relief from pain and diminution in size. At the end of this period she was operated upon for tubal pregnancy, when an examination of the original malignant mass demonstrated that three nodules, the size of a pea, were all that was left. The future of this, with that of the case of fibrosarcoma of the abdominal wall, Skinner states will be watched with interest.

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79 Madison Avenue.

Professor Lorenz's Fee.—Dr. John Ridlon writes to the *New York Medical Journal* that Dr. Lorenz receives a fee of thirty thousand dollars for operating on the Armour child. This includes the services of his two assistants and also the after-treatment in Chicago and in Vienna when the plaster splint is removed.

PULMONARY SYPHILIS SIMULATING PULMONARY TUBERCULOSIS.*

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Pulmonary tuberculosis is so frequent a disease that it is not surprising that other non-tuberculous pulmonary lesions resembling those produced by the tubercle bacillus are frequently mistaken for it. This is especially the case with syphilitic disease of the lungs. In the past ten years I have seen a number of cases, of which the following history may be a type, which revealed a general history of syphilis and the physical signs of pulmonary phthisis, but generally followed a course which seemed to differentiate them from cases of pulmonary tuberculosis. The history which I select as a basis for this paper is as follows:

June 15, 1902.—Mr. I——, Lithuanian, metal, worker, twenty-eight years old; no tuberculous history in family; had chancre eight years ago; treated abroad for three or four months with drugs; no inunctions; some three years ago was married; no children; wife has had a possible early miscarriage; some two years ago began to cough; at the same time loss of appetite, increasing pallor, fever, night sweats, loss in weight; has lost almost thirty pounds in two years; was under the treatment of several physicians during that time with no effect; progressive emaciation; has continued at his business, although he has been unable to work steadily; during most of this time has expectorated a thick sputum; doctors examined it; does not know the result of examination; some six months ago had a severe hemorrhage; before that, occasional streaks of blood after a straining cough; says he "coughed up a half pint of blood in twenty-four hours"; another hemorrhage, not so severe, two weeks ago; all of the physicians have told him that his lungs were affected; one physician told him he had consumption.

Examination.—Six P.M.; patient about five feet four inches in height; very thin, emaciated, weight about 125 pounds, with clothing; pale and anæmic; hair very thin, phthisical facies, temperature 102°F. in mouth; respirations, 32; pulse, 86; tongue coated; speaks rapidly.

Physical Examination.—Right lung—auscultation—upper lobe, anteriorly, râles (crepitant and subcrepitant), high pitched, almost tubular, breathing up to three inches below clavicle; respiratory murmur better, but with prolonged, expiration above clavicle; respiratory murmur below level of third rib, normal; some coarse râles heard in suprascapular region on the right side; otherwise posterior surface of lung, normal; respiratory murmur heard over supraclavicular portion of apex of lung one-half inch lower than level of respiratory murmur over supraclavicular portion of left lung; percussion—dull percussion note over upper lobe of right lung as low down as third rib anteriorly. Pulmonary resonance good below that level; over supraclavicular portion of lung on right side dull percussion note when compared with opposite side; percussion shows supraclavicular portion of apex about one-half inch lower on right side than on left; pulmonary resonance—over upper lobe of right lung posteriorly—dull note; resonance over the remainder of right lung and whole of left lung good; heart, normal to percussion; accentuated second pulmonic; faint systolic, blowing murmur over pulmonary area; spleen percusses to free border of ribs, not palpable; complains of suffering from occasional diarrhœa;

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no blood or mucus in stools; no stigmata of syphilis on surface of the skin; lymphatic glands at the neck epitrochlea and groin, enlarged; chronic nasal catarrh; speaks of hair having fallen out extensively when his illness began, but it does so no longer; hair is readily removed by slight traction; no mucous patches in mouth or pharynx; no destruction of tissue in palate or pharynx; is somewhat hoarse; vocal cords congested, probably as a result of cough; sputum examined, no tubercle bacilli found. This patient came to my office at first about every third day; later on, every week, and recently only once in two weeks. His treatment consisted of small doses of morphine for his cough. Iodide of potassium in 20 to 30-grain doses t. i. d., plentifully diluted with vichy, and the bichloride of mercury in $\frac{1}{20}$ grain doses; in the beginning, four times a day; later on, three times a day. A liberal quantity of milk was advised and taken; other food, as his taste dictated. His appetite gradually improved. He resumed his work after a rest of two weeks; his fever gradually left him; his cough diminished, and his night sweats ceased in the second month. He gradually improved in weight; when I last saw him, three weeks ago, he weighed 145 pounds, having gained twenty pounds. He is still anæmic. The physical signs of the pulmonary disease present when I first saw him have gradually disappeared. There are now no auscultatory signs of consolidation present, with the exception of occasional moist râles over right apex, which clear up when the patient coughs. Percussion reveals no abnormal signs, save a slight dulness anteriorly immediately below the clavicle; apex of lung (supraclavicular) still percusses lower on the right than on the left side; patient sleeps well at night; nasal catarrh has disappeared; lymphatic glands still enlarged; hair on head still thin; face shaven smooth.

From this rather imperfect history, I think we may conclude: (1) That the patient has practically recovered from his pulmonary disease, and (2) that, having recovered under antisyphilitic treatment, including medium doses of the iodides, under which a tuberculous lesion would probably have grown worse, and the history showing that the patient was a syphilitic subject, the pulmonary lesion was a manifestation of his general syphilis.

I have thought it desirable to present this case to your consideration, not because the condition with which it is connected is in any sense a new one, but because I am led to believe, from my experience with similar cases of pulmonary lesions in chronic syphilitics, that the condition is not nearly as rare as is generally supposed. I believe such pulmonary complications of syphilis are sufficiently common to make the subject of great importance, both to ourselves and to our patients. This is the more true from the fact that pulmonary tuberculosis, which this condition so closely simulates clinically, is so frequent a disease that cases suffering from the rarer condition of pulmonary syphilis are in danger of having the latter lesion overlooked, and the syphilis not treated. The inefficacy of the treatment for a tuberculosis of the lung which does not exist is a foregone conclusion.

The absence of tubercle bacillis in the sputum so frequently occurs in early cases of true pulmonary tuberculosis that this, in itself, would scarcely arouse our suspicion of some other process being operative in the affected lung. On the other hand, the omnipresent tubercle bacillus would find so favorable a nidus in a lung, the seat of syphilitic disease, that even its presence would not positively exclude pulmonary syphilis.

In order, however, to avoid a desultory discussion of this subject, it will be wiser briefly to consider the main data of our knowledge of pulmonary syphilis. First, then, as to the frequency of this lesion. All authorities, with the single exception of Paneritius, who have written concerning specific disease of the lungs, agree in the conception that the condition is rare. This belief is founded upon the rarity of finding syphilitic lesions of the lung at autopsy. They carefully exclude any cases except those in which gross lesions of the lungs of a syphilitic character are found post mortem. Given a general syphilis, with post-mortem findings of pulmonary tuberculosis, and it is assumed that the syphilis took no part in the development of the pulmonary lesion. As well might one exclude, in a case of bronchopneumonia complicating a diphtheria, the agency of the diphtheria bacillus in the production of the pneumonia because it is well known that such pneumonias are the result of a mixed infection by the pus organisms plus the diphtheria bacillus. Furthermore, it seems illogical to limit the term syphilitic pneumonia, or syphilitic pulmonary disease, to cases showing the characteristic gross lesions of such syphilitic pulmonary disease, and exclude from such classification pulmonary lesions due in their inception to syphilitic changes in the walls of the blood vessels supplying the affected areas of lung tissue; excluding, for instance, such lesions as specific endarteritis, which plays an important rôle in the specific lesions of the brain and spinal cord. As I have said above, it would hardly seem proper to exclude even all cases of pulmonary tuberculosis affecting syphilitic subjects, for the tuberculous process may be in the nature of an infection which has found its favorable nidus in a lung originally the seat of a comparatively minute syphilitic lesion of the bronchi or blood vessels supplying the alveoli. It may be claimed in such cases that the practical value of a knowledge that the origin of the tuberculous pulmonary infection was in such a syphilitic nidus, is not great, since it is the tuberculosis that we have to treat, and not the syphilis. But is it not a cardinal principle in the therapy of tuberculosis that it is of primary importance to improve the patient's general health to its maximum point? What can be a greater deteriorating factor than an uncured syphilis? That pulmonary syphilis, complicated by pulmonary tuberculosis, is a far more frequent condition than is generally believed appears from a consideration of the frequency of both tuberculosis and syphilis. Thus, Andvord, (*Norsk Magazin for Lægevidenskaben*, 1902, No. 5) calculates that one out of every three or four individuals under eighteen years of age has latent tuberculosis. Naegeli's post-mortem records in 278 autopsies showed 215 with latent tuberculosis. Surely, then, the frequency with which syphilis is added to this latent tuberculosis is the determining factor in making the latter process active in the lungs. The signs of pulmonary disease occurring in the course of syphilis, especially late in the disease, should place the physician on the *qui vive* as to the connection between the syphilis and the pulmonary manifestation present in the individual case.

Pulmonary syphilis may be a manifestation of congenital syphilis, the lung being the seat of a connective tissue hyperplasia a fibrosis of the lung with occlusion of terminal bronchi and atelectasis of large sections of lung tissue. It may also be a manifestation of acquired syphilis. It is to this later form of the affection that this communication is devoted. Such acquired pulmonary syphilis may be present in the secondary or tertiary stage. The more or less subacute variety of syphilitic pneumonia and syphilitic bronchitis, properly so-called, is apt to be a condition of the secondary stage of syphilis, while the other forms of pulmonary syphilis are present as one of the manifestations of later tertiary lesions. Pancritius ("Lungen Syphilis, 1881), in his classical work, believes all acquired pulmonary syphilis to be a manifestation of the secondary stage of the disease. Stenosis of the bronchi, due to infiltration and thickening of the walls of the bronchi by gummy masses, is an occurrence of tertiary syphilis. Gummy tumors of the lungs are found chiefly in the later stages of syphilis.

Pathology.—It is of interest to discuss the types of morbid changes found in pulmonary syphilis. Most authorities who have had opportunities of making autopsies of syphilitic pneumonias, so-called, have found lesions of the following characters, which, while rare, serve to indicate the changes produced by a long-continued syphilitic involvement of the lung going on to the production of gross lesions and resulting fatally.

In acquired pulmonary syphilis, a catarrhal bronchitis has been, perhaps, the most frequent finding, clinically. Such bronchitis is present in the early secondary stage of syphilis, is more or less local, and generally subsides under active antisyphilitic treatment. Patients dying in the tertiary stage of syphilis have shown, however, not infrequently, a stenosis of the small and large bronchi, and even of the trachae. This is due to a cicatricial narrowing of the bronchi. Gummata have been found in the walls of the bronchi infiltrating the submucous tissues; such gummata undergo fibrous changes, resulting in cicatricial bands, which produce the stenosis. Such stenosis, if complete, is followed by atelectasis, of air cells supplied by the stenosed bıunchos, while it is possible for a bronchiectatic cavity to develop in the bronchus on the tracheal side of the stenosis; such bronchiectasis will give the physical signs and other symptoms due to the presence of such a cavity produced as a symptom of tuberculosis. Gummata are found in some cases more rarely scattered throughout the lung in small or large numbers, and range in size from one-eighth of an inch to several inches in diameter. These are sometimes, although rarely, seen upon the surface of the lung. They are more frequent in the substance of the lung around its root, and are apt to follow in their distribution the course of the bronchi and the larger vessels. The gummata are more frequently found in the lower lobes.

They are apt to be surrounded by a small area of inflamed lung tissue, having a tendency to undergo a fibrous degeneration, which spreads in fibrous bands through the interalveolar connective tissue, causing contractions, and sometimes a fibrosis of limited areas of lung tissue. Pulmonary gummata, however, may undergo a softening degeneration somewhat like that of caseous tubercles of the lung. Such soft degenerated gummata may be discharged through a bronchus, and thus give rise to the formation of a cavity.

Dr. Councilman (*Johns Hopkins Hospital Bulletin*, Vol. II, No. 11, 1891) says that the initiation of a pulmonary gumma consists of a pneumonia with exudation into the alveoli of a limited area, of a fibrinous material; this, together with tissue of the alveolar walls, undergoes a fibrous change, which finally breaks down in a necrotic and caseous process. The walls of the capillaries and small blood vessels become less elastic, and their lumen is much narrowed. Around the blood vessels and bronchi connective tissue bands are formed, and in such places the walls of the alveoli show similar thickening.

Cases of true pulmonary syphilis have been described in which there is more or less general connective tissue proliferation, extending from the root of the lung around the blood vessels and bronchi, forming a true fibrosis of the lung; this may involve almost the whole of one lung, or a lobe of a lung, or may occur in isolated patches scattered throughout the lung, with intervening areas of healthy lung tissue.

Dr. Herman Weber (Pathological Society Transactions, XVII, 152) describes a case which shows another method by which syphilis may involve the lungs, and that is through the bronchial lymphatic glands. The glands were much enlarged, some an inch in diameter; the pulmonary lymphatics, leading from them were dilated and full of a creamy fluid. From a cross section of the larger glands a creamy fluid exuded, which consisted of fat globules and granular bodies undergoing fatty degeneration. Finally, writers speak of a slowly developing, more or less disseminated lobular or bronchopneumonia, which may result from syphilis (Pancritius-Lungen syphilis, 1881). Such areas of bronchopneumonia result in connection with the breaking down of a large gumma of the lung or adjoining organs (Delépine and Sisley, Pathological Society Transactions, XVIII, 141), or degenerated and softened syphilitic bronchial glands.

I do not find any authorities who speak of post-mortem findings which would point to a general phthisical process in the lungs originating in a gradually developing thrombosis of pulmonary capillaries due to syphilitic endarteritis; and yet such syphilitic endarteritis is known to be a frequent pathological entity in connection with cerebral syphilis. It is true that the circulatory conditions in the lungs, as compared with those in the brain, are very different. The anastomosis between the pulmonary capillaries is very much more plentiful than in the brain.

Yet the frequent occurrence of infarcts of the lung, due to emboli and thrombi of well-known origin, proves that the anastomotic circulation is frequently insufficient to supply an area of lung which has been deprived of its circulation by the occlusion of its supplying vessel. It may be that the occlusion of a vessel occurring as a result of a syphilitic endarteritis is too gradual to produce an infarct, but surely it is logical to believe that such occlusion is sufficient to produce a subacute bronchopneumonia that sets in action the series of changes, that finally result in syphilitic pulmonary phthisis.

It is with a view of confirming such a possibility that post-mortem examinations should be directed; for such areas of pneumonia, while originally due to syphilis, could very soon undergo a tuberculous degeneration. This is all the more probable when it is remembered how very large a proportion of human beings have latent tuberculosis. A tuberculosis thus implanted upon a syphilitic bronchopneumonia due to a specific endarteritis, would naturally show tubercle bacilli in the sputum, in addition to the history and the symptomatology of syphiles. Such a case could not possibly be differentiated from pulmonary tuberculosis pure and simple, and yet it would be just as important to treat the syphilitic element which was active in the production of the original lesion as it is to treat the syphilis which has caused the paralysis in an endarteritis of a cerebral vessel. I do not agree, therefore, with Fowler and Goodlee ("The Diseases of the Lungs," London, 1898), who, in their excellent work, claim that the presence of tubercle bacilli in the sputum absolutely precludes the possibility of pulmonary syphilis. On the contrary, I believe that when positive syphilitic lesions exist in other organs and tissues, with a clear history of syphilis, and especially if the patient has had insufficient treatment for syphilis, the presence of pulmonary disease, subacute or chronic in character, even if tubercle bacilli are present in the sputum, demands that the patient shall have the benefit of an antisyphilitic treatment, at least with the object of ridding him of the deteriorating influence due to the syphilitic infection, and thus enabling the remedies directed toward tuberculosis to have their due effect. It seems illogical to recognize the utility of treating the general bronchial catarrh so frequent in the early secondary stage of syphilis on the antisyphilitic basis alone, although the evidence that such bronchitis is due to syphilis is only clinical in character, and to deny to the beginning localized pulmonary changes in the tertiary stage of syphilis the protection of a similar antisyphilitic cure, because we have no positive evidence to show that such incipient pulmonary changes are syphilitic and not tuberculous.

This brings us to a consideration of the symptoms which we can marshal to support the view that a given case of pulmonary lesion is syphilitic in whole or in part. These symptoms, as a whole, are not alike in every case, nor are they sufficiently characteristic as a group to make the diagnosis of syphilitic disease of the lungs, as differentiated from other pulmonary diseases, positive. Very frequently we shall have to call in the somewhat fallacious method of reasoning *post hoc, proper hoc*, and place more reliance than we would wish upon the success of the antisyphilitic treatment as an evidence of the existence of syphilitic pulmonary disease. This is true, however, also of syphilis of the brain and other organs, especially those concealed to palpation and sight. Indeed, even cases of syphilis of the liver frequently depend for the confirmation of the diagnoiss upon a favorable result from antisyphilitic treatment.

The cases I have seen, in which I suspected syphilis of the lung, and the cases of which I have read, were of these types: (1) Those resembling pulmonary phthisis of the tuberculous type; (2) Those resembling subacute or chronic pneumonia of the ordinary type; (3) Cases of pulmonary gummata, combined with the formation of more or less extensive fibrous bands and adhesions; (4) Cases in which, in combination with extensive syphilis of other organs, particularly the liver and the bronchial glands, the lungs become the seat of one or more abscess cavities, due to the breaking down of such syphilitic bronchial glands, pulmonary gummata, and gummata of adjoining organs. Cases belonging to the third and fourth groups I have not seen. I speak of them owing to well-authenticated reports of autopsies made on such cases by numerous observers. I have seen several cases of the first and second class.

The symptoms of cases belonging to the first group are essentially those of pulmonary tuberculosis, with the additional important factor present in all classes of syphilitic pulmonary disease, namely, the presence of an undoubted syphilitic history, and with syphilitic manifestations in other portions of the body. When the individual symptoms are considered, however, there are variations from those present in pulmonary tuberculosis. The cough is not so constant or persistent, owing to the small amount of sputum; hemorrhages are not as frequent, although they occur; hectic fever is not as universal, although it does occur, especially if bronchiectatic cavities filled with purulent secretion are present; loss in weight is a common symptom, but not as marked as in tuberculosis; the anæmia is not as great as in tuberculous phthisis; the loss in strength is less in evidence in the specific than in the tuberculous cases; night sweats are rarely complained of in syphilitic cases.

The physical signs obtained by auscultation percussion and palpation of the chest are those which correspond to the physical changes which the lung has undergone, and are the same signs which would be present were the physical changes caused by tuberculous lesions. There is rarely, however, a fetid odor from the breath of the patients belonging to this class of cases, even those cases in which a bronchiectatic cavity can be mapped out on careful physical examination. It is more frequently found that pulmonary syphilis shows its earliest manifestations in the lower lobes or at the root of the lungs.

In my own experience, however, the upper lobe of the right lung is frequently involved. The presence or absence of tubercle bacilli in the sputum depends upon whether the case is one of pure syphilis of the lungs or whether a tuberculosis has been engrafted upon a syphilitic process in the lung. The absence of tubercle bacilli in the sputum, with advanced pulmonary changes, is an important negative symptom, while the presence of bacilli in a case of slowly progressing pulmonary disease with a typical syphilitic history does not exclude the necessity of placing the patient upon an antisyphilitic regimen.

Syphilitic phthisis, too, progresses, as a rule, far more slowly than pulmonary phthisis. The cases are never of the foudroyant type. The case, the history of which has been the inception of this discussion, I would class in this group.

To the second class belong the cases resembling croupous and bronchopneumonia. In these cases the process involves lobules, lobes, or even whole lungs. The symptoms are those of a slowly progressing pneumonia. Not preceded, or rarely preceded, by a chill, not accompanied by expectorating of rusty sputum. The temperature is not as high as ordinarily seen in pneumonia. The pulse is not as rapid as in other pneumonias, the respirations are not as frequent, and the dyspnœa is not as great as the extent of the inflammatory process would warrant. The patient is not as sick as in an ordinary case of pneumonia.

The physical signs point to consolidation of the affected area. When, however, the period of crisis, characteristic of a croupous pneumonia comes, there is delayed resolution. This delay which sometimes lasts weeks, and even months. During all of this period there is always a temperature which, while not very high, helps to wear out the strength of the patient. Resolution may occur at any time, and is very much hastened by antispecific treatment. The cases which resemble broncho or lobular pneumonia are apt to show less crepitant and subcrepitant râles than non-syphilitic cases of this type of pneumonia. Here, too, resolution is delayed, and is apt to be incomplete when it does occur, unless the patient is put upon antisyphilitic treatment. In cases belonging to this group, resembling croupous pneumonia, the absence of the diplococcus is an important negative symptom of these cases. Unfortunately, the bacterium causing syphilis being unknown, it is impossible in any of these cases to obtain any positive indications from the sputum as to the presence of syphilis.

The third group of cases, the cases of fibrosis of the lung, associated with gummata of the lungs, stricture of the bronchi, followed by stenosis and atelectasis of lung tissue in the affected areas, will be recognized first of all by their undoubted syphilitic history and the absence of tubercle bacilli in the sputum, for these cases, unlike those in the first group, do not often become the seat of added tuberculous infection, owing to the physical changes which the lung tissue has undergone. These are the lesions which are recognized at autopsy as characteristic of pulmonary syphilis to the naked eye. They are comparatively rare, and it is owing to the fact that the gross changes occurring in the first and second group of cases, while far more frequent, are not so characteristic of syphilis of the lung, but resemble in some respects, on superficial examination, changes produced by tuberculosis, that pulmonary syphilis has been considered a rare complication of the syphilitic disease. The fourth group of cases, while fortunately exceedingly rare, is generally recognized long before the autopsy. The patient is afflicted with gummata in the lung and other tissues adjoining the lungs. These latter, when in the liver, are readily felt, and the physical signs and odor reveal the presence of the abscess cavities in the lungs, these cavities being filled with purulent and decomposing material.

Treatment.—A word as to treatment: The diagnosis having been made, or even a probable diagnosis arrived at from data of the general type of those we have just discussed, together with the existence of a positive syphilitic history, and symptoms of syphilis in other portions of the body; some weight also being given to the absence of tubercle bacilli in some of the cases of the first class, and the absence of the pneumococcus of Fraenkel in some of the cases of the second group; to repeat, a probable diagnosis having thus been arrived at, the patient should be placed upon antisyphilitic treatment.

It is well to remember here, that the success of competent antisyphilitic treatment in cases of pulmonary syphilis will be an important factor in the confirmation of the diagnosis. The treatment, on the other hand, applied in non-syphilitic pulmonary cases, is apt to aggravate the symptoms and course of the disease. The only cases of non-syphilitic origin that could possibly be improved by an iodide and mercurial treatment are cases of simple fibroid phthisis; and in such cases the differentiation might safely rest upon the presence or absence of syphilitic phenomena. I am accustomed to put these patients upon large doses of iodides, beginning with 20 grs. of the iodide of sodium, or 20 drops of the saturated solution of this drug three times a day. I increase by 2 grs. daily to the point of tolerance. Such iodides may be increased to 100 grs. t. i. d. The drug should be given after meals and largely diluted in milk. For 100 grs. a large goblet of milk is required; smaller doses require a wineglassful and upward.

This iodide treatment is combined with the administration of mercury by the mouth, generally $\frac{1}{30}$ of a grain of bichloride, t. i. d., given immediately after the iodide. In addition a drachm of unguent hydrarg. should be rubbed into the skin daily. Nothnagel and Rossbach showed many years ago that the effect of the inunctions of mercury is due to the inhalation of the vapor of mercury, which passes under the clothing of the patient to his mouth, and is inhaled with the inspired air and absorbed through the walls of the bronchi and alveoli.

They did not consider that the mercury was absorbed through the skin in any considerable percentage.

This fact renders the mercury in these pulmonary syphilitic cases of greater and more positive value.

I wish to reiterate again that this communication is intended as a clinical study of a class of cases which I am led to believe, from my personal experience, to be far more frequent than is generally conceded—cases which resemble, clinically, pulmonary tuberculosis, a disease in which the recognized therapy is of uncertain efficacy.

To overlook cases of pulmonary syphilis owing to their clinical resemblance to pulmonary tuberculosis, is an error attended by vast injustice to the individual who is the victim of it. On the other hand, to have mistaken a case of pulmonary tuberculosis and placed it upon antisyphilitic treatment for syphilis, is an error which can be remedied in time when the treatment is found inefficacious. Indeed, ten days of anti-syphilitic treatment will show improvement in the syphilitic cases, and an increase in the cough and other symptoms in the tuberculous cases. If this communication, and others on the same subject, will result in directing the attention of the general physician to the possibility of syphilis as a factor in some of his phthisical cases, so-called, the study of the subject will advance more rapidly, and an important group of cases will be recognized which are now frequently overlooked.

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THREE PHASES OF PANCREATIC DISEASE, WITH REPORT OF CASES.*

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The infrequency of pancreatic disease and the extreme difficulty of making a diagnosis when this organ is affected, makes one reluctant to write or speak upon that subject.

It has been the writer's fortune, good or bad, to have had three cases in the last two years in which post-mortem examination revealed the pancreas involved. A diagnosis of the disease had not been made by the regular medical attendant, or any of the consultants previous to death. The first two cases serve only to remind us that we should have the pancreas in mind when making diagnoses of digestive disturbance; and the third case will help us to differentiate cirrhosis or chronic pancreatitis from cirrhosis of the liver. Before considering these cases, it will be highly proper for us to review the anatomy and physiology of the pancreas.

Anatomy.—The pancreas is situated in the epigastric and left hypochondriac regions. It lies transversely across the body, on a level with the first lumbar vertebra, and is deeply placed. It is of pinkish cream color, and soft in texture. We note three divisions. A head at the right, contained in the loop of the duodenum, behind which, and generally penetrating the same, lies the common bile duct—a fact to be remembered in our later discussion; a middle portion, called the body; and the extreme left of the organ, called the tail.

The duct of the pancreas, or canal of Wirsung, runs from the extreme left of the organ to the right, concealed in the substance of the gland. At the right it either joins or runs beside the common bile duct, to empty into the duodenum. The pancreas lies behind the stomach. Other anatomical facts do not concern us at this time.

Physiology.—The pancreas is a compound racemose gland, weighing about four ounces. It secretes one pint of fluid in twenty-four hours. This fluid has a specific gravity of 1015, and shows, on analysis, about 970 parts of water, 15 of proteids, and 15 of salines to 1,000 parts. The secretion is alkaline.

The proteids represent the ferments, which are four in number: (1) Tripsin; for digestion of proteids. (2) Amylopsin; for conversion of starches into sugars. (3) Steapsin; for the emulsification of fats. (4) Lab ferment; for conversion of casein of milk into peptone, or for precipitation of the same.

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*Read before the Windham County Medical Society of Vermont.

We note the way this little organ is equipped. It is prepared to do the work of all the other digestive organs put together, and we know, as a result of the progress of surgery in removing the stomach, that this organ will do the work of digestion for months.

A brief résumé of the processes of digestion shows us that some foodstuffs are already in condition for dialysis, others become so when dissolved in the mouth. The uses of the saliva are for the most part physical and mechanical. One ferment, ptyalin of the saliva, has the power of converting starch into soluble substances. Passing to stomach digestion, we find pepsin acting in the presence of free hydrochloric acid for the conversion of proteids into peptones. The power of coagulating the casein of milk must also be mentioned as belonging to the stomach.

Stomach digestion is not considered so important as formerly, and we pass to intestinal digestion as that of greatest moment. To the secretion of the pancreas already described, we must add that of the bile, which emulsifies the fats to a certain extent, and has to do largely with their passage to the lymphatics.

Intestinal secretions come in to assist in the conversion of blood fibrin to peptone, and to change cane to grape sugar. From the small intestine much of the absorption takes place.

Having these facts in mind as a basis for later discussion, we pass to the first phase of our subject, namely:

Pancreatic Disease by Extension.—This case was one of carcinoma of the stomach. There was the usual history of this disease, minus the vomiting and severe pain. Within a day or two of death there was vomiting and some severe pain, which, as with all the pain, was referred to the lower dorsal region, or the left scapula. The late symptoms indicated a beginning peritonitis, with some symptoms of perforation.

Autopsy showed the stomach intact, but walls friable, spongy, and very thick. The disease had extended to the left lobe of the liver. The spleen was involved and the pancreas was matted with the posterior wall of the stomach. The laboratory report was as follows: Stomach shows carcinomatous growth; kidney shows lesion of diffuse nephritis; spleen shows areas of acute degeneration; liver shows diffuse hepatitis, passive hyperæmia, and areas of cirrhosis. The pancreas was not reported upon for some reason. Dr. Lindsey says: "In fact, all the organs show more or less morbid change, although I found evidence of carcinoma only in the stomach."

The patient, in early life, had been an alcoholic. Both stomach and liver suffered, of course, and this was the probable exciting cause of carcinoma. The pancreas also, as we shall see, is an organ that suffers markedly from alcoholism. The report would indicate that the stomach was the first organ affected. The point to be raised here is this, did this man die when the stomach was well nigh incapacitated for digestion, or did he die when the disease had involved the two vital organs of digestion, pancreas and liver? Not until then did we get marked anorexia, flatulency, deep-seated pain, and other digestive disturbance, if our inference is correct. Hence we note the importance of pancreatic disease by extension.

Pancreatic Disease as Part of a General Process.—This patient came under observation a week previous to death, with extreme digestive disturbance, ascites, and œdema of limbs. There were paroxysms of pain, mainly abdominal. There was the gradual wasting and anæmia of malnutrition. Urinary examination showed an advanced chronic nephritis, but the mind was clear. An early history of hip joint inflammation seemed the only important point. The post-mortem examination was a revelation. All the abdominal organs seemed involved, save stomach and intestine. The organs, in gross, looked a brownish-white, something like the rough side of sole leather. In handling an organ, as soon as the capsule was broken it could be crumbled between the fingers. The liver and pancreas were the most involved, and the kidney seemed the last, or, at least, the slowest to break down.

The report of the pathological examination by Dr. Lindsey was as follows:

Liver.—This organ is the seat of a passive hyperæmia or "nutmeg" condition, and there is slight diffuse hepatitis. There is very little connective tissue hyperplasia. There is also a degeneration, which, with ordinary stains, is identical with amyloid change, but this latter cannot be demonstrated with methyl-violet, and gives very faint reaction with iodine. The degeneration is not colloid or fatty, and is believed to be hyaline or amyloid.

Spleen.—A diffuse splenitis is present, and the same degeneration as described above.

Kidney.—Shows much interstitial nephritis and circumscribed areas of round-cell infiltration. The blood vessels are the seat of proliferating endarterites, and the lumina of many of them are entirely occluded. The cortex presents the histological picture of amyloid metamorphosis, but the reaction to staining agents is as described under liver. The glomeruli completely fill the Bowman's capsule, the latter being somewhat thickened.

The pancreas is so far degenerated as not to allow section for satisfactory examination. The gross anatomy was identical with that of other organs. The questions of interest involved here are purely academic, namely:

Did the patient die from the malnutrition caused by degeneration of digestive organs and their accessories, or did life last until the kidney would no longer eliminate sufficient waste to allow continuance of vital processes? Undoubtedly both causes were operative, but the kidney seemingly was the cause of ascites, as there was little connective tissue hyperplasia of the liver. While the pancreas seemed the farthest advanced, the kidney presented, in gross and microscopically, healthy working areas. So much for pancreatic disease as a part of a general process.

Pancreatic Disease, per Se.—The third division of our subject has to do with chronic pancreatitis, as represented in a single case: The patient, a man of about fifty-six years, had been an alcoholic of an extreme type for twenty-five years. Steady drinking was his specialty, with occasional sprees. For the last ten years of his life, at long intervals, he had attacks of deep-seated epigastric pain, very severe, associated with restlessness, anxiety, and faintness. These attacks would compel him, if on the road, to stop at the nearest house until some relief was obtained. There were occasional attacks of jaundice, but not marked. The most marked symptom was a peculiar bronze look to the face, which later, of course, became intermingled with the yellow of chronic jaundice. At the time the patient came under observation he had reached the end of his drinking. A single teaspoonful of alcohol would completely upset digestion and bring on an attack of jaundice.

The digestive symptoms were pronounced at this time, and were anorexia, gastric, and intestinal pain, mainly from gas due to fermentation, pronounced diarrhœa, alternating with constipation; but diarrhœa predominating. The stools were variable in color, for the most part clay-colored.

The digestion went from bad to worse. The urine showed albumin and casts; the jaundice became extreme; the stools colorless; attacks of deep-seated pain frequent. Delirium, followed by coma, resulted from toxæmia, due to absorpton of bile. The patient died in this condition. The diagnosis, by three of the oldest and best practitioners in this county, was cirrhosis of the liver. The cases of cirrhosis of the liver which we have seen fatal, have shown abundant fluid in the abdomen, with œdema of legs, etc. Why was this man dying with cirrhosis of the liver and not a drop of fluid in the abdomen or legs?

Some questions are answered easily at an autopsy, but that was not the case here. We went through organ after organ only to find them practically normal. The intestines even did not show the acute redness which we felt must exist. The liver, to be sure, cut a bit hard on section, but showed only a little increase of fibrous tissue.

Visions of performing an autopsy on a man when sufficient evidence for cause of death could not be found, began to loom up, and our feelings were not soothed by the fact that a brother of the patient, a veterinary to some extent, and a keen man withal, was assisting and observing each step very carefully.

In following up the small intestine, just below the stomach, we came upon a small tumor the size of half a hen's egg and very hard. This was the head of the pancreas, that organ being largely infiltrated with white fibrous tissue. The bile duct, as well as the pancreatic duct, was constricted at this point. The gall-bladder was dilated and filled with bile. The pancreas on sectioning was cut with difficulty. It is to be regretted that specimens of these organs were not sent to the pathological laboratory for examination.

Recalling now the anatomy of the ducts and blood vessels leading to or from the liver, which were cited earlier, we remember that they lie: duct to the right, artery to the left, vein behind and between. The bile duct and the pancreatic duct were constricted by the head of the pancreas while lying in or passing through the same.

The hepatic artery and portal vein were unobstructed, and hence we had no abdominal fluid or œdema. A point then of differential diagnosis between cirrhosis of the liver and that of the pancreas or chronic pancreatitis, if you please, is the question of fluid in the peritoneal cavity.

Chronic pancreatic disease, carcinoma, pernicious anæmia, and chronic liver disease are worthy of our careful study, ante and post mortem, for points of differential diagnosis, because of the marked similarity of symptoms, and the general obscurity of all these diseases. The remark may be made that these diseases are all fatal and a question of diagnosis of very little moment. In reply it is proper to say that in the early treatment a correct diagnosis may be of material service. Public confidence is not increased in the profession when errors are made, and such may be disastrous, from a business standpoint, to the young practitioner. In view of the foregoing facts, is it too much to say that we all may learn something more of pancreatic disease?

While this completes the original plan of my paper, certain considerations of more practical importance may not be out of place at this time.

Each year during the summer months we pass through a time when digestive disturbances prevail. Two years ago a series of, perhaps, twenty cases showed, by chemical and microscopical examination of the urine, a condition of oxaluria, so-called. The symptoms varied—sometimes it was a terrible pain in the head, which called for the hypodermic needle at once; again it would be abdominal, occasionally referred to the stomach, with nausea and vomiting; pronounced constipation was the rule; sometimes there was diarrhœa. Temperature, anorexia, dry skin, scanty high-colored urine, and coated tongue make up the picture. During the acute stage, when the urine was loaded with calcium oxalate, deep lumbar pains, or irritation of the bladder, or both, were pronounced. When this condition, in a subacute form, lasts for any considerable time, we have the dirty, dingy, countenance, the capricious, sensitive, irritable, dull, despondent, and melancholic patient. Boils and other cutaneous disorders follow. It is not difficult to recall such cases—cases in which the nervous symptoms alone are present—and we charge these disorders to faulty innervation, when, as a matter of fact, faulty metabolism is first, nervous dyspepsia, nervous prostration, constipation, and the whole list being secondary, even to acute mania.

A year ago an examination of a similiar series of cases showed uric acid instead of calcium oxalate, and while the majority of symptoms were similar, muscular rheumatism predominated. So far this year the cases seem about equally divided.

The question of metabolism and of accumulated waste products is one of growing importance. What is the matter with me? the patient asks. What is the matter with metabolism? is the real question.

Oxaluria and allied conditions accompany the lighter or severer forms of illness, and has its proximate cause in impeded metamorphosis. Beneke says: "Such a retardation of the metamorphosis of azotized elements of the blood may be determined by the following causes: (1) Excessive use of azotized foods; (2) Excessive use of saccharine and starchy foods; (3) Insufficiency of red blood-corpuscles; causing diminished oxidization; (4) Insufficient access to fresh air; (5) Organic lesions affecting respiration and circulation; (6) Disorders of the nervous system; (7) Excess of alkaline bases in the blood."

Our usual explanation of such faulty metabolism is congestion of the liver, yet we have no jaundice; often no constipation, normal-colored stools showing the secretion of bile normal. May not our trouble be here functional deficiency in pancreatic secretion, quantity or quality? Would not remedies directed toward stimulation of the pancreas accomplish more for us than simple cholagogues?

The Abuse of Creosote and Guaiacol in the Treatment of Phthisis.—Duncan Turner protests against the routine administration of these remedies, which in many cases ruin the digestion and reduce the patient to the very verge of starvation. They are of value in the bronchitis, which is usually present in phthisis, but have no effect on the tuberculous process. Some patients may take moderate doses of creosote and guaiacol for some months without any deleterious effects, but in the larger proportion of cases the continuous administration of these medicines will sooner or later derange digestion and so indirectly do harm. For many years the author has been in the habit of using these remedies through the skin, which is easily accomplished when they are mixed with some kind of oil and diligently rubbed in. He promises a future article on this subject.—*Intercolonial Medical Journal of Australasia.*

THE NEURON THEORY: ITS RELATION TO PHYSICAL AND PSYCHICAL METHODS OF TREATMENT.

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It is one thing to aid in the resolution of disease; it is another to appreciate the rationale of the means employed. If physical and psychical methods of treatment are to gain in stability and professional confidence, those directly interested in these methods must endeavor to give intelligent expression to the reasons that underlie results. To those directly and experimentally interested, the proofs of the therapeutic properties of such methods are sufficiently convincing, but to those not so directly interested, the iteration of a long list of "local marvels" is apt to become a bit tiresome, and, if not well and satisfactorily authenticated, will be received with a proper measure of credulity. So far as physical methods, and especially electricity, relate to nervous diseases, it will not be disputed that it is in the functional neuroses, so called, that we find their greatest efficacy. Organic and structural diseases receive, as a rule, from their use benefits but slight and palliative, but in such conditions as hysteria, neurasthenia, and many psychical states that have not crossed the border line of insanity, their value cannot be gainsaid. The cause of these beneficial results has, in the past, been referred, in a general way, to nutritional influences, to circulatory and secretory changes, but there has seemed to be no satisfactory anatomical or physiological data to account for the undoubted physical changes necessarily underlying the onset of the nervous symptoms, or to explain the rationale of either physical or psychical methods of treatment. We have now, however, in the neuron doctrine and associated theories, many plausible suggestions as to the rationale of treatment. If, therefore, the neuron theory is correct, if the nerve cell, with its multifarious prolongations, is an anatomical unity, and in association with its fellows by contiguity only, and not by continuity, old ideas of the physiology of nervous activity must undergo very radical changes. I do not forget that more recent researches have distinctly modified the neuron doctrine. The concept of the nerve cell, however, as a functional unit, must still prevail, as affording the most rational basis in the consideration of the action of nerve force. If, in addition to this theory of structural isolation, we accept as true the theory of amœbic movements—in other words, the power of the neuron to swell and retract by means of its protoplasmic prolongations—we get still clearer conceptions of the cause and cure of a multitude of nervous conditions. Doubtless this power of independent movement of the neuron or, what has been termed the retraction theory, has not yet been proven, and may not be susceptible of proof; still, the facts of psychopathology not only render such a physiological process exceedingly probable, but also quite necessary to a satisfactory explanation of mental abnormalities and sudden and transient alterations of sensation and motility.

It has been well said that "theory originally fashions science out of facts, and is the indispensable precondition of every important scientific advance."

Many of the most useful and practical inventions and aids to material progress owe their initiation to theoretical considerations which to this day remain unproved, and yet, as working hypotheses, were absolutely indispensable to scientific advancement. In saying that the central nervous system can no longer be regarded as made up of continuous lines or threads of nervous substance, consisting rather of innumerable units, each one of which is complete in itself and absolutely isolated the one from the other, it is not to be understood that there is no connection between them. This connection is, indeed, most intimate and complex, and may become closer or entirely broken through many causes. All thought processes—the exercise of the passions—fear, joy, hate, sorrow, nervous shock of whatever kind, interfere for either good or evil with this complex system of connections between neuron and neuron. Indeed, the explanation of all mental phenomena, normal and abnormal, resolves itself into a question of connections, and should go far to do away with the term functional by demonstrating that all abnormal functioning of an organ is due to material changes of greater or lesser degree. We say that nervous impulses are transmitted from neuron to neuron through simple contact alone, and that this contact is complete, incomplete, or entirely broken according to the activity of the amœboid movements. These amœboid movements, these retractions of the protoplasmic prolongations of the neuron, whether they be slight or profound, transient or permanent, constitute veritable structural changes, and the difference between a momentary forgetfulness and a permanent amnesia, between a transient paralysis and an incurable hemiplegia, is simply a difference of degree. In either case the nerve impulses are arrested in their course. In the one instance, as in a case of hysterical paralysis, by a defect of contiguity due to slight and transient causes that are readily overcome by some external reinforcement of the nerve wave; in the second by a similar defect of contiguity, due to permanent pressure and destruction of nerve units. Admitting then, that the functional neuroses, as we must still designate them—the hysterias, the neurasthenias—the innumerable grades of abnormal mentality that have not yet crossed the border line separating them from the profoundly or hopelessly insane, are due to amœbic movements of the protoplasmic prolongations, resulting in their retraction and consequent dissociation of neuron from neuron, or, to use a surgical phrase, a practical solution of continuity in the neuron chain, it behooves us to inquire into their causation and into the rationale of the physical and psychical methods of treatment that practically have been found to be of value. An inquiry into the etiology of nervous diseases opens up the whole field of heredity, and the question to what extent one's nervous defects are inherited or acquired are of intense interest, but can be alluded to here only in a general way. An hereditary want of stability of the neuron, with its innumerable protoplasmic extensions, is in the vast majority of cases, without doubt, the fundamental causative factor of abnormal mental phenomena. The majority of neurasthenics who have come under my observation have given an hereditary neuropathic history distinctly bad. When the nervous system of a man hereditarily strong succumbs to the stress and strain of dissipation, or work, or both combined, it is only after repeated and prolonged assaults. The young man rejoicing in a constitution inherently strong makes the great mistake of regarding it as impregnable. It may be a veritable fortress, but nature's reprisals are inevitable, and sooner or later under repeated assaults, it will give way as surely as in the case of his more unfortunate brother with his inherited neurotic instability. Those who belong to the class of the hereditarily weak may, under favoring circumstances, go through life without manifesting serious nervous symptoms, but such cases of exemption are rare.

Every individual must meet conditions that try his mental serenity and test his physical forces, and the nervously unstable rarely emerge from the contest unscathed.

The question of functional nervous disease is very much one of neuron energy. The delicacy and susceptibility of the neuron body must be simply marvelous, yet its vitality is great, and, in vigorous constitutions, it has power not only strongly to resist exhaustive influences, but, even when these influences prevail, has inherent powers of rapid recuperation after the disappearance of the exciting cause. These exciting causes, unquestionably the same in the hereditary and acquired neuroses, are, broadly speaking, two, fatigue and autotoxis. As to the relative importance of these two provocative causes, who can say? Both are accompaniments of civilization, especially the former, and the higher the civilization the greater the ravages of fatigue. There is, moreover, no definite line of demarcation enabling us to say that in this case the results are due to fatigue and in that to autotoxis. Fatigue in itself brings autotoxis, and autotoxis fatigue, but, primarily, the pathologic changes are due to one or the other. It is not alone, nor principally, muscular fatigue from over-exertion, nor mental fatigue from over-intellectual strain, that is meant when speaking of fatigue as the cause of neural disease.

Psychic excitation, when repeated and prolonged, is to the last degree destructive to mental and physical stability. Excessive and long-continued mental effort is undoubtedly responsible for many cases of nervous breakdown. If to this is added the strain of continual worry, the danger is materially increased, but these combined agencies, so inimical to the normal functioning of the pyramidal or psychic cells of the cortex, cannot be compared in deadly energy to the constant impact upon the nerve units of unbridled and unlicensed sexual freedom. As before remarked, all thought processes and all emotional activities disturb for good or evil the functional activity of the psychic cells.

Without such disturbance, indeed, there could be no progression of the intellectual life. "The solitude and the dead-level existence in sparsely-settled rural communities are well-recognized examples of the dwarfing influences of intellectual and emotional stagnation. These depressing environments, while enervating the mental and ethical, tend to quicken and stimulate, as well as pervert, the animal instincts. As a result, crime is more brutal, feuds more revengeful, and for more trifling causes, and insanity more prevalent than in towns and cities." The functional hyperæmia resulting from the exercise of the intellectual forces is a veritable fertilizer, reinforcing the molecular vibration, helping the nutrition of the neuron, and, by increasing the number of contacts of the dendrite with cylinder axis prolongation, developing new paths for the transmission of the nervous current. But let this process be repeated time after time, year in and year out, through unnatural, or at least abnormal, exercise of thought and emotion, malnutrition and exhaustion of the neuron must inevitably follow. The protoplasmic portion of the neuron then retracts (that is the theory), with its resultant solution of physiological continuity, indicating that its vitality is impaired.

As to the toxic origin of nervous diseases, it is becoming more and more evident, through the revelations of physiological chemistry and bacteriology, that it is a most important etiological factor, and a more general recognition of this fact would, I am confident, do much toward the initiation of better therapeutic methods. It may be safely asserted that a large proportion of all aches and pains and abnormal mental phenomena are due directly or indirectly to the imperfectly transformed products of digestion. Mankind is stupid in many directions, but its stupidity in the matter of eating and drinking passes comprehension, and has given rise to the saying that "gluttony kills more people than intemperance." For one cause of insanity or neurasthenia with their profound and varying conditions of mental and physical derangement, there are thousands of cases of transient but ever-recurring disturbances of mind and body due to toxic causes. Man habitually overeats, and the resultant end products cause, by their irritation, a long train of familiar symptoms, heaviness of head, dulness of intellect, vertigo, confusion of ideas, cold extremities, etc. It is not then a cause of surprise that the physiological functions of the body are so frequently disturbed by autoinfection. When one considers the chemical complexity of the human economy, and how tissue metabolism is subject to hindrance and derangement because of disturbed digestive processes, incomplete oxidation, and imperfect elimination of waste material, it is rather a cause of wonder to see how much harmonious action there is in the complicated mechanism of the living body. Our knowledge of autotoxis as a cause of mental and nervous disease is enlarged because of the microscope and physiological chemistry, and it is believed that by urinary analysis the special organ at fault can be designated.

Gastrointestinal intoxication shows itself by the presence of indican, of acetone, of diacetic and oxybutric acids, and of tyrasine in the urine. Hepatic intoxication manifests itself by hemapheisme urobilinuria, albuminuria, renal autointoxication, by the quantity of urine, casts, albuminuria, and hæmoglobinuria. Clinical experience will, I think, confirm the statement that mental and nervous symptoms due to autointoxication differ from those due primarily to fatigue. One of the most striking differences between neurasthenia from fatigue and neurasthenia from autoinfection is the mental confusion characteristic of the latter. It is probable that this confusion of thought is almost universally the result of autointoxication and peculiar to it. How many times, in neurasthenic cases from overstrain, have I seen temporarily this added symptom of confusion, due, unmistakably, to toxic influences. The character of the mental phenomena in toxic and nontoxic neurasthenia differs, according to my experience, in one other important respect. In both forms we find depression and a profound sense of misery, but in the nontoxic form the irritability is not so extreme, nor do we see such unreasonable outbursts of temper as in cases in which the nerve cells are actually poisoned by imperfectly transformed products.

In considering the agencies of autotoxis and fatigue that pervert the normal functioning of the nerve cells, the great susceptibility of the neuron to traumatic agencies should not be forgotten. The persistency and severity of neurasthenic symptoms due to external mechanical agencies are well known and have been widely discussed. Traumatic neurasthenia is expressed in symptoms more profound and lasting than most other forms. The construction of the highly-organized ganglion cells is wondrously complicated and delicate as compared with the cells of the tissues of the body in general. Its metabolism, therefore, suffers especial disturbance from external shock, which, in all probability, leads more readily to actual parenchymatous degeneration than disturbances from fatigue or ordinary toxic causes.

In briefly discussing the rationale of physical and psychical methods of treatment as related to the neuron theory, I shall speak more especially of electricity in referring to the former, both because there is a unique and striking analogy between the nervous and electric conductibility, and for the reason that it is with the action of this agent I am most familiar. In dealing with electricity as a physical agent, I propose also to consider it as a psychical agent, for I am quite free to admit that some of the good derived from electrical methods of treatment are due to psychical influence. No less an authority than Moebius claimed that three-fourths of the cures sequent to electric treatment were due to mental impressions. However this may be, whether the proportion of cures attributed to psychic influences be too large or too small, the fact of its psychical effect is surely no bar to its use.

It is, on the contrary, an additional testimony to its value. Not only every physical method, but the administration of all drugs as well, have their psychical side, and if electricity appeals to the imagination with especial power, so much the better. We know that peripheral stimulation as manifested through the senses, the stimulation of thought, of hearing, of sight, as well as the stimulation born of the emotional elements of our nature, are important forces in the normal development of the psychic cells of the cortex. In equal degree and, perhaps, in the same way, when the function of the neuron becomes impaired, its restoration not infrequently depends in no small measure on those self-same methods of stimulation, sometimes with and sometimes without conscious effort on the part of the patient. I cannot better, if as well, express the importance of psycotherapy in therapeutics, and of the relation to it of electrical methods, than has Dr. Geo. W. Jacoby in his excellent work on electrotherapy. "Let us now only recall two indisputable facts: first, that psychotherapy, no matter in what form applied, may be of benefit in all diseases that have primarily originated through psychic processes; and, secondly, that the action of psychic processes easily oversteps the psychic boundaries and trespasses upon the physical sphere, producing not only functional disturbances, but also structural changes in many organs. In fact, Von Strumpell is right when he says that the number of apparently physical diseases caused by primary psychic processes is at least quite as large as the number of actual primary physical states of disease. Electricity as a purveyor of suggestions is unsurpassed, and I know of no other means by which beneficial results can be obtained with so great certainty and rapidity in affections superinduced by psychic action. If to the psychic action that electricity itself exerts, and to the facility with which it can be made use of as the carrier of intended suggestion, we add its other possible modes of action, we certainly find therein a remedy whose field of influence is not surpassed by any other single method of treatment. These conclusions, theoretically arrived at, stand in full accord with the empirically-acquired knowledge of physicians of the largest practical familiarity with disease and with electric treatment, and who are deserving of credence as scientific observers."

That electricity does possess, aside from its psychic influence, very positive physical effect over diseased conditions will be readily admitted by every unprejudiced mind.

Even Mœbius, whose destructive criticism has, in reality, done much to clear the atmosphere of electrotherapeutics, practically admits that a very respectable proportion of the cures effected by electricity are due to actual physical influences.

The mechanical, chemical, cataphoric, and electrotonic action of electricity are far more in evidence than its psychic or suggestive action. Much of this physical energy is, in truth, mathematically demonstrable, while psychical effects are more a matter of observation and deduction. The influence of electricity on the neuron must be in the main mechanical, or electrotonic, for the action of any of its manifestations upon nerve tissue excites in that nerve a condition of electrotonos, or, in other words, a change in its excitability. To thus influence the protoplasmic portion of the neuron, to heighten its activity and hasten the development of new paths for the transmission of nervous impulses, the surging, vibratory effects of currents of high potential and frequency seem particularly adapted. The greater the number of ties or connections developing out of the protoplasmic body, the richer and more substantial becomes the mentality of the individual. These ties or connections are multiplied and strengthened through emotional (psychical) influences. The natural and incessant molecular vibrations of the nerve elements, thus reinforced by artificial aids, open up new paths of conduction for the transmission of the nervous waves, the obstruction of which give rise to so many symptoms of disease. Whether this molecular influence is exerted through psychical or physical force, it is, in either case, a question of dynamics, the difference being that the dynamics of electricity is far more potential and exact than that of the emotions. The value of physical methods of treatment in the functional neurosis, and even in structural changes, in the hysterias, hysterical anæsthesias and paraplegias, neurasthenias and various mental conditions, has been so frequently demonstrated that illustrative cases seem unnecessary. The rationale of this power lies in great measure, I believe, in its ability to restore the conductibility of the neuron that has become resistant to the nerve current. The inherent energy of the nerve cells is liberated, new paths of conduction form, resulting in modification of both motor and sensory processes.

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25 East Forty-fourth Street.

Disinfection by the Clayton Gas.—A report is given of the results of Dr. Calmette's experiments with a mixture of SO_2 and SO_3 His conclusions are that the gas produced by the apparatus used as is practised in fumigating ships, and of a percentage of 8 per cent., is perfectly efficient for the sterilization of material tainted by the microbes of plague, cholera and typhoid fever. This process assures the destruction of all rats and insects without damage to goods or vessels, and it ought to be generally adopted for the preservation of the health of crews and passengers. He is continuing his experiments on other cultures, and thinks that the gas will prove fatal to the tuberculosis germs.—*Journal of Tropical Medicine.*

SYPHILIS IN THE BARBER SHOP: A CASE OF INFECTION THROUGH AN ACCIDENTAL RAZOR WOUND.

By ANTONIO FANONI, M.D.,
NEW YORK.

The following case is interesting as a contribution to the question as to the acquirement of syphilis through barber's tools—a question that has been the object of considerable study and discussion on the part of sanitarians throughout the world in recent years. Whilst such cases are apparently not very frequent, the mere fact that syphilis may be acquired by almost anyone who ever sits in a barber's chair, is of far-reaching significance. The occurrence of such instances of infection is, in each case, a warning to the medical profession, pointing out its plain duty of furthering legislation that will regulate the hygiene of the barber-shop in such a manner as to prevent the spread of syphilis and of other contagious diseases through the contact of razors, towels, etc., with an abraded surface of skin.

S. F., an Italian fruit-vender, forty years of age, married, with four healthy children, whose family and personal history was negative, except that he had had an attack of gonorrhœa at the age of eighteen, came to me with the following story:

His eldest son, fourteen years of age, on July 28, 1901, shaved him with a razor which the boy had bought "second-hand." Being merely a barber's apprentice, and not skilled in his art, the boy cut his father just below the chin during the operation. The patient did not mind the cut and staunched the bleeding until the shaving had been completed. After a time the bleeding ceased but the wound did not show any disposition to heal. On the contrary, at the end of forty-eight hours the wound seemed to gape and began to discharge a purulent fluid. One of the submaxillary glands, situated about half an inch away from the wound, became enlarged, until it grew to the size of a nut, though it never gave any pain.

A friend of the patient having told him that the wound looked bad, he consulted a physician, who told him that his wound was a very peculiar one, and prescribed some wash, adding that he would like to hear from the patient in a few weeks, regarding any new symptoms that may have developed in the meanwhile.

A month after the wound had been inflicted, the patient went to bed, apparently in perfect health, but awoke in the night with fever, headache, and was unable to sleep. When he arose on the following morning he found that his face and body, except his lower limbs, were covered with a rash. He went to the same physician, who diagnosticated syphilis and prescribed some pills. After a few weeks the rash disappeared, the submaxillary glands diminished in size, and the sore became a little smaller. The medication was discontinued, as the patient was feeling well.

On February 8 he was again seized with headache and sleeplessness, which continued for eight days, and were so troublesome that hypodermic injections of morphine had to be used. It was at this time that the patient came under my observation. I put him on subcutaneous injections of mercuric chloride. After the twelfth daily injection he began to feel relieved, and after the twenty-second he resumed his work, regarding himself in perfect health.

While the case is, undoubtedly, one of syphilitic infection through a razor wound, it is not certain whether it was actually the razor itself that produced the inoculation. It is possible, of course, that the syphilitic virus was introduced into the wound by the handkerchief or some other substance that had come in contact with the cut. The presence of a purulent discharge at the outset indicated a mixed infection, with pus germs as well as with syphilis. The rapidity of onset and the marked reaction accompanying the secondary manifestations of syphilis were, it seems to me, accountable by the fact that the inoculation had taken place through a comparatively large bleeding surface, directly into the systemic circulation. It would be interesting to follow this case through the secondary and tertiary periods, so as to see how marked the syphilitic manifestations will be in future, *i. e.* to determine whether we have to deal with a virulent type of the disease, which is nowadays comparatively rarely seen, or whether the malady tends to run a mild, rather uneventful course under proper treatment, as is often the case with syphilis acquired in the usual way.

The prevention of this form of syphilis insontium is not a problem easy of solution. The disinfection and sterilization of razors and other implements used in the barber-shop are not easy of accomplishment, but the enforcement of even the simplest sanitary measures, and the inspection of barber shops from time to time to secure this enforcement, would go far toward making such unfortunate occurrences as this one very rare, indeed.

119 West Eleventh Street.

Is Sleeping Sickness of the Negroes an Intoxication an Infection?—Hans Ziemann, from his investigations, has come to the conclusion that sleeping sickness is a disease caused by chronic intoxication with a toxic material ingested with the food. The food in question must be a very common one, present everywhere that the negro is, or, at all events, everywhere that the disease exists. Manioc or cassada is, in the author's opinion, the food which fulfils the conditions. It is a fact that it is freely partaken of raw in those countries where sleeping sickness prevails. Properly cooked, it is not poisonous. The disease that at the present time depopulates entire districts of the Congo and Portuguese States may soon disappear by means of the general instruction of the population as to suitable preparation of the root, if the cause of the disease consists in the eating of raw or unsuitably prepared manioc. The question should likewise be investigated as to whether the poison—be it manioc or not—be influenced in intensity by the climatic conditions of the year in question, the telluric influence of the district in question, so that in some years and in some localities the negroes fall ill and in some they do not. The author, in support of his belief that this disease is an intoxication in the same sense as pellagra, and not due to a specific organism, states it as a fact that in the blood of persons suffering from sleeping sickness there is no exciter of disease that can be cultured by the usual methods so as to be made to develop further.—*Centralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten.*

The Significance of Abdominal Pain in Typhoid Fever.—Herman B. Allyn cites a number of cases, and insists that pain and tenderness are not necessary accompaniments of typhoid fever; on the contrary, they may be signs denoting the approach or the actual onset of a cholecystitis or perforation of the bowel. Pain is, therefore, a danger signal. It should lead to a more careful study of the case, to more frequent visits, the observations being recorded in writing; and when there is reason to suspect cholecystitis, perforation, or peritonitis, a surgeon should have the opportunity to see the patient early and often. Only in this way can the unfortunate patient with a perforating typhoid ulcer be numbered among the 25 per cent. saved by surgical interference.—*Medicine.*

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THE ALLEGED PARASITE OF YELLOW FEVER.

IT was reported last summer that the commission sent by the United States Public Health and Marine-Hospital Service to Vera Cruz to study yellow fever, had found a microorganism in the blood of persons suffering from that disease which was believed to be the long-sought-for causal agent. This news lacked confirmation (we believe the report of the commission has not been published), but the possibility of its truth naturally excited great interest among those who have been making a critical study of yellow fever. In view of this, Dr. Doty, Health Officer of the Port of New York, commissioned Dr. Aristides Agramonte of Havana, formerly of the board of army surgeons under the late Major Walter Reed, whose work demonstrated the agency of the mosquito in the spread of yellow fever, to go to Vera Cruz to investigate the rumor.

In the interesting report of his labors, published in the *Revista de Medicina Tropical* for October, 1902, Dr. Agramonte says that the work of the Marine-Hospital Commission had terminated when he reached Vera Cruz, and he consequently had to look to other but trustworthy sources for data to work upon. The bodies discovered by Dr. Parker of the commission, he says, are seen in blood collected for a study of the malarial parasite and magnified 680 diameters. The supposed parasite is a transparent hyaline body, about half the size of a red corpuscle, to be discovered only on very careful observation. The number of these bodies is variable, but it never equals that of the leucocytes. Some of the bodies are smaller, being only two microns in diameter; none of them is motile, but there is a very evident movement in the protoplasm. Upon examining these bodies attentively one sees that they contain a number of minute granules in rapid motion, three or four coming into sight within the cell and then disappearing together or singly, but never passing beyond the periphery of the hyaline body

The existence of these bodies in the blood of yellow-fever patients was easy to establish, but what relation they bore to the disease was not so readily determined. Dr. Agramonte made a number of experiments in Vera Cruz which gave great probability to the assumption that they bore some causal relation to yellow fever, and at the time of making his report to Dr. Doty he seemed to lean to this belief. In a later communication, however (*Revista Médica Cubana*, October 15, 1902), he says that upon his return to Havana, after having triumphantly demonstrated the "hyaline body" of the Marine-Hospital Commission in the blood of a suspect in Las Animas Hospital, he also found the same corpuscles in the blood of healthy individuals, or at least of those who had not a symptom pointing to yellow fever. He concludes therefore that these bodies cannot be regarded as parasites of yellow fever, although he rejects the suggestion that they are simple blood platelets. They are new bodies, he thinks, which have never before been described, but as to what their significance is he hazards no opinion.

The presence in the blood of minute bodies possessing active Brownian movements is quite commonly observed, and they have repeatedly been mistaken for the parasites of some disease under investigation at the time. Guitéras, who examined the bodies in blood specimens brought by Agramonte from Vera Cruz, thought they were an unusually resistant form of blood-plaques, but whatever they were, they were evidently not yellow-fever germs.

REFLEX ACTION VERSUS AUTOINTOXICATION.

IN the history of thought time was when the "soul" was the *deus ex machina*, the self-motive force of the animal organism which latter existed only to carry out its behests. Following this apotheosis of "consciousness," the nervous system was erected into almost a fetich, and for a century it has been regarded as a tissue apart, a presiding genius, as it were, whose function it is to control, in one way or another, nearly all the functions and activities of the organism. The directive power has been attributed to the ganglion cells as distinguished from the fibers, but of recent years we have found good reason for obliterating this distinction, and for regarding the ganglion cell and the fiber as together constituting a unit, the neurone. And similarly our idea of reflex action has become modified. into the simpler and more scientific conception of a constant streaming of energy from the periphery into, through, and out of the "nervous system,' or, and better, along neurone after neurone, as along' link after link, of the "sensory-motor chain." Those who have observed the trend of physiologic progress during the past decade, and, in particular, those who have read Loeb's "Comparative Physiology of the Brain," and have followed Loeb's later work, will, however, be aware that our comfortable assurance as to our knowledge of the range of function of the nervous system, is in some danger of being disturbed. For not only has Bethe shown that in a crab (*Carcinas mænas*) reflex action persists after destruction of the ganglion cells of the reflex path, but Loeb has shown that in a worm (*Ciona intestinalis*) reflex action persists after the destruction of the entire nervous system, and that here the only function of that system is to secure a more prompt response and a response to a smaller stimulus. A large and increasing amount of data is, moreover, now available tending to show that many functions which would formerly have been unhesitatingly pronounced reflex, are, in reality, if not demonstrably, independent of nervous control, at least capable of explanation by other sufficient causes without reference to it. In other words, the "autointoxication" theory if we broaden the conception to include the action of chemical products normally, as well as those pathologically produced within the organism, is proving itself capable of embracing an ever-widening series of facts. Thus, not only is thyroid secretion absolutely essential to the organism, but the same is true of the secretions, certainly of some, and probably of all, of the other "ductless" glands. Thus the phenomena of Addison's disease and those following extirpation of the suprarenal glands, show that these bodies are indispensable to the maintenance of normal blood pressure and heart tonus. Some, be it noted, formerly referred the symptoms consequent upon extirpation to supposed concomitant lesions of neighboring nerve plexuses, but the action of suprarenal extract complements too closely the symptoms following extirpation for one to believe that its action is other than a chemical one. If it be said that, after all, the lowered plood pressure and the cardiac weakness point to the nervous system, it is none the less the absence of the accustomed specific, nerve-stimulant effect of the extract which causes the failure of the normal innervation. In other words, the action of the suprarenal glands is chemical, through the circulation, and not reflex by stimulation of the nerves ending in them. The latest contribution to this interesting section of physiology is, moreover, fairly unequivocal. Confirming and extending the experiments of Pawlow, of Popielski, and of Wertheimer and Lepage, Bayliss and Starling (*Journal of Physiology*, September 12, 1902), show that the cause of pancreatic secretion is chemical and not nervous; normally the secretion is consequent upon the inflow of the acid products of gastric digestion into the small intestine, and this effect of acid stimulation of the intestine persists after destruction of the spinal cord below the foramen magnum, and of the solar plexus, and after section of the splanchnic and pneumogastric nerves; and it equally follows the injection of acids into a shut-off loop of the jejunum, all the nerves of which have been cut. By special methods they isolated in a state of proximate purity, from the cells of the mucous membrane of the duodenum and jejunum, a substance, "prosecretin," which, by the action of acids, is transformed into the active body, "secretin," which last, on being injected into the circulation, produces secretion in the pancreas. "Secretin" stimulates no other gland, and extracts made by the same process from parts other than the duodenum and jejunum, have no effect upon the pancreas. The interesting question thus arises: Where are discoveries such as these and those made by Loeb likely to stop; in other words, how much will ultimately remain to the nervous system? Any answer to this question would, of course, be premature, but one consideration may be pointed out. Even if this line of research should ultimately go so far as to show that the *chief* function of the nervous system is not the continual adjustment of the relations of the various organs to one another, nevertheless all the neurone groups of the cerebrospinal nervous system would still find their *raison d'être*, and all of them would seem to be necessary, upon the alternative supposition that the function *par excellence* of the nervous system is the stimulation and coordination of those organs whose function it is to effect the continual readjustment of the relations of the organism as a whole to the ever-changing phases of its environment. It is, of course, improbable that the range of function of the nervous system will come to be limited as narrowly as this. Still every extension of the "autointoxication" theory increases the resemblance of the human body to an animal colony, such as a sponge, in which well-marked differentiation of structure and physiological division of labor has taken place, and yet the various parts are able to functionate coordinately, though no nervous system is present. And, certainly, Loeb has shown that physiological law differs less throughout the different orders of the animal kingdom than has been heretofore supposed.

TUBERCULOSIS IN LUNATIC ASYLUMS.

In the MEDICAL RECORD of November 22 editorial comment was made on the report of the Tuberculosis Committee of the Medico-Psychological Association of Great Britain and Ireland, in which it was stated that the charges brought against asylums that tuberculosis was very prevalent in them had been sustantiated. In the same article it was remarked that it would be interesting to find out whether a similar condition of affairs prevailed in the insane hospitals of this country.

The seventh biennial report of the trustees of the Vermont State Hospital for the Insane has been recently issued, and it is gathered from a perusal of this publication that tuberculosis is extremely rife among the patients of that institution. Dr. Walter D. Berry, the medical director and pathologist of the Vermont establishment, in his report refers to the matter in the following words: "In computing the amount of tuberculosis from our autopsies, the percentage has been reckoned as fairly as possible. The common adhesions of the apices of the lungs and pleurisy with or without effusion have not been considered as of tuberculous origin. Those cases which have shown substantial evidence of the existence of the disease have alone been counted. With these ideas in view, the percentage computation figures 31.2 per cent. of tuberculosis found in ninety-three autopsies in this institution." Thus it will be observed that tuberculosis is prevalent in a marked degree in the Vermont State Hospital for the Insane, and it is only reasonable to suppose that a similar state of things exists to a greater or less extent in the institutions of a like nature throughout the United States.

With regard to means of prevention there would seem to be a unanimous sentiment among medical men connected with insane asylums that patients suffering from consumption should be isolated. The fact is now universally recognized that the most effective means of successfully treating tuberculosis is by the open-air treatment, and, both for the sake of those suffering from the disease, and to safeguard those brought into contact with them, isolation and the open-air treatment should be brought into force in all the institutions for the insane in America. Persons suffering from mental affections are notoriously lax and dirty in their personal habits, and, despite the utmost care on the part of nurses, it is impossible to prevent them from performing actions calculated to spread infection among their fellow ward mates.

A practical demonstration of the remarkable results that may be achieved by the rational treatment of consumptive insane patients or convicts has recently been afforded in the case of the New York State prisoners. Superintendent of Prisons Collins has had all consumptive prisoners sent to the State prison at Dannemora in the Adirondacks, the result being that there has been an estimated decrease in the death rate from tuberculosis of 71 per cent in the past five years compared with the five preceding years. As, however, it was pointed out above, insane patients require far more care than those in their right mind, and thus it is incumbent upon the State authorities to deal with these individuals in such a manner that, while they are receiving the best curative and remedial treatment, they should not be allowed to spread the disease.

Dr. Berry and others have been instrumental in inducing the legislature of Vermont to grant an appropriation for a tuberculous pavilion in connection with the Vermont State Hospital for the Insane. It would be to the benefit of the community at large if other States were to follow so excellent an example.

Cancer Research in Great Britain.

Cancer research seems to be progressing apace in England under the auspices of the Royal College of Physicians and Surgeons. Dr. Bashford, who has been appointed Superintendent of the work now being conducted under the direction of these bodies, is making vigorous efforts to get things into good working order. At a meeting of the Executive Committee of the British Cancer Research Fund, recently held, it was announced that Dr. Bashford would proceed at once to Germany to inquire into the methods of investigation at present in force in that country, and to arrange to as great an extent as possible to co-operate with the German commission, especially so far as statistical investigation is concerned.

A feeling has sprung up of late that much of the information obtained with regard to the increase of cancer is by no means reliable, and this doubt has been intensified by the pronouncements of several authorities on the subject, notably by Professor de Bovis of Rheims. Dr. Bashford will therefore endeavor to procure trustworthy data concerning cancer houses, and the effect of diet, soil, and race as agents in the dissemination of the disease. The decision was also come to by the aforesaid committee that the statistical committee recently appointed should forthwith enter into correspondence with scientific workers in the United States. It was stated that Professor Gilman, principal of the Carnegie Fund in Washington, has already expressed his willingness to take joint action with the British committee, in regard to both statistical and laboratory investigation.

When the scientific workers of different nations evince a desire to co-operate in the attempt to solve a problem, the chances are multiplied that a successful issue will be the result. There could not possibly be a better field for such endeavors than that of cancer research. The disease is the most loathsome, deadly, and on the whole the most obscure of all those which afflict civilized man. The discovery of its origin and of curative or remedial measures of treatment would be an unspeakable boon to the entire human race.

Virchow and Evolution.

A short time ago Dr. Frank S. Billings wrote a memoir of the great departed German pathologist. On the whole it was appreciative and critically intelligent. With regard to Virchow's attitude toward the evolution theory—which was one of contemptuous scepticism—the American physician gave as his opinion that it was dictated by envy. The Berlin professor could not brook a peer, or even an equal in the arena of science.

According, however to the *British Medical Journal*, November 15, Mr. Roger Williams of Bristol, England, has sent to that paper a protest, couched in warm and even strong terms, against Dr Billings' interpretation of the meaning of Virchow's bias against the evolution theory.

Mr. Williams opines it to have been due to a defect in the constitution of his brain He writes as follows "As is well known Virchow had a deeply-rooted constitutional aversion to all kinds of theories and hypotheses. He credited nothing that could not be definitely proved This lack of scientific imagination was no doubt due to defect in the original constitution of his brain. Had he been better gifted in this respect, he would certainly have been not merely the greatest pathologist of the nineteenth century, but the greatest of all time. On account of this defect Virchow must be assigned a place in the scientific hierarchy distinctly below that occupied by such men as Cowle, Spencer, and Darwin. Thus may be explained Virchow's well-known opposition to the principle brought to light by modern biological progress as exemplified by the doctrine of evolution. Another consideration that tended to confirm him in this opposition was the fact that in the domain of pathology, where his ideas concentered, evolutional conceptions seemed to have but little application, for most pathological phenomena are the outcome of the failure or undoing of evolution."

Virchow, the writer in the *British Medical Journal* pithily says, would probably, if he could revisit the pale glimpses of the moon, prefer to dispense with the help of a champion like Mr. Williams, who vindicates his character at the expense of his intellect. He might well say: *Non tali auxilio nec defensoribus istis.*

Overproduction of Weaklings.

There is at the present time an English writer of fiction who works with considerable trained scientific knowledge, an infinite ingenuity in construction of plot, and an imagination of the most vivid and of the highest order.

This writer, Mr. H. G. Wells, has recently been turning the light of his intellect upon anthropological and social problems, and has contributed a series of articles which are appearing in the *Cosmopolitan.* In the November number of that magazine he deals with the question of over-population, and the deterioration of the human race under the present conditions of life in civilized countries. With regard to infant mortality, Mr. Wells is especially eloquent, and his strictures on things as they are are pungently scathing. He says, in part, "A portion of infant and child mortality represents, no doubt, the lingering and wasteful removal from this world of beings with inherent defects, beings who, for the most part, ought never to have been born, and need not have been born under conditions of greater foresight. These, however, are the merest small fraction of our infant mortality. It leaves entirely untouched the fact that a vast multitude of children of untainted blood and good mental and moral possibilities—as many, perhaps, as one hundred in each one thousand born—die yearly through lack of sufficient food, lack of sufficient good air, and lack of sufficient attention. The plain and simple truth is that they are born needlessly. There are still far too many births for our civilization to look after adequately; we are still unfit to be trusted with a rising birth-rate "

Mr. Wells's remedy for this state of affairs while no doubt Utopian at the present juncture, is, nevertheless, based upon some solid foundation of common sense The first of the expedients "he thinks" which would lead to a permanent improvement in these matters, is the establishment of a minimum of soundness and sanitary convenience in houses, below which standard it shall be illegal to inhabit a house at all. There should be a certain relation between the size of rooms and their ventilating appliances, a certain minimum of lighting, certain conditions of open space about the house, and sane rules about foundations and materials. These regulations would vary with the local density of population. Legislation against overcrowding is another measure recommended by the writer.

Of course, space is wanting to refer more than cursorily to some of the features of the article, and the matter was only mentioned to show that the interest now taken in questions of this kind is widespread. Mr. Wells's views have received much attention at the hands of English medical men, and it is recognized that he has treated the subject in a brilliant and, in many respects, in an illuminating manner.

Alcoholism.

The London *Practitioner*, November, is devoted to a discussion by various well-known English authorities, upon the ever-burning alcohol question. The writers of the numerous articles treat the subject from many points of view, the result being that a valuable and instructive set of articles is got together.

With regard to alcohol as a beverage, of course all the contributors are unanimous in declaring that excess is distinctly harmful, and that there can be no gainsaying the fact that strong drink,taken in large quantities or frequently, is injurious in a high degree, but some of the writers strongly contend that alcohol, taken even in moderate quantities, is both unnecessary and very prejudicial to health.

Sir Samuel Wilks, however, thinks that it is a most valuable remedy, and if so, necessarily must do harm when injudiciously given. As regards the value of wine or alcohol as diet, he says, "This is an interesting question from a physiological point of view, but of no practical importance, being outside medical practice, as the masses of people in all countries never consult the doctor on the subject."

From a sociological standpoint, nothing but condemnation can be passed upon the alcohol habit, for distinguished men, from every class of life, are as one in insisting that it is responsible for most of the crime, vice, poverty, and misery which exists so widely in all civilized countries.

The weight of authoritative opinion nowadays veers toward the view, that alcohol has little or no value as a diet, although be it said, there are still some who vigorously combat this statement.

Dr. Sims Woodhead, who represents the purely scientific phrase of the matter among the contributors to the *Practitioner's* symposium, is a stout opponent of the vaunted use of alcohol as a medicine, and will allow but few merits to it as a therapeutic agent.

Mr. Pearce Gould takes a similar stand, and thinks that there is no greater fallacy than that alcohol is of any use in infectious diseases. He further gives as his opinion that to those suffering from cancer alcohol is absolutely pernicious. In cases of shock, he says that it is useful in tiding over an emergency.

The change of opinion with respect to alcohol in medicine among the medical profession has been nothing less than remarkable. It is not many years ago since alcohol was regarded by the majority of medical men as, in certain conditions, one of the most effective remedies known. Now, to many it is anathema marantha.

The present situation, with regard to the manner in which alcohol is looked upon by the greater number of prominent members of the medical profession in different parts of the world, may be fairly stated as follows. As a medicine, its value is more or less open to question. With regard to its dietetic qualities, these are so greatly counterbalanced by its undoubted injurious properties, that the great mass of the human race would be the better mentally and physically if stimulating drinks were partaken of sparingly or entirely avoided.

Infant Mortality in Liverpool.

The Liverpool correspondent of the *Lancet*, writing in that journal in its issue of November 15, refers to the infantile mortality and the reduced birth rate in the city. Dr. E. W. Hope, the medical officer of health of Liverpool, in his annual report for 1901, drew attention to the reduced birth rate of the city, which had fallen from 38.6 per 1.000 in 1877 to 32.2 per 1,000 in 1901. In the part of Liverpool known as the Scotland division, 222 children out of every 1,000 born died before twelve months of age. In the Sefton-Park district, 120 died.

In the course of an inquiry into the causes of infantile mortality, 1,082 families, in which the death of an infant occurrred, were taken consecutively, and certain particulars concerning them were ascertained. The total number of children born in these families had been 4,574, but out of that number 2,229 had died, practically all in infancy, representing 487 deaths out of every 1,000 born, a waste of life nearly five times as great as the standard generally regarded as unavoidable. But the most remarkable series of excessive fatality occurred in twelve families, in which the large total of 117 infants had been born, and no less than ninety-eight had perished in infancy. These extreme examples occurred in families in which, as far as municipal sanitation was concerned, there was very little to choose between them and many of the families who reared all, or nearly all, their children; nor could it be shown or inferred that there was any inherent weakness in the offspring, since those who had survived were of fair physique, and not, as a class, suffering under any inherited condition likely to terminate their lives. It was in the personal and domestic circumstances that the contrasts were more marked. Want of proper feeding was responsible for a large proportion of the deaths of the infants. A careful investigation had been made into the circumstances of upward of 1,000 consecutive deaths in districts where infantile mortality was excessive. In 21 per cent. the families were described as exceptionally dirty, in 18 per cent. the mothers went out to work, leaving the infants in the custody of others, frequently in the custody of another child, who could give the infant no proper attention; about 11 per cent. of the total were living in dwellings unfit for human habitation. In upward of 25 per cent.—and these were the cases in which the mortality appeared to be highest—the parents were markedly intemperate.

Liverpool is a typical British business town, in which the sanitary arrangements are effective, the water supply good, and fairly plentiful—where, in short, the municipality takes good care of its citizens' health, so far as it is able. The point of the matter is, that most of this solicitude avails but little, if the personal and domestic habits of the people are insanitary. When parents neglect their children, feed them injudiciously, and allow them to exist amongst filth and vice, the result must be that there will be a large infantile mortality. The only remedy would seem to be education.

News of the Week

Moral Influence of the Army Canteen.—Paymaster-General Bates has submitted a report to the Secretary of War, saying that the claim of the War Department that during the operation of the canteen in the army discipline was superior, desertions less, and trials by court-martial on account of breaches of military discipline resulting from the use of intoxicants fewer is fully borne out by the records of the office of the Paymaster-General. These records show that during the year ending June 30, 1902, when there was no army canteen, the amount collected in fines and forfeitures from 70,000 regular enlisted men exceeded by over $150,000 that collected from 75,000 during the last year the canteen was in existence. Commenting on this General Bates says that "this increase cannot be attributed to any other cause than the effects of an uncontrolled liquor traffic, in connection with military posts, which traffic appears to seriously affect the discipline and morale of the army."

New Superintendent at Bellevue.—Dr. William Mabon, at present medical superintendent of the St. Lawrence Hospital for the Insane at Ogdensburg, has accepted the superintendency of Bellevue Hospital. He will take charge of Bellevue and the allied hospitals on January 1, and will also act as consulting physician to the pavilion for the insane at Bellevue. Dr. Mabon was graduated from the Bellevue Hospital Medical College in 1881.

Coroner's Physicians.—The Board of Coroners last week appointed Dr. Otto H. Schultze Coroner's physician to succeed Dr. Hamilton Williams, who resigned some time ago. He will be Coroner Brown's physician. His name headed the eligible list. The board also confirmed the appointments of Drs. O'Hanlon and Higgins, who had been retained by Coroners Jackson and Goldenkranz when they came into office. Coroner's physician Weston will be retained by Coroner Scholer. The action of the Board in taking Dr. Schultze from the eligible list practically means that the coroners have abandoned the struggle to make the position exempt.

A Scholarship for Study of the Thymus.—Mr. Mason of Oxfordshire has established, under the direction of the Royal College of Physicians of Edinburgh, a scholarship to the annual value of £200, tenable for two or three years for original research into the diseases of the thymus and other ductless glands. The first holder of the scholarship is Dr. Swale Vincent, who will work under the direction of Professor Shäfer of the University of Edinburgh.

An Orthopedic Hospital for Chicago.—It is reported that Dr. Friedrich Müller, the assistant of Dr. Lorenz, who accompanied him to this country to reduce the congenitally luxated hips of a daughter of J. O. Armour, will return to Chicago soon and engage in the practice of orthopedic surgery. Mr. Armour will, it is said, establish and endow a memorial orthopedic hospital to be under Dr. Müller's direction, if the operation performed upon his daughter is successful in its results.

Bad Reports from Havana.—A report on the sanitary condition of Havana has been made to the State Department by the Secretary of the American Legation in that city, in which it is said that a relaxation of the sanitary system introduced by the American military authorities is gradually but surely taking place. Santiago and several others of the Cuban cities are said to have already fallen back into their pristine state of filth, and if Havana now follows suit, it is only a question of time when the old pestiferous conditions will return.

The Suppression of Osculation.—Dr. R. B. Ware of Lowesville, Va., has introduced into the Virginia Legislature, *quorum pars magna est*, a bill to limit the practice of kissing to those of sound lungs and healthy frames. The bill would make it a misdemeanor, punishable by a fine of from one to five dollars for any person to kiss another, unless it can be proved, by the testimony of the family physician, that the osculators are free from all infectious disease, as well as from pulmonary trouble. The wording of the bill would seem to restrict the prohibition to the male sex, but it was doubtless the intention of the framer to include kissee as well as kisser.

College of Physicians of Philadelphia—At a stated meeting, held December 3, Dr. John H. Gibbon read a paper entitled "Gangrenous Cholecystitis, with Report of a Case in Which Cholecystectomy Was Successfully Performed." He exhibited the enlarged gall-bladder, with greatly thickened walls, and also a calculus of considerable size that was contained in the viscus. Drs. David L. Edsall, J. B. Wile, and C. B. Fife presented a communication entitled "A Study of Urobilinuria and of Some of the Toxic Excretory Products in Pregnancy and the Puerperium." They found, contrary to the previous statement of an Italian investigator, that urobilinuria was not a physiologic manifestation of pregnancy and the puerperal state, being found present in some and absent in others of a considerable number of such cases investigated. The condition was, however, found associated with intestinal decomposition, and was attributed to changes in the bile in the intestine, brought about as a result of bacterial activity. Drs. David Riesman and A. C. Wood read a paper entitled "A Case of Gangrene of the Lung Cured by Operation," and Dr. G. E. Pfahler exhibited skiagraphs showing the conditions prior and subsequent to the operation. The gangrene was supposed to have developed in the sequence of lobar pneumonia.

Philadelphia Hospital.—The Association of Ex-resident and Resident Physicians of the Philadelphia Hospital held its sixteenth annual banquet at the Hotel Bellevue, Philadelphia, on December 2, with some eighty participants. The following toasts were responded to: "The Future of Blockley," by Dr. John V. Shoemaker, President of the Department of Charities and Correction; "The Past and Present of Blockley," by Mr. Wm. T. McLaughlin, a member of the Department of Charities and Correction; 'Blockley Rats," by Dr. John H. Jamar of Elkton, Md.; "The Resident Staff," by Dr. Morris Tyndall; "Olla Podrida," by Dr. James B. Walker. Remarks were made also by Drs. John K. Lineweaver of Columbia, Pa., Theodore Diller of Pittsburg, Pa., Jas. P. Tuttle of New York, Roland G. Curtin and G. E. Pfahler. The following officers were elected for the ensuing year: *President*, Dr. E. L. Duer; *First Vice-President*, Dr. H. C. Wood, *Second Vice-President*, Dr. John K. Lineweaver; *Secretary*, Dr. E. R. Stone.

A Sudden Thought and Its Serious Consequences.—A man named Parmenter, who was a healer of the Eddyites, dropped dead in the street in this city a few days ago. His claim was certainly a strong one to induce him to pass on so rapidly.

A Popular Handbook on Consumption.—It is announced that Drs. Hillier of England and Koch of Germany will collaborate in the compilation of a popular treatise on tuberculosis and its prevention.

In view of his peculiar views on the relation of bovine to human tuberculosis, Dr. Koch can hardly be regarded as a safe leader in the crusade against consumption. Dr. Knopf's work on "Tuberculosis as a Disease of the Masses, and How to Combat It," which received the prize of the International Congress on Tuberculosis, is assuredly a far more trustworthy guide than one embodying Koch's theories.

The Paris Academy of Medicine.—On November 25 the new building of the Academy of Medicine of Paris was opened with appropriate ceremonies. The building is in the Rue Bonaparte, adjacent to the Ecole des Beaux-Arts.

The Fourth Pan-American Medical Congress.—The Government of the Argentine Republic has requested the executive committee of the Fourth Pan-American Medical Congress to postpone the meeting from June, 1903, the date originally agreed upon, to October, 1905. The reasons given for the desired postponement are the inability of the local committee in Buenos Ayres to make their preparations for a worthy celebration of the congress on the earlier date, and also the fact that the Fourteenth International Congress at Madrid, coming at the end of April, would dwarf the Pan-American, if the latter were held in June of the same year.

Pan-American Sanitary Conference.—The first international sanitary conference of the American republics convened in Washington on December 2, and continued three days. The governments of Mexico, Cuba, Chili, Costa Rica, Salvador, Honduras and the United States were represented by the delegates. The conference was the outgrowth of an international meeting held a year ago in the City of Mexico. Many subjects relating to quarantine and public health were discussed, and several resolutions were adopted. One of these, offered by Arthur R. Reynolds of Chicago, urged the different governments to study in their respective territories the geographical distribution of the mosquito, in order that it may have practical application in subsequent conventions. A resolution, offered by Dr. Guitéras of Havana, was that measures of prophylaxis against yellow fever should be based upon the fact that up to the present time the bite of certain mosquitos was the only proven natural means of the propagation of yellow fever; and that the governments represented in the conference should approve the measures employed in Havana for the prevention of the spread of the disease on land, for the isolation of cases, and the fumigation of buildings. The resolution further provided that the prevention of the importation of the disease by vessels wherein persons actually infected are found, must conform to the methods employed on land, but it was admitted that there were questions concerning the importation of infected mosquitos that required further study before any decided modification of the quarantine laws can be recommended. The resolution provided that the subject of bringing the quarantine laws to conform with the new doctrine of mosquito infection shall be referred to the International Sanitary Bureau of the American Republics for a report at the next meeting. A resolution pertaining to the work of the International Sanitary Bureau, whose permanent headquarters are to be at Washington, was adopted by the conference. It makes it the duty of the bureau to urge all the parties represented in the conference to transmit promptly and regularly to the bureau all data of every character relative to the sanitary condition of their respective ports and territories; to furnish the bureau every opportunity and aid for thorough, careful, and scientific study and investigation of outbreaks of pestilential diseases occurring in the territories of the republics; requires the bureau to lend its aid and experience toward the widest possible protection of the public health of each of the republics, in order that diseases may be eliminated and commerce facilitated; and also to encourage and aid or enforce in all proper ways the sanitation of seaports, including the sanitary improvements of harbors, sewerage, drainage of the soil, paving, elimination of infection from buildings, and the destruction of mosquitos and other vermin. Dr. Charles Wardell Stiles of the Department of Agriculture read a paper on ankylostomiasis, in which he held that the degeneracy of the "poor whites" in the South was the direct result of this condition. It was decided that the next conference meet in Santiago de Chile, March 15, 1904.

A Filtration Plant Suggested for New York.—The question of filtering the water supply derived from the Croton water shed, which was much agitated a few years ago, has been revived by a committee on typhoid-fever prophylaxis of the German Medical Society of this city. The committee has sent a letter to the Mayor, the Board of Health, and the Aqueduct Commissioners suggesting precautions against typhoid fever. It is asserted in this letter that many cases of the disease in this city result from impure Croton water, and the committee urges that the city construct a filtering plant, and predicts that good filtration would reduce the number of typhoid fever cases in New York by one-half and save hundreds of lives. Attention is called to the fact that the populous Croton water-shed is liable to all sorts of unavoidable contaminations, and that the only remedy for such a condition is filtration of the water before it reaches the consumer. The morbidity rate for typhoid fever has been greatly reduced in all cities where filtration plants have been installed.

Obituary Notes.—Dr. Timothy Field Allen, long one of the leading homœopathic practitioners in New York, died on December 5, following an apoplectic stroke received about a year ago. Dr. Allen was born at Westminster, Vt., in 1837, and was graduated from Amherst College in 1858. From that college he also received the degree of A.M. in 1859 and the degree of LL.D. in 1885. He was graduated from the New York University Medical School in 1861. In 1862 he was acting assistant surgeon in the army. Besides his medical work, Dr. Allen made a study of botany and published several books on that subject. He was a charter member of the New York Botanical Garden.

Dr. Levi J. Hixson of La Salle, N. Y., died on December 5, as the result of an overdose of cocaine. He was a graduate of Trinity Medical College, Toronto, in the class of 1888.

Dr. Daniel Pearsons Pease of this city died of typhoid fever in Paris on December 7, at the age of forty-six years. His illness attacked him while he was at Antwerp on a pleasure trip with friends. He went to Geneva, thinking to recuperate there, but returned to Paris as soon as he discovered the nature of his illness. He was born at Chicopee, Mass., and was graduated from the Bellevue Hospital Medical College in 1882. For a time he was connected with the Charity Hospital, and then besame resident physician on North Brother Island. He had an extensive practice in New York, being the physician of three large and fashionable hotels, besides having a large clientele among the permanent residents of the city.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CROONIAN LECTURES—KING'S COLLEGE—SUPRAPUBIC CYSTOTOMY IN TUMORS OF THE BLADDER—REDUPLICATION OF THE FIRST SOUND OF THE HEART—CLINICAL FEATURES OF AN EPIDEMIC OF DOUBTFUL ORIGIN.

London, November 21, 1902.

There is a note of sadness about the delivery of the Croonian lectures this year. They were intrusted to the late Dr. Washbourn, whose death I reported to you. He had written them out in the rough before his decease, selecting the natural history and pathology of pneumonia as his subject. The revision of his MS. was undertaken by Dr. J. W. H. Eyre. Another colleague, Dr. T. G. Stevens, had contributed illustrations. Dr. W. Hale White yesterday completed the task he had undertaken in this kindly commemoration of Washbourn, viz., reading the lectures before the Royal College of Physicians.

King's College bids fair to get the half million she asked for. A meeting was held to support her claims on Wednesday, when the Bishop of London read a message of sympathy from the King. He also announced that he hoped, in conjunction with the Bishop of Rochester, to endow the Faculty of Theology, out of some church funds with at least £1,500 a year. Sir R. Jebb, Sir Wolfe Barry, Sir Douglas Fox, Sir A. W. Rücker, Sir John Cockburn, Colonel Legge, M.P., Mr. A. Gibbs, M.P., and Mr. W. F. D. Smith, M.P., representing other departments put in special pleas for them, and the Earl of Selborne, who presided, testified to the value of the work done by the college to advance learning and science in general, and mentioned the many opportunities he had had when under-secretary for the colonies of observing the excellent work of her alumni in various parts of the empire.

A paper on "Suprapubic Cystotomy in Vesical Tumors" was read by Mr. Lockwood at the Royal Medical and Chirurgical Societies. A study of his own cases, and of those operated on at St. Bartholomew's Hospital from 1891 to 1900, led him to conclude that an ideal operation should fulfil the following conditions: (1) Early endoscopic diagnosis; (2) asepsis before, during and after operation; (3) excision of the tumor, together with its base, and a safety margin of healthy tissue; (4) closure of the wound left by the excision; and (5) closure of the suprapubic wound.

Mr. Lockwood referred to the different results produced by calculating according to the numbers of patients or the number of operations. In fifty-three operations at St. Bartholomew's upon thirty-seven patients, only thirty-two had one operation; two had two operations; two had four, and one had nine. Of the thirty-two single operations, in sixteen the growth was removed and in sixteen it was irremovable; of the former cases three died; of the the latter, seven; the chief causes being shock, hemorrhage, and sepsis. When the urine is septic and the tumor irremovable, the operation would seem to be useless and fatal.

Mr. Reginald Harrison dwelt on the risk of sepsis, which he thought mostly due to imperfect drainage. He thought catheter drainage of little use, and an independent perineal wound safer.

Mr. Hurry Fenwick had operated on 153 cases out of 500 he had seen, with only eleven deaths, and he urged that a careful selection of cases would reduce the mortality. The selection must be by the endoscope. A tumor that could be felt *per rectum* should not be interfered with; it was almost certainly malignant.

Mr. Lockwood, in reply, objected to perineal drainage as a probable source of sepsis. When cases could be operated on early enough, much of the risk of sepsis was avoided. He agreed with the importance of the endoscope—especially if the urine contained blood.

Another paper at this meeting was by Dr. Phear on reduplicated first sound, which might, he thought, be associated with cardiac disease, chiefly mitral regurgitation; arterial disease, due to strain, lead poisoning, or renal trouble; pulmonary lesions, mostly emphysema, with or without bronchitis; anæmia, chiefly of chlorotic type; dyspepsia. Out of 109 cases there were only nine of arterial disease, with albuminuria, showing that it was of less significance than supposed as an indication of granular kidney.

Dr. Seymour Taylor said a double first sound alone did not indicate disease, though when attended by a double second sound, it might.

Dr. Alex. Morison also held that a double first sound might be present in a state of perfect health, and could not be indicative of serious disease. He had often seen it follow a change of posture.

The causation of the reduplication was differently explained by the speakers, but it seemed to be generally thought due to a synchronism of the two sides of the heart

A rather unusual epidemic broke out suddenly in Lincoln in the early part of last May, and the clinical features observed were described by Dr. W. H B Brook, at the Clinical Society of London, on Friday last. The most striking features were sore throat with œdema, the tonsils in many cases being covered with a drab-colored fur; in two-thirds of the cases a dark, measly eruption appeared on the second day, and lasted sometimes a few hours, and in other cases about a week, showing a tendency in some instances to return as late as the sixth week; in some cases it resembled urticaria. Desquamation occurred in about a third of the cases. The fever was generally under 102° F., unless there were complications, the pulse was not increased in proportion. Seventy-five cases were observed, nearly all in adults. The most common complication was swelling of the cervical glands about the fourth day, with high temperature, and in some cases this came on after full recovery, and was attributed to a too early return to meat diet, which also produced a tendency to gastritis. Stiffness of muscles and joints occurred in some cases, in one so severe as to resemble rheumatic fever, the stiffness persisting for several months. Septic phlebitis occurred in one case, aged sixty-six years, and was fatal on the twentieth day. With one doubtful exception, all the patients had milk from the same dairy, which was suggestive of the point of infection. Dr. Klein invested the epidemic and isolated a microbe. The best treatment seemed a rest in bed on a milk diet. Calomel was usually given at first, followed by a saline and salicylate of sodium, later on quinine. Nitrate of silver to the throat, and a gargle of carbolic acid and borax, gave relief.

Dr. Goodall said such epidemics in other places had been traced to milk, and added that in scarlet fever there were often curious eruptions.

Dr. Goffe asked if Koplik's spots had been looked for, and the usual sequelæ of scarlet fever.

Dr. Savill said the symptoms were similar to those observed in the 1891 epidemic in the Metropolitan infirmaries. He believed that the poison was conveyed by milk. He said that a tendency to skin diseases was noticed in the London infirmaries every autumn.

Mr. J. R Lunn had observed several similar outbreaks, which he thought were due to milk, and lately he had met with two or three isolated cases which made him apprehensive of another.

In his reply, Dr. Brooks said boiling the milk was a preventive. Koplik's spots were looked for in every case; but never found. Antistreptococcic serum was used with great effect, reducing the temperature at once from 105 to 100° F. There were cases of true scarlet fever during the epidemic, and the difference was marked.

OUR PARIS LETTER.

(From Our Special Correspondent.)

MEDICAL INSTRUCTION IN ITALY—DR. JOSIAS'S STATISTICS IN THE TREATMENT OF DIPHTHERIA—BROCA'S REPORT ON THE TREATMENT OF APPENDICITIS—SAVARIAUD'S ARTICLE ON THE SAME SUBJECT—LAWS VOTED BY ITALIAN PARLIAMENT RELATING TO INTERMITTENT FEVER—REMOVAL OF TWO TUMORS OF THE BREAST BY AN INCISION MADE IN THE AXILLARY REGION—THE NEWSPAPER CAMPAIGN AGAINST SOME PARIS HOSPITALS.

Paris, November 24, 1902.

Medical instruction in Italy is, according to Gottschalk, furnished by seventeen different universities; the great number of these is due to the former division of Italy into a number of small States. These universities are found in Bologna, Cagliari, Catania, Genoa, Macerata, Messina, Modena, Naples, Padua, Palermo, Parma, Pavia, Pisa, Rome, Sassari, Sienna, and Turin. There is also in Florence an institute which is equivalent to a university. There are also four independent universities at Camerino, Ferrara, Perugia, and Urbin. There is, however, no medical school at Macerata. There are about 6,000 medical students, of whom a third are to be found in Naples, which is also much frequented on account of the obstetrical work that is furnished. The medical instruction lasts six years, and there are nineteen different examinations, and two special ones on subjects chosen by the candidate. The cost of tuition is 800 francs in all.

The finances of the last year in France have not been very encouraging, and an increase in the taxes could not be readily carried out. There is some discussion going on as to the advisability of making the sale of alcohol a monopoly under the direction of the State, such as exists in Russia. This would be an easy method for increasing the revenue of the State. In Russia only 100,000,000 roubles were obtained in this manner in 1866, whereas the amount obtained now is 300,000,000. It would, however, hardly be wise to increase the revenue of the State by favoring drunkenness, and recent accounts from Russia seem to indicate that such is the case there.

At a recent meeting of the Académie de Médecine, Dr. Josias of the new Bretonneau Hospital for Children gave his statistics for diphtheria during 1901–1902. During this year 580 children afflicted with diphtheria, recognized by means of bacteriology, were admitted to his service. Out of this number seventy-six died, which is a mortality of 13.10 per cent. From this number, eighteen should be subtracted, as having been brought in a desperate condition to the hospital. The mortality is, therefore, only 10 per cent. Bronchial pneumonia seems to be the chief cause of death, and should be avoided by strict antisepsis. Such statistics show that there has been a steady improvement, which is due to the use of the serum. Before it was employed the mortality was at times as high as 48 or 50 per cent.; in 1894 it fell to 21 per cent., and nowadays it is only 10 per cent. Even better results might be obtained by carrying out the injections sooner, and by injecting children who have been exposed.

The treatment of appendicitis is still discussed as much as ever, and a comparison between Broca's report at the Congress of Surgery, held at Brussels, and Savariaud's article on the treatment of appendicitis shows how different are the opinions held by French surgeons. Still Broca's ideas on the subject seem to be accepted by most surgeons, and even Tuffier made no remark after his report. Broca compared the immediate or urgent operation to the operation simply deferred, and gave the results he had obtained in his hospital service. Formerly, he used to operate immediately, and during the three years running from 1892 to 1895 the percentage of deaths was 33, or 26 deaths out of seventy-nine cases.

Seven cases were not operated upon, and ended in recovery; eight were operated *à froid*, and were discharged cured; lastly, sixty-four were operated on, *à chaud*, and twenty-six died. In 1896 the mortality fell to 13.33 per cent., in 1897, 1898, and 1899 there were only ten deaths out of ninety-two operations, which is 10.86 per cent. Since this period the mortality has remained at 10 per cent. According to Dieulafoy's statement, one should never die of appendicitis, and if the patients were sooner in the hands of the surgeon, there would be fewer deaths, not so much on account of the operation, but because the medical treatment is often pernicious in its effect. It can hardly be said that the statistics have improved on account of increased technical skill, as Rimussoir, who employed the radical treatment for just one year rapidly came back to conservative treatment, as he had 50 per cent. of mortality. The chief course of such heavy mortality is that by breaking down the adhesions, when seeking the pus, one is apt to infect the whole peritoneal cavity. Even if the mortality were the same, there is this advantage about the deferred operation that one can much more readily look for the appendix and remove it, and it is not so necessary to drain and cause fistulæ or hernia. These objections could hardly be raised if the patient were operated upon at the very beginning of his illness. But two or three days are generally lost by the family and the physician. There is one fact to be remembered, which is that it is well to wait quite a long time when there has been much puffiness of the part affected.

Savariaud's article is written in a different spirit, and in it he speaks of the danger of temporizing, due to septicæmia or toxæmia. Then it should be remembered that once cured of his attack of appendicitis, the patient may not desire to be operated upon, and once the pain is gone, it will be hard to get the patient to consent to an operation. On the other hand, arguments such as possible errors of diagnosis, inoculation of the peritoneum, difficulty of removing the appendix at this time, and danger of subsequent hernia are easily laid aside.

Savariaud said that in some cases it was not necessary to leave the incision completely open, but that a small orifice was quite sufficient in certain forms in which there was not as yet any pus. He had never regretted operating on appendicitis, and he had once been misled as to the gravity of an appendicitis, with the result that when the operation was performed, general peritonitis was found. Savariaud considers that theoretically the safest treatment of appendicitis is an immediate operation, with removal of the appendix. In his practice he does not always carry out this principle, when, for instance, the diagnosis is not certain, when the appendicitis is slight and the symptoms are disappearing, or when the operation could not be carried out with the usual precautions. In surgery it is hardly wise to admit but one form of treatment, as exceptions to a general rule are sure to be found.

The Italian Parliament has just voted two new laws aimed at the suppression of intermittent fever, which are certainly excellent. According to the first law, when a peasant is taken with fever while at work, he will be furnished with quinine and will be taken care of at the expense of the proprietor who is employing him. An attack of intermittent fever is considered as an accident taking place while at work, and the proprietor should insure himself against such risks. The other law fixes the maximum price of quinine, and when there are no druggists in a place this drug will be sold at the shops having a monopoly of salt and tobacco, and the revenue obtained thereby used to stamp out intermittent fever.

Dr. Morestin, a young hospital surgeon, has reported recently two cases of tumor of the breast, which he operated upon by making an incision in the axilla, and thereby avoiding a visible scar. In one case the incision was 6 cm. long, and the skin was detached by means of a scalpel, until the breast was reached, and the tumor was removed through the tunnel thus made. The breast had been pushed toward the axilla during the operation. In the second case the incision was only 3 cm. long.

A drain was placed in the wound and removed forty-eight hours after.

The Paris papers have been publishing reports recently to show how wretched some of the hospitals are as to their condition, and state of repair. An article was published yesterday in which a description of the old Hôtel Dieu Annexe is given, with its dead house down in the cellar, its sagging ceilings and generally insalubrious condition. A maternity is established in one of the wings, and there is only one bath tub for the whole establishment. The lying-in ward is quite small, and the isolation of infected patients is necessarily incomplete. When this hospital is compared with the Boucicaut Hospital, one is struck with the enormous difference that exists between the old-time institution, destined for the very poor, and the modern establishment, that receives all sorts of patients. A large sum is to be spent in transforming some of the hospitals, and a loan is to be negotiated for this. The hospital of La Pitié, which dates from 1613, will most likely be torn down and replaced by modern buildings.

A NEW PHASE OF PROFESSIONAL ADVERTISING.

To the Editor of the Medical Record:

Sir: For many weeks past and since a distinguished Austrian orthopedist visited this country to perform "a most miraculous operation" on one of our citizens, I have been wondering what can be the real limit of advertising professional work.

The good professor would naturally say that he is not to blame for what others do, and he may be ignorant of the bad impression he is making upon his professional brethren, but nevertheless he has evidently taken no active pains to disabuse the public mind of the conviction that he is the one and the only one who can work the alleged miracle. Worst of all, it seems to be generally understood by the public that nothing of the kind has been done before and that the entire profession of America is at the feet of this new orthopedic apostle. What seems also as passing strange is that our leading orthopedists who have heretofore been considered discerning individuals and competent to judge high professional qualifications in their own line are more than eager to follow in the trail of this senseless public advertising. But for such credit as can be rightly claimed for American orthopedy, I, even as one not directly interested in the specialty in question, feel bound to protest against the implied assumption that our own surgeons are not the equals if not superiors of any in the world; those of Austria not excepted. I fail to see why it seemed necessary for the profession in Chicago, St. Louis, and other cities to be so eager to learn how properly to reduce a congenitally dislocated hip and keep it there long enough for the head of the femur to burrow a socket for itself.

It gives one a tired feeling to realize how much of profitable advertising has been missed for many greater achievements by a want of knowledge of the newer foreign methods.

In the face of all this hurrah we are apt to lose sight of the fact that this wonderful operation was performed years ago by American surgeons who thought no more of this precedure than to report it as an ordinary one and certainly not as one that required the gifted touch of genius to make it successful.

I do not say that it is not a good thing to relieve the cripples, to hold free clinics for the public and gather them in "for the sake of stimulating subscriptions to hospital funds," but even these good intentions have their limits for sober thought and dignified action.

A Member of the Academy

Progress of Medical Science.

The Boston Medical and Surgical Journal, Dec. 4, 1902.

A Note on Pleurisy in Typhoid Fever.—George G. Sears calls attention to the probable fact that pleurisy resulting from infection with Eberth's bacillus is less rare than commonly supposed, being overlooked because it simulates so-called idiopathic pleurisy. It is, however, a rare complication on the whole. Betke found fifty-eight instances among 1,420 cases. It occurs most usually after the first week, when the temperature is still high, but it may be delayed until convalescence seems fully established, or even occur as a complication of a relapse. Usually its onset is insidious, and its presence is discovered only on physical examination. Etiologically, Eberth's bacillus has been demonstrated as the cause in a considerable proportion of cases. None of the initial cases ended fatally, while a large proportion of the later ones died. None, however, which came on before the twelfth day were either hemorrhagic or purulent. A serous effusion seemed to add but little to the gravity of the original disease, while two of seven in which it was hemorrhagic, and six of eighteen in which it was purulent, died. Free incision and drainage of an empyema was usually required, yet a few recovered after repeated aspiration, with or without the injection of antiseptics.

Some Observations upon the Value of the Phloridzin Test for Estimating the Functional Capacity of the Kidneys; Renal Sufficiency.—Francis S. Watson concludes from his observations: That the average quantity of sugar eliminated in the first half-hour after the administration of the drug subcutaneously in certain doses and when the kidneys are normal, is about .45 per cent., and that the first half-hour's elimination is greater than the second half-hour's by about .06 per cent. When renal disease exists, the first half hour's quantity of sugar eliminated is, for a series of cases, about one-half as much as that when the kidneys are normal, and there is but little more in the first half hour than in the second. When the kidneys are normal, ether anæsthesia stimulates them to greater activity, but, judged by the phloridzin test, the renal function is not impaired by the anæsthesia. When the kidneys are impaired, ether fails to stimulate their function, and there is relatively less sugar eliminated in the first than in the second half hour after phloridzin has been given than when the kidneys are sound. Judged by the average results of a series of cases, the phloridzin test gives accurate indications of the condition of the renal function and of the existence of renal disease. In a certain number of cases it even appears to be more delicate and discriminating than the ordinary urinary tests, but other numerous instances, which show the reverse of this to be true, show it to be too variable to be trustworthy. Therefore the author does not urge its adoption in preference to the former methods of urinary analysis for estimating the functional capacity of the kidneys.

Journal of the American Medical Association, Dec. 6, 1902.

The Treatment of Tuberculous Glands of the Neck.—From a general consideration of the subject, Leonard Freman comes to the following conclusions: (1) The gravity of tuberculosis of the cervical lymphatics, as regards both local deformity and remote secondary manifestations, is generally underestimated. (2) General treatment, especially hygiene, is of the utmost importance, both in the cure of incipient trouble and in the prevention of relapses following operations on more advanced cases, most recurrences being due to neglect of such measures. (3) Residence at the seashore has long been recognized as of great benefit; but there is reason to believe that a high and dry climate, such as that of Colorado, with its rarified, stimulating atmosphere and abundant sunshine, possesses superior advantages. (4) A point of extreme importance in local treatment is to abolish sources of infection, in the teeth, tonsils, nose, ear, scalp, etc., and neglect of this is apt to result in failure. (5) Non-operative treatment is often of doubtful utility, except in the beginning of the disease. (6) Pulmonary involvement does not contraindicate operation, at least in Colorado, except in advanced cases. (7) Curettage is applicable to sinuses, tubercular ulcers of the skin, and where complete removal would be attended by too much risk. In all other instances a thorough operation should be done. (8) The size and shape of the incision should be adapted to the particular case. It should be free enough to permit of thoroughness and safety. (9) The chance of permanent cure following operation is probably better in Colorado than in lower and less favorable altitudes.

The Microscope in the Diagnosis of Scarlet Fever.—W. K. Jaques describes a variety of a germ resembling at first glance staphylococcus albus, but differing from it in many particulars. These are so peculiar that it is difficult to place it in any definite class of bacteria. It is very sensitive to environment, and is modified in form so it may appear as a diplococcus, a streptococcus, or a streptobacillus, merging from one to the other in the same culture. Only by studying many cultures can one appreciate this variation in form. It also has a wide variation in size—from a point which can just be distinguished with an oil immersion twelfth to (in old cultures) a coccus a third the diameter of a red corpuscle. The multiplication is by division, and it multiplies in all of its varying sizes. Because of its minute form it can penetrate almost any tissue of the human body. The shape, as usually seen, is round with what appears to be a hole in the center. This is due to refraction or to staining qualities. As a germ increases in size a dividing line may be seen in the center. In the older cultures, in which the coccus is large, on each side of this center line the cell substance stains in the shape of a crescent with the points toward the line. It is very susceptible to environment, and is often seen to assume the streptococcus form or to become egg-shaped and sometimes almost a bacillus. Jaques's four years' study of the class diplococcus may be summed up as follows. If a child has never had scarlet fever and the clinical symptoms are present (such as characteristic angina, vomiting, delirium, and high temperature) a rapidly-growing culture of the class coccus from such a case determines the presence of scarlet fever, while its absence excludes the disease. In some cases the culture has decided the nature of the disease before the rash was observed, the patient isolated, and others protected. In other cases when the rash was present, but the clinical symptoms obscure, the absence of the class coccus decided the case as not scarlet fever. In mixed infection, when germs of scarlet fever and diphtheria are both present, the microscope is of life-saving importance, as the more prominent symptoms of scarlet fever may obscure those of diphtheria.

Medical News, December 6, 1902.

A Comparative Study of the Value of Methylene Blue and Quinine in the Treatment of Malarial Fever.—John T. Moore and W. L. Allison present their conclusions on this subject, which do not differ materially from those of Thayer and others who have used methylene blue. (1) Methylene blue will destroy malarial parasites in many cases, but is less certain than quinine. (2) Methylene blue is probably most valuable in chronic cases, but has no advantage over quinine. (3) The effects of methylene blue are ordinarily more unpleasant than quinine. (4) It is useful in cases that cannot take quinine on account of some idiosyncrasy to it. Its use in cases of pregnancy is undetermined. (5) It is probably valuable in treating hæmoglobinuric fevers on account of its diuretic action; this has yet to be determined. The writers have had no chance to test its use in such cases. (6) They believe that quinine is quicker and much more certain, and would rely upon it rather than upon methylene blue.

New York Medical Journal, December 6, 1902.

The Treatment of Vascular Neoplasms by the Injection of Water at a High Temperature.—The tumors thus treated by J. A. Wyeth have been arterial, capillary, and venous angiomata. Boiling water is injected directly from a cauldron under strict antisepsis. The quantity varies with the size of the tumor. At times the temperature of the water need not be over 190° F. It should be hot enough to coagulate the blood and the albuminoids of the tissues, but it should not be hot enough or under such pressure as to scald and cause necrosis of the skin. The operation is to be performed under complete narcosis. In no instance has any painful symptom or septic reaction ensued, with the exception of a single case in which a superficial eschar formed. Suppuration ensued, but the beneficial results of the treatment were the same as in the other cases.

A Case of Cancer of the Larynx Cured by the X-Rays.—The patient of W. Scheppegrell was a man of fifty-seven years with an involvement of the left wall of the larynx, affecting also the corresponding cord. For the first three weeks after daily ten-minute exposures the result was discouraging. After the twentieth exposure treatment was discontinued for a while, but examination a few weeks later showed a vast improvement. Treatment was again resumed. Six months later the larynx was in good condition and the case considered cured. No mention is made of removal of a portion of the growth for microscopical examination. The author expresses firm belief in the correctness of the diagnosis and believes the case to be the first on record of a cure of malignant disease of the larynx by the *x*-ray.

American Medicine, December 6, 1902.

The Modern Treatment of Eclampsia.—Herbert Marion Stowe gives the following principles of treatment for eclampsia at term: (1) Control the convulsions; (2) Deep narcosis should be induced during all pelvic manipulations; (3) There must be rigid antisepsis in all pelvic manipulations; (4) Remedies that will control the toxic effect should be administered; (5) Stimulate immediately all the excretory organs; (6) Empty the uterus by the most natural method possible without undue regard for the life of the child, especially if the condition of the child is poor; (7) Dilution of the toxins floating in the body fluids is necessary; (8) Stimulate the vital centers when necessary.

The Relation of Oxaluria to Glycosuria.—Frieda E. Lippert has made a protracted series of urinalyses in urines supposedly diabetic. There were in nearly all the cases the familiar clinical pictures of that disease. But tests failed to show the presence of sugar. Although prolonged boiling is directed to be avoided, the writer tried the effect of from fifteen to twenty-five minutes of boiling after adding the urine to the test solution. The test tube then stood for twelve or eighteen hours afterward. A copper-colored sediment appeared. There was microscopic evidence of abundant oxalates. The writer thinks that it is probable that the yellow precipitate was indicative of oxalates in an abnormal degree. And the suggestion arose that the oxaluric state might be a precursor of the glycosuric state that it so nearly resembled. She believes that there is a very definite relation between oxaluria and the diabetic condition. The line of research must in future be to establish the measure of it. If it be fundamental, there is an added means of clinical diagnosis at hand. If it be only coincidental, there is at least a field wide in its resources for clinical variation.

Pus in the Pelvis Depending upon and Complicating Appendical Disease in Women; Methods of Treatment.—John B. Deaver states that a localized purulent collection in the female pelvis may be due to a pyosalpinx, tuboovarian abscess, suppurating ovarian cyst, suppurating fibroid, hæmatocele, or appendical disease. Appendicitis may cause a pelvic abscess in one of three ways: (1) By the extension of a purulent collection from the right iliac fossa to the pelvis; (2) By an appendical abscess in the pelvis, with the appendix hanging over the ileopectineal line or entirely in the true pelvis; (3) By infection of the tube and ovary with involvement of both appendix and adnexa in a purulent exudate. The treatment of the appendical abscess will depend upon the location of the pus and the condition of the patient. If the patient's condition is desperate, the abscess may be evacuated by drawing the cervix well forward or backward. The posterior vaginal wall is then incised freely, either anteriorly or posteriorly, the peritoneum is opened and the pus evacuated. Irrigation is contraindicated and the cavity is simply drained with gauze.

Philadelphia Medical Journal, December 6, 1902.

The Symptoms of Prostatic Hypertrophy, Their Cause and Their Relief.—Edward L. Keyes, Jr., briefly sums up his opinions on this subject as follows: (1) Chronic obstruction to urination is the underlying cause of almost all the symptoms attributable to hypertrophy of the prostate gland; (2) This obstruction may be regarded as an elevation of the internal orifice of the urethra; (3) Yet obstruction may exist without symptoms, and symptoms without obstruction; (4) For the immediate cause of all the symptoms is congestion; (5) Hence to the patient the disease represents only a congestion; (6) While to the surgeon it represents, for the most part, an obstruction, an elevation of the urethral orifice; (7) The symptoms may often be relieved by relief of the congestion without regard to the obstruction; (8) Yet such treatment is purely palliative and is not the function of an operation; (9) Radical treatment consists in permanent relief of the obstruction in the floor of the urethra, with little regard to congestion; (10) This may be accomplished by cauterization or extirpation of the offending mass through a perineal or a suprapubic incision; (11) The operation to be preferred must attack the obstacle most directly, and remove it most rapidly, while preventing hemorrhage and providing perfect drainage; (12) Of the operations employed at the present day, the one which most often fulfils these conditions is perineal galvanoprostatotomy. The writer speaks of the technique of the operation as follows: Through a median perineal incision the bladder is entered, and the finger explores the urethral obstruction. Then the galvanocautery instrument is introduced, and with it incisions are burned through the neck of the bladder and the prostate, each incision being made with the sole purpose of lowering the neck of the bladder. Thus, if a simple contractured neck is found, a single incision, 1 cm. long, divides it. A massive enlargement of the gland is attacked by one or two incisions into the lower part of the bladder neck. A single or double lateral hypertrophy, with no appreciable median enlargement, is attacked either by incising through the middle of the obstructing lobe or by cutting away its attachments from the bar of mucous membrane at the bladder neck. A hypertrophied median lobe is either split or freed with an incision at each side of its base, after which it may be easily torn away and removed. If the surgeon judges the growth too great for perineal extirpation, he has lost only a few minutes and may proceed to suprapublic section.

The Lancet, November 29, 1902.

A Curious Case of Lead Poisoning in an Infant.—H. C. Cadman reports the case of an infant of five weeks with colic and constipation. He was treated in the usual way with partial benefit, when it was discovered that the mother had been wearing a lead shield over the nipple. The action of the shield on the milk was practically to form lactate of lead. The infant's urine responded to the bichromate of potash and other tests for lead. Proper hygienic measures brought the case to a successful termination.

A Case of Scarlet Fever Followed by an Interesting Relapse.—The patient of H. Fraser was twenty years old. The disease ran the usual course, and the patient was up on the thirteenth day, desquamating in the usual manner. Six days later a severe diarrhœa and vomiting came on, and in a few hours a pronounced punctate rash appeared, which, by the next morning, had involved the whole body, except the face. Three days later the rash was fading. The course of the disease was thereafter without incident. Fraser gives two possible theories as regards the origin of the relapse or second attack: (1) That it was simply an instance of autointoxication in a patient whose immunity was short-lived (author's belief); (2) that a fresh strain of the poison was contracted by the patient on getting up.

A Case of Fulminating Appendicitis with General Septic Peritonitis: Operation; Recovery.—J. H. Evans reports the case of a boy aged four years, operated on forty-eight hours after invasion. Twenty hours later, the condition of the patient was bad in the extreme, there being vomiting of coffee-ground material. Drainage tubes, previously inserted, were removed, and the wound opened up throughout. The appendix removed at operation was found to be perforated, and containing a mass larger than a cherry stone, on the proximal side of which a fig-seed was found. During the first few hours after operation a saline enema brought away hard, scybalous masses. Recovery, after the reopening of the wound, was uneventful. According to the author, the points calling for explanation are (1) the obstruction of the fig seed; (2) the formation of the enterolith; (3) the cause of the perforation and fulmination; (4) the thrombosis of the vessels, and (5) the scybala which were passed per rectum. 1. As to the obstruction, eight days prior to the attack the child had eaten some stewed figs, from which the seed, which was found, had evidently come, and this produced a certain amount of obstruction to the exit of the natural secretion of the epithelium. 2. This irritation, associated with microorganisms, produced inflammatory changes, which, in the eariler stage of hyperæmia, brought about the increased secretory activity and multiplication of the epithelial cells, resulting in the formation of the enterolith. 3 and 4. The irritants, increasing the morbid process, led to an extensive involvement of all the submucous, intramuscular, and perivascular subserous lymphatic channels, culminating in an acute endophlebitis and consequent gangrene, which was more marked at the point furthest removed from the mesenteriolum where the perforation—probably accelerated by the pressure of the enterolith—was found. 5. The scybala, which are invariably passed a few days after the attack by those patients who recover from acute appendicitis have been considered by some eminent authorities as the "offending particles"; but in the writer's opinion they are nothing more than the usual fæces deprived of their fluidity while in the sigmoid flexure.

British Medical Journal, November 29, 1902.

Two Cases of Consumption Probably Infected by Tuberculous Milk.—James M. Cowie reports these cases. They were a boy of seventeen years and his sister of five years. Neither of these patients drank much milk, but the milk supplied to them was almost continuously tuberculous for over two years. Specimens of the milk were examined and proved to be infected. In both of these cases the disease began in the abdomen. In the case of the girl it never reached the lungs, while in the boy the lungs were affected secondarily. No other source of infection but the milk could be found in either case.

"Slow Continuous Fever."—R. V. Dolbey states that during the campaign in South Africa at least four different cases of sickness with temperature were classified under this heading. Apart from cases of fever in the malarial district and the recrudescence of malaria in soldiers, he has noticed the following types: (1) Cases with temperature from 99° to 102°, which almost always last three days, and are generally accompanied by diarrhœa, and always with headache, chilliness, and general weakness. Rest in bed and fever diet is the treatment required. This fever oftens occurs after exposure. (2) Cases with temperature from 100° to 102° or 103°, with severe pain in lumbar region and thighs, often severe headache, and generally diarrhœa; the temperature falls in a series of cases on the seventh day. Sodium salicylate is given with great benefit (3) Cases with temperature from 100° to even 104°, with headache, vomiting, and irregular pains. Constipation is the rule; sometimes pea-soup stools are found. They resolve in about fourteen days. They are probably fourteen-day typhoid cases. (4) Cases beginning with rigor, and which eventually resolve themselves into ordinary cases of enteric. Fever is often irregular and constipation is the rule. There are many cases of cardiac failure, without any apparent sign on auscultation previously. Pleurisy and other lung complications often occur.

Dyspepsia and Its Treatment by Antiseptics.—Guthrie Rankin declares that dyspepsia may be acute or chronic. The latter may be classified as atonic, acid, or nervous. The same general symptoms are found more or less in all cases, but their combinations are numerous. Many of them are undoubtedly dependent upon the production and absorption of poisons. Atonic dyspepsia is the most common form of chronic indigestion and occurs in persons who are badly nourished. It is more frequent in women than in men. Acid dyspepsia occurs most often in strong, active men, and is associated with an undue amount of hydrochloric acid. The nervous form depends upon nerve exhaustion and occurs in neurotic individuals. As to treatment, in acute dyspepsia there can be but little diversity in our methods of managing it. Rest and removal of the stomach contents will bring about a cure. In chronic dyspepsia the cause must first be determined. All violations of the laws of health must be set right. No two cases can be dieted alike. Simple, nourishing, and easily-digested food should be ordered. The writer has found carbolic acid to be the best of all the antiseptics he has used. In atonic dyspepsia, great relief is obtained in most cases from a combination of dilute hydrochloric acid, pure carbolic acid, strychnine, and ginger. The following formula is given: Dilute hydrochloric acid, 15 minims; pur carbolic acid, 2 grs.; solution of strychnine, 5 minims; tincture of ginger, 20 minims; glycerine, $\frac{1}{2}$ drachm. This is best given diluted with water about an hour after the principal meals. In the acid type of this disorder, alkalies are especially indicated, given two or three hours after food. Bismuth is most useful. In nervous dyspepsia, the writer likes the following formula: Zinc valerianate, 3 grs.; pure carbolic acid, 2 grs.; arsenious acid, $\frac{1}{40}$ gr.; extract of cannabis indica, $\frac{1}{4}$ gr. One capsule should be taken after food three times a day. Mental and physical rest in this form of dyspepsia is imperative.

Hair-Balls and Other Concretions in the Stomach.—W. Soltau Fenwick states that certain concretions are apt to form in the stomach and to give rise to severe abdominal symptoms, accompanied by abdominal tumor. They consist generally of hair, cotton, wool, or string, but occasionally entirely of vegetable fiber or resinous material. Hair-balls large enough to attract attention are very rare, and only about twenty-four cases are recorded in the literature. When rather small, the mass is round or oval and occupies the pyloric region, where it acts like a ball-valve. As it grows in size, it is moulded by the contractions of the stomach until it forms a solid cast of the organ, and may even extend into the œsophagus, or through the pylorus. It is smooth, compact, and heavy. Out of the twenty-four cases of patients with hair-balls, that are on record, twenty-three were females, the youngest being eighteen and the oldest thirty-four years at the time of death. In most of the cases, the habit of swallowing hair originates in the trick of holding the hair in the mouth while reading a book or of biting the ends in anger or excitement. In every case there is a well-marked tumor. The duration of the disease is not easy to determine, but probably averages about fifteen years. Vegetable tumors are far less common than the preceding, and, as a rule, consist of fruit-skins, fruit-stones, and stalks, or of the fibrous roots of certain medicinal plants. The subjects of gastroliths are usually men about middle age, who have taken varnish, polish, or any resinous fluid containing alcohol. Concretions are accompanied for some time by symptoms of dyspepsia, and seldom prove fatal in less than ten years. When a concretion gives rise to a palpable tumor but without gastric symptoms, it is most likely to be confused with an enlarged spleen, a floating kidney, or with a fecal accumulation in the colon. If the tumor is small, it may possibly be removed by an emetic, but there is some danger in this, as there is often secondary ulceration of the stomach or duodenum. If the tumor is large, medicinal treatment is useless and only gastrotomy will avail.

Deutsche medicinische Wochenscrift, November 13, 1902

Immunization with Diphtheria Bacilli.—A. Lipstein, similarly as A. Wasserman, has obtained a specific agglutinating and bacteriolytic serum by the inoculation of diphtheria bacilli. The technic employed was essentially the same as that used by Wasserman. It does not appear that the value of this serum for the differentiation of true and false diphtheria bacilli is as great as is supposed by the latter author. While such a serum, in high dilution, agglutinates and destroys the same diphtheria bacilli by the means of which it was produced, it does not have such a marked action upon other true diphtheria organisms—in some instances, in high dilution, not agglutinating them at all. It is probable that this variation in agglutinative power is due to the variety and multiplicity of receptors present in the bodies of various diphtheria bacilli. It is possible that this drawback may be overcome by the production of a polyvalent serum similar to that now obtained with the streptococcus. Work is now in progress along this line.

Cholelithiasis and Diseases of the Pancreas.—Paul Fuchs thinks that the close anatomical relations between the bile passages and the ductus Wirsungianus is evidence that diseases of the former are prominent etiological factors in affections of the pancreas. If the bile-ducts are enlarged, pressure is produced upon the ductus Wirsungianus, and the pancreatic secretion is dammed back upon that gland. This leads to congestion of the pancreas, with all its consequences. Much observation has shown that such conditions as pancreatic abscess and acute hemorrhagic pancreatitis are, as a rule, associated with diseases of the gall-bladder or ducts. It is also possible that the reverse may occur, and that diseases of the pancreas may be causative of cholelithiasis. In certain cases it is impossible to say from the autopsy findings which has been the primary lesion, but in most cases it is clear that cholelithiasis antedates the pancreatic condition. At all events, in the treatment of suspected or definite pathological lesions of the pancreas, early attention should be given to the condition of the gall-bladder and ducts.

Munchener medicinische Wochenschrift, Nov. 18, 1902.

Hetol in the Treatment of Tuberculosis.—Hermann Riegner reports the treatment of twenty-one cases of pulmonary tuberculosis with hetol, a preparation of sodium and cinnamic acid. While no cures were obtained, there was in all a marked improvement in the general condition and local symptoms, so that it is evident in the treatment of phthisis that the effects of this drug are not to be underestimated. By far the best results were obtained when it was given intravenously. Administration by other methods did not seem to be of much avail. In each case during the course of treatment from 30 to 50 such intravenous injections were given. No unfavorable symptoms ever developed as the result of the injections. In none of the cases was any other medication given during the course of treatment.

The So-called "Hardening" of Children.—Hecker is outspoken in his objections to the methods pursued in the so-called "hardening" of children by the means of cold douches or baths. As a rule, children thus treated are more susceptible to nasal catarrhs, throat affections, bronchitis, and pulmonary inflammations than those who have not been subjected to the "hardening" process. Furthermore, such measures frequently give rise to pronounced anæmia and various disorders of the nervous system. Children so "hardened" are especially prone to acute and chronic intestinal disorders While in healthy children a properly conducted "hardening" process is often of advantage, it must be remembered that there are no hard and fast rules, and that every case must be treated according to the individual indications The fundamental principles of a proper "hardening" system are as follows: (1) Gradual acclimation to the air of the room; (2) Gradual acclimation to out-door air, (3) Gradual acclimation to cold water; (4) Suitable clothing—varied according to the weather and time of year. Great care should be observed in acclimating the child to cold water, and the effects of the same should be carefully watched, the endeavors being at once suspended on the first appearance of any unfavorable symptoms. On no account should any of the "hardening" measures be commenced until the nursing period is passed, and in all cases the process should be one of gradual advancement.

French Journals.

Cutaneous and Pupillary Reflexes and Visceral Sensation of Diabetics.—Pitres states that the following results have been obtained from examinations made in the case of thirty-two diabetics: The cutaneous, abdominal, cremasteric, and plantar reflexes were abolished more frequently than the patellar reflex, which was discovered to be abolished in 40 per cent. of the cases. On the contrary, the reflexes of the pupil to light and accommodation were normal, and the Argyll-Robertson pupil was never found. The epigastric and testicular sensations, abolished in tabes, were intact in the diabetic. These different points can serve in the diagnosis of diabetic pseudotabes.—*Journal de Médecine de Bordeaux*, November 16, 1902

Aneurysm of the Heart.—Mollard and de Bernard de Teyssier describe this case. The heart was taken from a patient who had died from cancer of the rectum. There was a large aneurysm in the cardiac apex. There had been no appreciable sign of this lesion during life. It was, in fact, an aneurysm resulting from an infarct of the myocardium. The anterior coronary artery was very atheromatous and obliterated toward its middle part. It is surprising, according to these observers, that such a lesion should remain latent, and that, in the antecedents of the patient, there was no cardiac incident corresponding to the formation of the infarct. This latency can, perhaps, be explained by the poverty of the apex of the heart in nerve cells. Indeed, there are scarcely more in this region than nerve terminals.—*Lyon Médical*, November 16, 1902.

Nocturnal Incontinence of Urine; Liberation of the Meatus; Recovery.—A. Malherbe had under his care a young woman of twenty-seven years, who had suffered from nocturnal incontinence of urine for twenty years. After some months of medical treatment with no result, she demanded an operation. Two incisions were made from the clitoris toward the vagina, and the superior and inferior angles of each incision were sutured together, so that each vertical incision was transformed into a horizontal incision, and the meatus strongly brought up. This last result was favored by a transverse incision made under the meatus. After the operation there was no incontinence for eight days. Then there was a return of the trouble for three months. The administration of strychnine was begun. Little by little the trouble ceased, till, finally, it entirely disappeared.—*Le Progrès Médical*, November 15, 1902.

Gastropathies and Enteropathies of Static Origin.—Gaston Lyon, in his very interesting paper, speaks of the benefits of massage in cases of ptosis. In recent cases in which the vertical dislocation is alone concerned, massage seems to have an indisputable curative influence; in old and complicated cases, it always gives relief. It exercises a mechanical action in favoring evacuaton of the stomach; besides this, a trophic action in reviving the tonicity of the gastric musculature. In cases in which the subpyloric sagging is considerable, and if alimentary stasis exists, lavage of the stomach can be practised. However, its repeated usage will cause rapid denutrition. Forced feeding has a double influence: local, by encouraging increase of fat—especially abdominal fat, which strengthens the tension of the abdomen; general, in increasing the strength, and, consequently, influencing the nervous system.—*Gazette des Hôpitaux*, November 13, 1902.

The American Journal of the Medical Sciences, Nov. 1902.

Osteitis Deformans and Hyperostosis Cranii; a Contribution to Their Pathology, with a Report of Cases.—Morton Prince concludes that: (1) We have no sure ground for differentiating hyperostosis cranii from osteitis deformans. (2) Hyperostosis cranii and osteitis deformans are probably trophic disorders. (3) Various clinical and pathological facts seem to indicate that they are at least allied disorders, and perhaps only different manifestations of one and the same disease. (4) The osteoarthritic changes so commonly found in osteitis deformans are probably manifestations of the disease, and not complications. (5) The results of autopsies thus far made do not at all exclude the nervous system as the seat of the trophic derangement, but the changes which have been found in the spinal cord and peripheral nerves and analogy with other known lesions like those of tabes and syringomyelia suggest a neuropathic origin similar to that of the myopathies. (6) In future cases the nervous system should be exhaustively studied.

The Rôle of the Toxins in Inflammations of the Eye.—Robert L. Randolph sums up his extensive and interesting paper as follows: (1) Bacterial toxins, so far as tested, when instilled even for many hours into the healthy conjunctival sac were found incapable of producing inflammation or causing other injury. (2) The same toxins when injected into the tissue of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of the inflammation varying to some degree, according to the species of bacterium yielding the toxin. (3) Bacteria which had not previously been proven to produce soluble toxins were found to produce them even in young cultures, and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biological test for the detection of certain toxins than the tests usually employed for this purpose. (4) The experiments recorded in this paper furnish additional examples, in a comparatively new field, of the importance of toxins in explaining the pathogenic action of bacteria, and likewise emphasize the etiological significance of injuries of the covering membrane of the eye in favoring the action of toxins and of bacteria.

The Entrance of Air into the Veins.—H. A. Hare refers to Goodridge's recent paper on this subject, and then speaks of his own and of Dr. Senn's experiments in this field. He first noticed that when in his experiments considerable quantities of air entered a vein of some of the lower animals inadvertently, no appreciable results took place even if the jugular vein received the air. He then deliberately injected air into the jugular vein of dogs and demonstrated the innocuousness of these injections. The experiments of Senn and Hare prove that small amounts of air introduced into the veins of animals practically never result fatally. Hare has seen a considerable quantity of air injected into the median basilic vein of two human beings without producing any symptoms whatever. The doses of air employed by Goodridge were so massive that their effects cannot be compared with those which are produced by those minute quantities of air which might be drawn into a vein. This writer also states that rapid injection of air is an important factor in producing bad results. It is not to be forgotten that in all probability differences in respect to resistance to air embolism exist in different animals.

Certain Characteristics of Osteitis Deformans.—Reginald H. Fitz describes the alterations in this disease, as noted by Dodd, in a series of skiagraphs, as follows: Skull much thickened, lower jaw greatly enlarged, coarse trabeculation and decalcification. Clavicle hyperostotic, the condition more marked in right than in left. Scapula, axillary border; acromion and corocoid process of right scapula hyperostotic, with foci of decalcification. A similar condition in the left scapula, but much less in degree. Humeri, hyperostotic, with coarse trabeculation and decalcification, more extensive alterations in the right than in the left. Forearm; right radius and ulna hypostatic, with decalcification; marked curvature of radius. Bones of the left forearm apparently normal. Hands; terminal phalanges of each hand show the conditions found in osteoarthritis. The right hand shows hyperostosis of the third metacarpal bone, with area of decalcification; also marked hyperostosis of the carpal end of the radius and ulna. In the left hand there are hyperostosis of the first phalanx of the thumb and a spicule of bone (?) at the inner border. The head and cortex of the fourth metacarpal bone is apparently thickened. Pelvis: there is hyperostosis and coarse trabeculation throughout the right os innominatum. Right femur: hyperostosis and coarse trabeculation throughout the shaft. The neck and head are also involved, but to a less extent. Right patella shows hyperostosis and coarse trabeculation. The tibiæ are hyperostotic, with coarse trabeculation and large areas of decalcification, more marked in the right than in the left. Cortical thickening of the right tibia and fibula. The left internal malleolus is almost wholly decalcified. The right foot shows hyperostosis and decalcification of the astragalus, os calcis, and all the metatarsal bones except the third; decalcification of the first and second metatarsal bones; trabecular structure well preserved in the fifth, but absent in the first and second bones; phalanges normal. The left foot shows hyperostosis of the astragalus, os calcis, cuboid, and internal cuneiform bones; decalcification and coarse trabeculation, especially apparent in the os calcis; hyperostosis of all the metatarsal bones except the fifth, which is apparently normal. The first phalanx of the great toe shows marked hyperostosis and decalcification. The other phalanges are normal. It would seem that hyperostosis is a condition which may affect few or many bones, early or late in life, and with inconstant symptoms; that the evidence in favor of the recognition of an independent disease—diffuse cranial hyperostosis—is insufficient, since the symptoms assigned to this affection are inconstant, and may occur in osteitis deformans.

Bulletin of the Johns Hopkins Hospital, October, 1902.

An Observation Showing that the Flagella of the Malarial Parasite Are Fertilizing Elements.—John T. Moore reports a very interesting observation that he has made. In studying the blood of an estivo-autumnal case, he saw both a granular and a non-granular body quite near together, within the field of the microscope. In the hyaline body the pigment was soon in active motion and four active flagella were quickly thrust out. The first one to free itself plunged around until it happened to come into contact with the granular body. The pigment of the latter was arranged like a wreath. After several efforts the flagellum entered this body. The ring shape of the pigment was quickly destroyed. The second flagellum that freed itself moved across the field to the granular body as if with a purpose. After many efforts to enter the body without success, it wriggled away. The other flagella freed themselves, but were lost to sight among the red blood-cells. For twenty or thirty minutes the fertilized body was watched, but nothing further was noticed aside from slight changes in its shape and the distribution of its pigment. The body which was flagellated soon became inactive and showed signs of disorganization, while the other body became slightly swollen, but showed no signs of disintegration.

The Genesis of Glioma Retinæ in Neuroglia.—Brown Pusey reviews some of the conflicting opinions held by various authorities on this subject, and gives the results of the study of a specimen stained by Mallory's neuroglia method, which was taken from a girl of four and a half years. The principal conclusion to be arrived at from the structure of this specimen is that this is a retina in which the neuroglia tissue has been developed at the expense, one may say, of the other tissues. In proof of this are the facts: (1) That the ordinary nervous-tissue elements of the retina, the rod and cone cells, the layer of bipolar cells, the ganglion cells, are either entirely absent or present in very scanty numbers. (3) The neuroglia tissue is greatly increased, as shown by Mallory's stain. Along the inner surface of the internal limiting membrane, and growing through it from the tissue outside, which in this eye represents altered retina, are cells with characteristic large granular nuclei and with varying amounts of cytoplasm, some of them containing pigment, and interlaced among these cells are long neuroglia fibers. In other words, neuroglia has invaded the cavity of the vitreous. That these cells constitute a new growth is plain also from the fact that they have invaded and destroyed the crystalline lens. Composed as it is of neuroglia, the tumor is a glioma. From the staining reaction with Mallory's neuroglia stain, there seems to be no question of the neurogliar character of the rosettes. The results from the study of this specimen certainly favor the retention for these retinal tumors of the term first suggested by Virchow, and so long accepted—glioma retinæ.

Note on a Case of Infection by Bacillus Aerogenes Capsulatus, in Which the Organism Was Demonstrated in the Circulating Blood During Life.—Rufus I. Cole presents this case. The patient was a young man who was brought to the hospital in a condition of profound shock. He had been run over by a train and both legs had been severed. The collapse was so great that it was considered inadvisable to operate, and no attempt was made to clean up the stumps. In seven hours, however, he had improved so much as to justify operation, but the patient and his friends would not consent. The night after the accident a foul odor was first noticed by the nurse when changing the compresses. The following morning both legs were found to be swollen and discolored up to the thighs. This swelling was found on palpation to be due to a subcutaneous emphysema. Coverslips made from the stumps showed a large bacillus resembling morphologically bacillus aerogenes capsulatus. Cultures were made from the local seat of infection, and cultures were also made from the blood of the patient. A rabbit was inoculated with some of the blood, soon afterward he was killed and placed in the incubator. The rest of the blood was divided among twelve tubes of litmus milk. With this, experiments were tried to test the presence of free gas in the blood. None was detected. Autopsy on the rabbit the next morning showed the characteristic lesions produced experimentally by bacillus aerogenes capsulatus. Coverslips made from the various organs and heart's blood showed the presence of an organism morphologically identical with this bacillus. After growing anaerobically for twenty-four hours the cultures made in milk from the patient's blood were found to have given rise to acidification and coagulation of the milk, the upper surface of the clot showing bubbles of gas. Coverslips made from the milk also showed the presence of these bacilli in large numbers. The organism in all these cases stained by Gram and was nonmotile. Thus the identity of the organism with that of bacillus aerogenes capsulatus was definitely determined. The cultures made from the local lesion when grown anaerobically also gave rise to a pure growth of this organism. No autopsy could be obtained. The writer adds that this case demonstrates that whatever the possibility that this organism may produce gas bubbles in the blood during life and that it may produce gaseous emboli, it is quite certain that it may exist in the blood without any, or at least with no considerable, gas production.

Annals of Surgery, November, 1902

The Identity of Proteus Infection and Hospital Gangrene.—G. R. White relates the history of a boy eight years old living near one of the Georgia swamps, and suffering from chronic malaria. He came under observation as the result of a gun-shot wound, which caused a compound comminuted fracture of the middle of the left thigh. When first seen, thirty hours after the injury, the wound was foul and discharging a dark, watery fluid. Operation was done, and gangrene developed, but after the third week the case changed for the better and healthy granulations were seen. At time of writing there was every prospect of recovery. The gangrene appeared on the day after operation, and a gaseous crepitation was felt when the flaps were pressed upon. Cover-glass smears from the sloughs showed two forms of bacilli. One was identified as the ærogenes capsulatus, and the other as the proteus vulgaris. White says that, in looking over the surgical history of the war of '61–'65 he was impressed with the great similarity of the case described with those enumerated in the History under the head of hospital gangrene. The latter was especially frequent in Sherman's army in the march to the sea, and the suggestion is made that the soil of Georgia may be peculiarly rich in pathogenic bacteria.

The "Circulus Vitiosus" Following Gastroenterostomy.—G. R. Fowler says that this term, if employed at all, should be restricted to those cases in which the stomach contents pass into the afferent or duodenal side of the loop of bowel forming the gastroenterostomy, and are subsequently returned to the stomach mixed with the duodenal secretions, including the bile and pancreatic juice. A review of the literature of the subject, as well as his own experience, leads the author to believe that the dangers most to be feared, next to collapse, during or immediately following the operation, are the occurrence of, first, the vicious circle; second, distension of the duodenum from forcible propulsion of the stomach contents directly into the afferent portion of the intestinal loop employed; and, third, reflux of the jejunal contents. While the first two may bear some relation to each other, the last named occurs independently of either of the others. If the theory that the jejunal reflux is first caused by mechanical pressure of the abdominal walls upon the efferent portion of the loop, forcing the jejunal contents into the stomach, is correct, every effort should be made to prevent the occurrence of vomiting. The author commends an operation, the steps of which are thus described. It consists, in brief, of first securing a communication between a loop of the jejunum and the stomach, then an entero-enterostomy between the afferent and efferent portions of this loop, and, finally, obliteration of the lumen of the afferent loop between the two points of anastomosis. He has selected the simplest and most rapid method of performing gastroenterostomy, and added to it a procedure which occupies but a minute or two, and yet absolutely precludes the possibility of direct intercommunication between the stomach and the afferent loop. This step in the operation, is accomplished by passing a No. 20 silver wire two or three times around the afferent loop at the point selected, and drawing upon the turns sufficiently to occlude the lumen without strangulating the wall of the intestine. The ends are twisted together, cut short, and the ends rolled into a flat coil in such a manner as to bring the cut ends in the coil, thus guarding against subsequent injury to the surrounding structures.

Archives of Pediatrics, November, 1902.

A Case of Congenital Rachitis.—Maurice Ostheimer reports the case of a child of seven months, who presented every sign of rachitis. Breast milk was stopped, as the child did not thrive upon it, and food, consisting of a certain definite percentage of fat, sugar proteids, and cod-liver oil, was given, and changed in its proportions from time to time as indicated. For three months there was marked improvement, but the child died from a severe convulsion a few days before completing her eleventh month. In spite of the absence of post-mortem confirmation, the author believes the case to have been one of those instances, rare in this country, of fetal or congenital rachitis, called achondroplasia by Parrot, and chondrodystrophia fœtalis by Kaufmann.

Pneumonia in Children.—J. P. Barber says that the writers of textbooks on the subject of pneumonia derive their experience chiefly from hospitals and asylums, and from consulting practice, and, therefore, fail to see the disease in its milder form; wherefore, they give too high a rate of mortality. The author has records of 165 cases of pneumonia in children under five years of age, seen by him in private practice. Of the seventeen cases of lobar pneumonia, one died. Of the 148 cases of bronchopneumonia, twelve died. The duration of the latter disease is shorter than the textbooks would have us believe. Out of his 148 cases 144 ended before the tenth day, and of these only three died. Climate is one of the factors which contributes largely to the low death rate and short duration of pneumonia in this city. The statistics of this disease, as of many others, should be written by the general practitioner.

Bronchitis and Bronchopneumonia in Children.—E. W. Mitchell says that in the general management of the children who "take cold" easily, the chief work is the education of the mothers in the feeding, clothing, bathing, etc. Apartments are kept too warm, sleeping rooms are not sufficiently ventilated, and too much clothing is worn. Delicate children should have a long night's sleep and a midday nap as well. They should also be gradually accustomed to a cold bath. An open-air life is the best possible means of prevention, and a useful measure for furthering the hardening process is going barefooted in summer. In the fear of draughts, windows and doors are apt to be closed in these diseases, whereas the child should come as nearly as possible to breathing outside air. Of all measures of treatment of severe cases of bronchitis and bronchopneumonia, the hot bath is the most valuable. For the control of cough, inhalations are often more efficient than medicines. In cases which become subacute or chronic, the creosote preparations are invaluable. Where dyspnœa and cyanosis are severe, oxygen is of great service, and may save life.

The Edinburgh Medical Journal, November, 1902.

The Nervous Affections of the Heart.—G. A. Gibson extols the use of exercise in the preventive treatment of nervous affections of the heart, especially of forced expiration and inspiration attended by appropriate movements of the shoulders and arms. When patients are unable to take active exercise, massage is of the highest value by the promotion of all the tissue changes. It must be carefully watched lest the blood should become surcharged with the products of metabolism and the condition of the patient rendered worse. Resistance exercises may be employed before the patient is able to take active exercise. As to the drugs to be used, alteratives, cardiac tonics, and vasodilators are the ones to be relied on. The iodides constitute the best alteratives, potassium iodide being the most efficaceous unless it is not tolerated, in which case one of the other preparations will have to be given. If there is any failure of the heart, preparations of iodine must be combined with cardiac tonics. When there is any tendency to a rise of pressure in the arterial pulse it is good practice to administer one of the vasodilators continuously in small dosage. Nitroglycerin or trinitrin is the most potent drug of its class. Its most convenient administration is in the 1-per-cent. solution, of which a dose of from one-half to two minims may be given at first. In many instances as much as ten minims may be exhibited every four hours.

Some Points in the Etiology of Tuberculosis.—Arthur Latham says that tuberculosis always results from a preexisting case of the disease, and the bacilli are conveyed by the mouth spray, by the expectoration or other discharge, and by means of food-stuffs, especially milk. It is improbable that infection often takes place from air respired through the nasal passages. The bacilli usually enter through the mouth, and may then be destroyed by the natural defensive actions of the body, or may pass into various parts of the body through direct inhalation into the lungs, by being brought in contact with the mucous membranes of the parts common to the respiratory and alimentary tracts, such as the tonsils, and then by passing through these mucous membranes, either with or without local changes, to the lymphatic vessels, and so to the cervical, tracheal, bronchial, or other glands. Or the bacilli may be carried to the stomach and intestines, pass into the lymph stream, and so cause tuberculosis of the mesenteric glands or of more distant parts. The spread of tuberculosis within the human body is by the lymphatic vessels and lymphatic lacunæ. This fact may explain why the lungs are chiefly affected in the adult, and the bronchial glands in the young child, as the age at which the change begins corresponds with the age at which a considerable alteration in the lymphatic paths in the neighborhood occurs, owing to the involution of the thymus.

Therapeutic Hints.

Obesity.—M. C. Gerhardt (*Le Bulletin Médical*) has found that eight grains of borax, three times a day, reduces the excess of fat. Smaller doses have no appreciable effect.

Typhoid Perforations.—Henry B. Potter (*The Providence Medical Journal*) says that the early diagnosis of perforation is attended with many difficulties, and requires keen judgment and ceaseless care. The symptoms of the resultant peritonitis are plain enough, but those of the perforation are extremely variable, and dependent on many collateral conditions. Undoubtedly, the most reliable signs are the sudden, continued abdominal pain, tenderness and rigidity, and leucocytosis. The diagnosis once made, no time should be lost before operation, no matter what the condition of the patient. The operation itself should be done as quickly as possible. Experience has shown that the McBurney incision is the one of choice, and that a circular suture or a single row of sutures across the perforation is sufficient. Shock does not follow operation as frequently as might be expected, seemingly no more often than after other laparotomies for peritonitis. And, finally, an early operation on a mistaken diagnosis is not attended by any material harm, which is more than can be said of a late operation with the diagnosis firmly established by the symptoms of peritonitis.

Hæmoptysis.—
℞ Plumb. acet. 0.5
Morphin. muriat 0.05
Sacch. alb. 3.0
M. ft. pulv. Div. in dos. No. x.
Sig. One powder q. 2 h. —Nothnagel.

Rhinitis Sicca.—
℞ Iodi puri 0.3
Potass. iodid 0.3
Glycerin. 40.0
M. Sig. Apply. —Schrötter.

Collapse.—
℞ Camphor. trit.
Aether, sulphur,
Ol. oliv .... āā 3.0
M. Sig. Inject half to a syringe full hypodermically.
—Krafft-Ebing.

Adenitis.—
℞ Iodi 0.05
Potass. iod 0.5
Ung. emollient 30.0
Ft. Ungt. —Widerhofer.

Mouth Wash.—
℞ Acid. boracici 3.0
Aq. font. dest. 200.0
Tinct. myrrh. 2.0
M. Sig. Mouth wash. —Monti.

Ternio.—
℞ Tinct. iodi ....
Tinct. gallæ .... āā 10.0
Sig. Pencil. —Gussenbauer.

Cystitis.—
℞ Extr. semin. hyoscyami. ....
Extr. cannab. indic .... āā 0.4
Sacch. alba 5.0
M. ft. pulv. et div. chart. No. xii.
Sig. One powder q. 3 h. —Ultzmann.

Alopecia.—
℞ Acidi salicylici 2.0
Spir. vini 100.0
Spir. lavand ....
Spir. coloniensis .... āā 50.0
D. S. Apply daily. —Kaposi.

Chordee.—
℞ Potass. bromidi 10.0
Lupulin 1.0
Morph. mur. ....
Camphoræ trit. .... āā 0.1
M. ft. pulv. div. in dos. aeq. No. x. Da. in chart cerat.
Sig. Two powders one hour apart before bedtime.
—Neumann.

Conjunctivitis.—
℞ Zinci sulphur 0.2
Aq. destill 40.0
Tinct. opii .... gtt. xx
M. Sig. Eye drops. —Fuchs.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Transactions of the Fourth Annual Session of the Tri-State Medical Association of the Carolinas and Virginia, 1902. 8vo. 227 pages.

The Story of a Living Temple. By Frederick M. Rossiter, M.D., and Mary H. Rossiter, A.M. 8vo. 348 pages. Fleming H. Revell Co., New York.

Felix Hoppe-Seyler's Handbuch der Physiologisch und Pathologisch Chemischen Analyse. By Dr. H. Thierfelder. Royal octavo. 618 pages. Illustrated. August Hirschwald, Berlin.

Year Book of the Medical Association of the Greater City of New York. 12mo. 184 pages. 1902.

Manual Antenatal Pathology and Hygiene. By J. W. Ballantyne, M.D. Royal octavo. 527 pages. Illustrated. William Wood & Co., New York.

Diseases of the Skin. By Alfred Schalek, M.D. 16mo. 225 pages. Illustrated. Lea Brothers & Co., New York City.

A Manual of Medicine. By W. H. Allchin, M.D. 8vo. 493 pages. Vol. 4. Illustrated. The Macmillan Co., New York. Price, $2.00 net.

Obstinate Hiccough. By L. F. B. Knuthsen, M.D. 8vo. 169 pages. P. Blakiston's Son & Co. Price, $2.40 net.

Transactions of the Association of American Physicians. Seventeenth Session. Vol. 17. 8vo. 667 pages. Illustrated.

A Manual of Dissection and Practical Anatomy Founded on Gray and Gerrish. By Wm. T. Eckley, M.D., and Corinne B. Eckley. 8vo. 408 pages. Illustrated. Lea Brothers & Co., Philadelphia. Price, cloth, $3.50 net.

Der Kampf des tierischen Organismus mit der pflanzlichen Selle. By Dr. R. Slbeswijk. 8vo. 139 pages. J. A. Sleeswijk, Amsterdam, Holland.

A Reference Handbook of the Medical Sciences. By various authors. Edited by Albert H. Buck, M.D. Vol. 5. Royal 8vo, 873 pages, illustrated. William Wood & Company, New York.

Regional Minor Surgery. By Geo. Gray Van Schaick, M.D. 8vo, 226 pages, illustrated. International Journal of Surgery Co., New York City. Price, $1.50.

Medical Microscopy. By T. E. Oertel, M.D. 12mo, 362 pages, illustrated. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $2.00 net.

Fordwell Graham; or, Lost and Won by the Hand of the Dead. By W. June Arlington. 8vo, 414 pages. Allen, Lane & Scott, Philadelphia, Pa.

La Profession Médicale. By Paul Brouardel. 12mo, 230 pages. J. B. Bailliere et Fils, Paris, France. 3.50 Fr.

The Nature and Pathology of Myoclonus-Epilepsy.—After an introduction and historical sketch of this rare and a detailed analysis of fifty-seven cases as to etiology, interesting disease, L. Pierce Clark and T. P. Prout give symptomatology, prognosis, diagnosis, and treatment. The etiology rests largely upon a family predisposition of degeneration plus a transient and slight excitant of the character of a toxic or autotoxic agent. In the development of the disease epilepsy appears after from a few weeks to several years in one-half the cases; in rare instances the epilepsy ceases in later life. The epileptic attacks are usually grand mal in character, preceded by myoclonic spasms. For a greater or longer period of time after the fits the patient is free from his myoclonus. The myoclonus is often atypical in degree and character. There is usually much mental impairment attending the development and end of the disease. The prognosis is poor, yet life is often prolonged for years, the patient dying finally of inanition, pulmonary congestion, and premature senility. The children begotten of mycolonic epileptics usually die early of an intercurrent affection, yet they may live to develop the disease. The affection has been found in many cases indirectly as well as directly transmissible, and it is largely one of the family type of neuroses. The treatment, while largely palliative, must be undertaken with great care in the proper use of large doses of sedatives. Bromides rank in first place. The hypochlorization adjuvant principle is highly recommended. Cases not benefited by bromides are decidedly in the minority. Chloral in connection with bromides is recommended in stubborn cases. Care of the diet, general, hygiene, and a non-stimulative country existence are found to give best results. The authors present three new cases which, in addition to one previously reported by Clark, constitute the only cases of the association disease at present in English medical literature. A study of the cortex in one case under ideal conditions of methods was made, and the lesions found were in the second and third layer of cells, those of sensory and motor type. The changes in the second or sensory type are those which the authors have previously urged as the characteristic lesion of epilepsy, while those in the third or large pyramid cell are charged to the myoclonus. The lesion as demonstrated by camera lucida drawings were: A destruction of the intranuclear network and its replacement by a granular substance. As a consequence of this change in the cell body abstraction of the nucleolus occurred easily and frequently in making the sections. The exhaustive lesion of chromatolysis was shown over the entire cortex. The pathogenesis of the association disease appears to be an intoxication or autointoxication of motor and sensory cortical cells, probably brought about by a faulty chemotaxis of such because of their inherent cellular anomaly.—*American Journal of Insanity.*

Is There Any Relationship between a Duodenal Ulcer and an Injury? If So, Then What Is the Nature of the Relationship?—Walter Fowler says "Yes" to the first query, and to the second "I do not know." There is the well-known fact that a duodenal ulcer may occur as a sequel to burns. He has never yet seen this himself, but he reports four cases in which a duodenal ulcer occurred as a sequel to an injury, and in eash case the ulcer was the immediate cause of death. In the first case a penny was extracted from the gullet of a little boy by left œsophagotomy. The progress of the wound was all that could be desired, yet the boy died on the ninth day from hemorrhage from a perforated duodenal ulcer. The second case was of a man who sustained a head injury, apparently recovered, but died a fortnight later. There was a fissured fracture of the vault and also a perforated duodenal ulcer. The third case was an elderly man who had sustained an injury to his head in a street injury. There had been some parœsis of the legs which had cleared, and he was practically well, when six weeks after the injury he suddenly died. There was a small flake of lymph on the dura mater at the site of injury, and a perforated duodenal ulcer. The fourth case died of perforated duodenal ulcer, which supervened about ten days after a successful herniotomy. All the above ulcers were of very recent origin.—*Intercolonial Medical Journal of Australasia.*

Sleeping Sickness; a Suggestion.—Alexander Crombie adopts a process of reasoning by exclusion, which, he says, seems to narrow down the cause of the symptoms to disease affecting the glands which receive the lymph from the brain, as the only ones whose obstruction would presumably give rise to the phenomena of sleeping sickness. He suggests, therefore, to those engaged in the investigation of this disease, that in every fatal case of sleeping sickness, the deep cervical glands, both the upper and lower sets of both sides, should be carefully examined for signs of disease, as being the most likely seat, on *a priori* grounds, of the essential condition, probably caused by the presence of the parental form, or its aborted ova, which determines the occurrence of sleeping sickness in cases of infection by filaria perstans.—*The Journal of Tropical Medicine.*

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held November 18, 1902.

E. E. Smith, M.D., Chairman pro tem.

The Use of Hyoscine Hydrobromate in Morphine Habituation.—Dr. S. Ormon Goldan read this paper. He said that, before beginning the treatment of morphinism, care should be taken to be sure that the original cause was no longer effective. The method of treatment which would carry the patient for some days without suffering or without recourse to morphine was deserving of serious consideration. This suffering rarely lasted more than a week, and was generally only of from two to five days' duration. He thought these patients were better treated at home, under the supervision of a nurse and physician, than at a sanitarium, and all routine should be sedulously avoided. Hyoscine hydrobromate might be said to be a specific in morphine habituation; in other words, it was a specific means of tiding the patient over the distressing period following the restriction of the morphine. This treatment was practically a new one, and originated with Dr. M. K. Locke of Texas. The drug should be given hypodermically, beginning with 1-400 or 1-200 of a grain, to determine idiosyncrasy, and then the correct dose should be repeated hourly, or frequently enough to keep the person under the influence of the drug. After two days the dose should be repeated once in three or four hours, and after this only administered occasionally. During this entire period the patient should be kept under the constant supervision of a nurse, and as the drug produces mydriasis, the patient should be in a darkened room. Active delirium was often produced, and, therefore, the friends should be excluded as far as possible. The drying up of the secretions caused some discomfort, yet it was a useful action because of the proneness to diarrhœa on attempting to leave off the morphine. When diarrhœa did occur, it was best controlled by atropine. The speaker said that this treatment had been unfavorably criticized on theoretical grounds, but those who, like himself, had given the method a practical trial, could hardly fail to indorse it. The patient's mouth became so dry as to almost prevent swallowing, and necessitated the giving of all nourishment by the rectum.

Obstinate Subacute Rheumatism.—Dr. James J. Walsh said that many seemed to think that the salicylates were specific in rheumatism, yet those who had seen this disease treated by various coal-tar products knew that their effects were exactly like those of the salicylates. The latter really only served to lessen the pain, lower the fever, and make the patient more comfortable. It was probable that the cases proving obstinate to medication with the salicylates were due to some other cause than true rheumatism. Some of the obstinate cases were apparently the result of the invasion of pus cocci, whose virulence had been lessened by the limited supply of oxygen in the joint cavity. Not an inconsiderable number of the rebellious cases diagnosticated as rheumatism were really gout, a disease thought to be very rare in this country as compared with Europe, and yet, most carefully kept statistics from Baltimore showed gout to be one-fourth less frequent only here than in England. In many cases of alcoholic and lead toxæmia a slight injury, such as a sprain, was followed by the development of a neuritis. Anæmic patients were prone to have affections of their joints occurring almost simultaneously. These persons not infrequently have a continuance of their rheumatic symptoms for a longer time than would be expected from the use of the salicylates. The prolonged use of the latter was always harmful in such cases, because of the deleterious effect upon the blood-corpuscles. Again, most of the infectious disease may cause a passing sensitiveness in the joints. This was well illustrated in influenza, which might itself cause joint pains simulating rheumatism. If influenza preceded rheumatism a short time, the rheumatic arthritis would run a longer course than usual and prove obstinate to treatment. Patients suffering from bronchiectasis, especially if the sputum were offensive, not infrequently experienced joint pains. These were apparently the result of the toxins absorbed from the putrid material in the bronchial dilatation. Most of the cases of obstinate subacute rheumatism consist of a joint affection developing in the presence of some diathesis, such as gout, or some toxæmia, or a neurosis, or a hypersensitive condition of the vasomotor system.

Dr. T. C. Stearns said that when the salicylates were first proposed for the treatment of rheumatism, they were thought to be specific. Since that time he had watched the action of these remedies with interest. He had seen three well-marked cases of rheumatism cured, while he had observed many cases of rheumatism that had continued from year to year in spite of the administration of the salicylates. He had come to the conclusion that salicylic acid so disturbed the digestive apparatus as to prevent the taking of certain foods, which were known to be harmful in rheumatism, and in that way did some good in that disease. He did not believe that the coal-tar products had any special influence upon rheumatism. Having himself been a sufferer from rheumatism for many years, he had learned that one of the best remedies was a 2 per cent. solution of chlorine dioxide in water. It acted as an admirable antiseptic in the alimentary canal. It was also important to use sodium phosphate as an occasional laxative, and to drink water freely—say, to the extent of 3 per cent. of the body weight. This simple treatment would completely eradicate the disease. He was of the opinion that the salicylates did not have any great power to relieve the pain of any severe case of acute rheumatism. The administration of water in the manner suggested should be kept up for a long time.

Dr. A. Rose said that he was surprised at the little attention paid to the use of the warm bath in the treatment of rheumatism. Such a bath accelerated the circulation of the part, and if the latter were immersed for. days in the warm bath the good effect was quite striking. Before the days of antiseptic surgery he had learned of this treatment from Schede, and had then been deeply impressed with the value of the permanent warm bath in the treatment of severe lacerated wounds.

Pulmonary Syphilis Resembling Pulmonary Tuberculosis.—Dr. H. W. Berg was the author of this paper. (See page 926.)

Dr. Louis Faugères Bishop said that, although he had been on the lookout for pulmonary syphilis for a number of years, he had seen only one such case, and that was while in St. Luke's Hospital. This patient had entered the hospital in very bad condition, and death had occurred within a few days, the syphilis of the lung not being recognized until the autopsy. He had been impressed with what the author of the paper had said about recognizing and treating the syphilitic element in cases of pulmonary tuberculosis.

Dr. J. J. Walsh said that he had seen only one case of pulmonary syphilis, and that was one well known to American students in Vienna. The patient was a student. He had been seen by no less an authority than Professor Nothnagel, who had confirmed the previous diagnosis of pulmonary tuberculosis. The man died, and the autopsy revealed syphilis of the lung.

Dr. B. Lapowski asserted that it was a very dangerous thing to say that the lesions found in a lung of a syphilitic were due to the syphilis. Almost without exception the autopsies on cases reported to be syphilis of the lung only showed a *probability* of the disease being pulmonary syphilis. He objected to the giving of mercury by the mouth to these patients, because of the consequent interference with digestion. It was far better to use mercurial inunctions freely. Iodide of potassium was absorbed from the intestine, and not from the stomach; hence, it should be given immediately before meals, as it would then pass very quickly through the stomach and be absorbed. He was also opposed to giving iodide of potassium to a person suspected to have pulmonary syphilis; it was better to be content with mercurial inunctions, certainly until the patient was well on the road to recovery.

Dr. I. Adler said he would not accept all of the conclusions of the paper, nor did he wholly agree with those who had discussed it. He thought that the author had not given convincing proof that the case reported by him as the basis of his paper was really one of pulmonary syphilis. It was certainly most difficult to make the diagnosis even histologically of syphilis of the lungs, and to make this diagnosis by gross examination, post mortem, was usually impossible. There was, however, one form that could be diagnosticated with reasonable certainty, *i. e.* the "white pneumonia" of Virchow. Not only was the appearance distinctive, but the localization also. It was found, usually, around the hilus of the lung, in connection with bronchial glands. This variety was very rare. About twenty years ago, Dr. Adler said, he had, in conjunction with a number of physicians in various parts of this country, given antisyphilitic treatment most conscientiously to every case of pulmonary tuberculosis, and he could not say that the pulmonary affection had been influenced in the least. He was not afraid of the use of iodides in tuberculosis—in fact, he rather approved of their administration in small doses in certain forms, as for example, when there was considerable congestive bronchitis. He did not believe that syphilis was to-day a very important recognizable factor in the prognosis and treatment of pulmonary disease. He had seen but one case of congenital syphilis of the lung. This was a fibrous case, and was associated with syphilis of the other organs.

Dr. Berg closed the discussion. He said that he would grant that an examination of an isolated gumma would not afford ground for a positive diagnosis of syphilis, but pathologists were rarely willing to make a diagnosis on a section of a tumor without further examination, aided by a clinical history. But the main object of the paper was not to show that he had reported a case of undoubted syphilis of the lung, but to call attention to the fact that many more such cases probably exist than have been generally believed hitherto. Moreover, he would insist that specific endarteritis was not the exclusive property of the brain and spinal cord, and, reasoning from analogy, one should expect syphilis of the lung to be more frequent than appeared from the literature of the past. He objected seriously to giving iodide before meals, because it antagonized the action of the gastric juice, and took away the desire for food. Large doses of the iodides, given after meals, were the secret of success in the treatment of the class of cases considered in the paper. He felt sure that Dr. Adler, with his vast clinical experience, must have seen cases of the second group, *i. e.* those of slowly resolving pneumonia in persons giving a syphilitic history and exhibiting the stigmata of this disease.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held November 25, 1902.

JAMES N. WEST, M.D., IN THE CHAIR.

Myomectomy; Treatment of the Uterus by Electricity Prior to Operation.—Dr. J. H. Schmitt presented this specimen, which was removed from a virgin, forty-five years old, who had been suffering about ten years from menorrhagia with intense colicky pains at the time of menstruation, which occurred every three weeks, when she was regularly confined to her bed for several days. She hoped that with advancing age, and approach to the menopause, her betterment would set in, but her hopes were not fulfilled. Electrical treatment, extending over a period of three months, was of no avail. Finally albumin occurring in the urine, with œdema at the ankles, and her greatly unfavorable appearance, made her consent to an operation, which was performed on October 5. Except for a mere trace of albumin in the urine she was able to continue her occupation of dressmaker. The operation consisted in a total hysteromyomectomy. There was found an ovarian cyst, the size of a man's fist, and an intimate attachment of the remaining ovarian tissues of the left side to the wall of the sigmoid flexure. The diseased part of the intestines corresponded to the area of adhesions, and was thickened and without any sharp line of demarcation from the adherent ovarian remains. Upon attempting to detach the intestine a caseopurulent matter escaped. The diseased portion of the intestine was excised and the opening closed. The specimen presented showed the entire anterior wall of the uterus, down to within one inch of the internal os, and about one-half of the fundus and sides of the organ occupied by a fibromyoma, the size of a child's head, over which the posterior wall was spread. The tumor took its origin in the uterine wall and gradually developed toward the uterine cavity, becoming submucous. The violent colicky pains from which the patient suffered were caused, probably, by the attempts of the uterus to expel the tumor. The uterine cavity was distended, and so was about one foot long and eight inches across. It could easily be seen that electrical treatment, in such an instance, would be of no avail. The beneficial influence of the galvanic current was ascribed, in cases of menorrhagia produced by uterine fibroids, to the caustic effect of the positive pole. Notwithstanding such failures, the speaker believed that the electrical treatment in menorrhagia and dysmenorrhœa caused by fibroids was the best expectant method we possessed at the present time, and much preferable to the use of such drugs as ergotin, hydrastin, etc., and far superior to curettage with its dangers. The question whether enucleation or extirpation should be resorted to in cases of uterine fibroid tumors was not always easy of decision prior to operation. Often one might be compelled to desist from attempts at enucleation and resort to hysteromyomectomy and, on the other hand, one might be satisfied with an enucleation when a hysteromyomectomy had been attempted. In the case reported, enucleation of the tumor after incision of its capsule could doubtless have been performed by the vaginal route, but the unavoidable handling and traction upon the tumor might have resulted with fatal consequences. Besides the diseased adnexa would have necessitated a second operation.

Pyosalpinx Situated on the Top of the Fundus Uteri.—Dr. H. J. Boldt presented this specimen because of its unusual position and its simulation to a uterine tumor upon examination. In his opinion it was desirable to record such unusual conditions. The patient, P. M., aged twenty-seven years, began to menstruate at the age of twelve years. Menstruation was regular at intervals of four weeks, the duration of the flow being from four to five days. She was married at the age of seventeen years, and had two children, the last seven years ago. Her labors were seemingly normal. One month ago she began to have atypical uterine bleeding. She was sent to the Post Graduate Hospital because of the bleeding and pain in the left lower abdomen. When seen by him on the 17th inst. there was some distension of the abdomen and tenderness to touch over the lower abdomen. Examination under ether on the day following revealed a tumor of seemingly solid consistency on the fundus of the uterus and intimately connected with it. It seemed to have had its origin from the left cornu, and to have reached up into the abdomen to within about three inches of the umbilicus. The adnexa on the left side was not felt. The right Fallopian tube was distended. On opening the abdomen a considerable quantity of blood-tinged serum escaped. The omentum was much thickened and firmly adherent to the top of the uterus. After separating the omental and intestinal adhesions it was found that the tumor was a pyosalpinx, which had twisted itself directly upward and had become adherent to the top of the uterus. The pus had escaped from secondary small abscesses which had formed in the inflammatory adhesions and exudate. No washing of the peritoneal cavity was done. A moderately large hydrosalpinx on the right side was ruptured, the adhesions broken up, and the appendage left. The abdomen was closed. Immediately after the operation the peritonitis began to subside and the patient made a rapid convalescence. The usual site of pyosalpinx tumors was either on the floor of the pelvis or in the posterior part of the uterus. He had had one instance in which the tubal tumor was distorted to the opposite side, so that an erroneous diagnosis as to the side affected was made.

Supravaginal Amputation of Large Uterine Fibroid; Both Adnexa Attached to the Remaining Part of Uterine Structure.—Dr. H. J. Boldt presented this specimen. The operation was done because of metrorrhagia, which incapacitated the patient from following her vocation as saleswoman. She was twenty-eight years old and single. The operation itself was not difficult. It was unusual that a tumor of such dimensions, filling out the pelvis and the abdomen, should cause no disturbance other than metrorrhagia and frequent micturition. It demonstrated that it was not the large tumors which caused the greatest discomfort. It was important that we should endeavor to retain the adnexa or as much of them as possible, in all instances of hysterectomy for non-malignant disease. Furthermore, it was desirable to retain as much uterine structure as possible in all such instances, to prevent the severe symptoms of forced menopause.

Vaginal Hysterectomy for Chronic Metroendometritis of Puerperal Origin and Chronic Salpingitis.—Dr. H. J. Boldt presented this specimen, which was removed from Mrs. P. K., aged forty years, who had had her last child ten years ago; she at that time had a septic infection, which kept her in bed nearly two months. Since then she had menorrhagia, and at times metrorrhagia; she had pelvic pains, and a dragging sensation in the lower abdomen. Backache of intense character was a prominent feature. She had been under almost constant treatment since the time of her confinement; at times her condition was better, but the improvement did not continue. As a last resort vaginal hysterectomy was done. The operation was performed in June and the patient has since constantly improved, so that, according to her statements, she is now perfectly well. The uterus showed the changes of a chronic inflammatory process, and the whole history, including the appearance of the specimen, illustrated that patients who have been ill a long time with puerperal septic infection, rarely, if ever, regain perfect health; besides such uteri are likely to remain the seat of chronic inflammation.

Teratoma; Twisted Pedicle, with Impaction in Douglas's Cul-de-Sac, Simulating Pelvic Abscess of Puerperal Origin.—Dr. H. N. Vineberg presented this specimen On October 21 he was called in consultation to see a patient with supposed puerperal sepsis. She was thirty years old, had been married six years, and had had three children with normal labors, except very severe pain along the anterior part of the right thigh during each labor pain. On vaginal examination, the posterior part of the pelvic cavity was found filled with a spherical mass, which was encroaching upon the rectum. It was fluctuating, and seemed to be intimately connected with the uterus which lay in front, and appeared to be considerably enlarged. A diagnosis of pelvic abscess due to puerperal infection was made, and a vaginal incision and drainage advised. A posterior vaginal incision got no pus. Introducing two fingers into the opening he found that the cystic mass was about one inch above the incision. An opening into this with scissors was made and some puriform fluid escaped, then a mass of hair and débris, showing that he had to deal with a suppurating tumor of the ovary of a dermoid-cyst nature. Fingers within the cyst showed a solid body attached to its upper wall. The cyst was firmly fixed in the pelvis; therefore, he had the patient removed to a hospital and, two days later, performed a laparotomy. The tumor was one of the right ovary, and had its pedicle twisted twice. The tube was œdematous, almost black in color. The tumor was ablated. To the interior of the cyst was attached a solid body, about the size of a hen's egg, and bore the shape of a human fœtus. On either side at the interior part was a rudimentary leg with five rudimentary toes. In the center was a penile-like protection of almost black color from effusion of blood, due to the twisted pedicle. He had not cut into the mass to determine what internal organs were represented, but he had no doubt that it consisted of the usual aberration of organs found in such growths.

Tuberculosis of the Vaginal Portion of the Cervix and of the Endometrium, Associated with Tuberculous Disease of the Adnexa; Hysterectomy; Death.—Dr. H. N. Vineberg presented this specimen, which he had removed from a patient, thirty-seven years old, who had been married nineteen years, had had nine children and no miscarriages. Her family history was negative. Two and a half years ago she had pleurisy with effusion, for which she was tapped; this was her only illness until the present one, which began three weeks ago with pain in the lower abdomen and with fever. Menses had not occurred for two months and she had had no night sweats, no cough, no hæmoptysis, no dyspnœa, no œdema of legs. She had lost flesh and strength. On admission she was much emaciated, and had temperature in morning of 99° and 102° in the afternoon. There was retraction above and below clavicles on both sides. There was some dulness over both apices behind. No cough and no sputum. There was a murmur, probably hæmic. The uterus was found to be enlarged to the size of a gravid uterus at the sixth or seventh week. There was a mass to the left and behind the uterus the size of a hen's egg, which was firmly fixed to the uterus. The right tube was thickened to the size of the thumb. The cervix was considerably enlarged, the hypertrophy being most marked in the anterior lip, which presented large ulcerations, which were irregular in outline, moderately deep, and covered by a grayish dirty exudate, and separated from one another by narrow strips of mucous membrane of a rather bright red color. There was no marked induration of the lip, no friability of the tissues, and no tendency to bleed when touched. There was a thick, tenacious, grayish-yellow discharge from the external os. A diagnosis of tuberculous ulceration of the vaginal portion, with probable tuberculous disease of the adnexa, was made. The pathologist made a diagnosis of tuberculous disease from a portion of the ulcer, which the doctor scraped out with a sharp spoon. The operation was a very difficult one on account of the firm adhesions of the left tuboovarian mass to the pelvic floor; it was difficult to stop the oozing; the patient died six hours after leaving the table. No autopsy was admitted. On bisecting the uterus a perfect specimen of tuberculosis of the endometrium was obtained. The mucosa was double the normal thickness, and had a soft, velvety appearance, and was thrown into longitudinal folds. Fresh tubercles could be seen on the summit of folds. Tubercle bacilli were readily found in the endometrium. The right adnexa were indistinguishable as such, forming an abscess sac, the pus of which contained the tubercle bacilli in abundance. The left tube was enlarged and filled with pus, which also contained tubercle bacilli.

Uterine Polypus with Complete Inversion of the Uterus.—Dr. L. J. Ladinski presented this specimen, which had been removed from a single lady, forty-eight years old, whose menstruation had always been regular, beginning at the age of fifteen years. Four years before the doctor saw her she began to complain of pain in the lumbar region and lower abdomen. At first she suffered from menorrhagia. During the year prior to coming under his observation she complained of constant pain in the lower abdomen and profuse menorrhagia. She later had a very offensive discharge with constipation and painful urination. In June, 1902, she had a profuse uterine hemorrhage. She refused a vaginal examination for a week or two when an intact hymen was found and a profuse and offensive discharge from the vagina. A large mass was found filling the entire pelvic cavity. It was impossible for him to introduce the finger to explore the pelvic cavity to learn the origin of the tumor. The diagnosis was a tentative one of tumor of the cervix, and because of the raw eroded surface of the tumor a diagnosis of possible malignancy was made. Operation was advised and accepted. Under an anæsthetic, after dilating the hymen, he found a simple uterine polypus, and also a complete inversion of the uterus. The pedicle of the tumor sprang from the fundis uteri. The uterus was removed, and the patient made an uneventful recovery, leaving the hospital three weeks after the operation.

A Case of Appendicitis.—Dr. Ladinski reported this case. This patient had been operated upon four years ago in Bellevue Hospital for an ovarian tumor; both ovaries were removed, one four years ago, the other three years ago. The patient was a woman, twenty-six years old, who was admitted to the Polyclinic Hospital on October 3. She had had no children and no miscarriages. Her family history was negative. Her menstruation was always regular. Her patient was sent to him because of severe and irregular pain upon the right side of the abdomen, and he thought she possibly was suffering from a pyonephrosis. The urine contained granular casts, pus and gonococci. Nothing wrong could be found with the appendix. The uterus was small and both adnexa gone. On the right side there was thickening, which he thought was the old pedicle of the right broad ligament. She was kept under observation from October 3 until the early part of this month. Although she repeatedly begged for an operation, he refused to do an exploratory laparotomy. The urine cleared up, but the symptom of indefinite pain persisted, and finally he yielded to her demands for operation. Under anæsthesia he was able to examine the appendicular region. The appendix was found to lie crosswise in the pelvis, falling over the brim of the pelvis and held fast there. The diagnosis of appendicitis upon the right side was made; the cæcum was found adherent to the pedicle on the right side and held the appendix in that position. The appendix was bent over, and the omentum was adherent to the cæcum as well as to the appendix. The specimen presented showed an ulceration with fecal concretions and constrictions.

Multi-Bulbus Terminals.—Dr. P. A. Harris of Patterson said that less than one year ago he had presented to this section an intravenous injection tube of Dr. Howard A. Kelly's, which he had altered by removing the terminal at the rubber end of the tube, and substituted a conated multi-bulbus terminal in order to render it more adaptable to rubber tubing of any size. The ease with which almost any sort of tubing could be instantly and tightly connected with this multi-bulbus terminal led him to adopt it for other purposes, and he had terminals of this kind placed on all his wash-outs. Various instruments with terminals attached were presented to the section.

Vaginal Counter-Pressure Director.—Dr. H. N. Vineberg presented this instrument. He said that, although drainage following operations for disease of the pelvic organs was being restricted nowadays, still every now and then a case was met with in which such a procedure was indicated. For this class of cases he devised this instrument, which facilitated the creation of a good-sized opening through the cul-de-sac into the posterior vaginal vault. An assistant passed the instrument into the vagina and applies a grooved director, which was about two inches long and three-quarters of an inch wide, and placed at right angles to the slightly curved staff, against the posterior vault at the desired distance behind the cervix. The operator could readily cut down upon the director from above, with either a pair of scissors or a scalpel. The edges of the incision could be easily clamped with a Werthenian clamp, and all loss of blood could be thus avoided. If necessary, the edges might then be sutured with a continuous suture He had used the instrument for the past six months, and had found it very useful. The objections to the instrument which had been hithertofore used for this purpose were that it was often very difficult to thrust through a thickened and infiltrated cul-de-sac, and that the opening which was made was too small for efficient drainage and easy removal of the gauze left in the bottom of the pelvic cavity.

The Scope of Vaginal Section.—Dr. E. H Grandin opened the discussion on this, the special topic for the evening. He said that it might be laid down as an axiom that he who had specifically trained himself to work through the vagina may accomplish more and with greater facility than he who had accustomed himself to work mainly through the abdominal incision, but the conclusion that the former thus secured better symptomatic and anotomical cure would not hold. Far too frequently attempts at what might be termed surgical legerdemain resulted in incomplete and faulty work, and entailed prolonged anæsthesia with the immediate or remote effects on kidneys, heart, and lungs. Such considerations outweighed the charge brought against the man who preferred to do his work through the abdominal incision, where he might be guided by sight as well as touch. The vaginal incision commended itself for diagnosis. Thus, in those borderline cases of ectopic gestation, not at all uncommon, in which the symptomatology was so inexact that we felt impelled to defer operation, and yet where delay might be fatal, an aseptically performed vaginal section carries a minimum of risk and a maximum of certainty as regards diagnosis. If we secured free blot or clots, our line of action was clear; if we did not, the woman had in no sense been harmed. Again in pelvic pain of an obscure source, when careful examination revealed no special lesion, through vaginal section we might examine by sight the uterine appendages and determine whether or not they were causal factors of the pain. Through the same incision it was often wise to explore in order to determine the feasibility or desirability of attempting a complete operation by the suprapublic route.

A further scope of the vaginal incision was for palliative treatment. He had in mind the old-fashioned pelvic abscess, mainly of puerperal origin, in which the immediate indication was the evacuation of pus and the establishment of drainage. Here the condition of the patient was often such as to contraindicate operation from above, aside from the fact that he was a wise surgeon who dreaded flooding the abdominal cavity with puerperal (streptococcus) pus. In such an instance the posterior incision was only a step preliminary to abdominal section later, when cure was aimed at, and not palliation. The same remarks might apply to pelvic hæmatocele, except that if not suppurating, and when the condition of the patient was good, the damaged tube and the broad ligament should at the same sitting be exsected from below or above, according to feasibility. Drainage, following Nature's teaching, should be down hill, through the vaginal section. A final scope of vaginal section was for curative purposes and then we reached debatable ground. The personal equation entered largely as a factor. One man dared do much through vaginal section, where another dreaded to tread and bungle, therefore, a discussion between expert operators by different methods might be unsatisfactory. It might be granted that almost everything might be done by the vagir n of section, but too often at the expense of the patient' ination too often at the expense of an incomplete op rgery in The honest and conscientious operator did r should not, strive to see how much he could accomplish through the vaginal incision, but rather should have in mind that often the selection of the suprapubic route would enable him to work more rapidly and therefore minimize the danger of prolonged anæsthesia, and would also enable him to do more complete work and therefore be more likely to effect a cure. To sum up the matter from the standpoint of experience, he laid down the following deductions: (1) Tumors (Benign and Malignant) Unassociated with Inflammatory Pelvic Lesions.—If they could enter the pelvic brim they might be removed and should be removed through the vaginal incision. If the tumor was malignant we could perform the elaborate removal of glands which, it had been claimed, was desirable, but the experience of the writer with malignant disease of the cervix (whether operated upon from above or below), had been so uniformly unfavorable from the standpoint of recurrence that he included these cases in the category of those which might be rightly operated from below. When, on the other hand, such tumors could not enter the pelvic brim, or were surrounded by adhesions or complicated by pyosalpinx or ovarian abscesses, the vaginal incision was only feasible when the welfare of the patient did not enter as a factor. (2) Diseases of the Appendages.—Whenever readily accessible, and whenever adhesions to the neighboring structures might be separated without undue force, the diseased appendages should be by choice removed by the vaginal section. Whenever the aim was to perform plastic work on tubes or ovaries, as a rule, the same incision sufficed. Specifically speaking, pyosalpinx or ovarian abscesses, especially if right-sided, were without the sphere of vaginal section for the reason that not infrequently the vermiform appendix was also involved and must be removed, or adhesions to cæcum or sigmoid or rectum existed and might alone be surgically treated from above. This rule might occasionally not hold when the vagina was capacious. Ectopic gestation, if unruptured and not adherent, fell within the scope of the vaginal section, otherwise the suprapubic route was preferable. (3) Uterine Displacements.—In view of the fact that the symptomatology of uncomplicated uterine displacements were dependent on the amount of sagging of the organ and not on the mere version, these cases did not fall within the scope of vaginal incision. The uterus might be drawn up and held up and not merely fastened anteriorly to the vagina. Similarly, whilst elaborate vaginal incision and vaginal dissection might enable us to shorten the round ligaments by infolding or twisting, the injury to the pelvic diaphragm which was necessitated made one reluctant to sanction the method. Furthermore, of necessity, the anterior vaginal wall was foreshortened, the uterine segment became adherent and, in the event of pregnancy, dystocia might ensue. When the uterine displacement was complicated by adhesions, and, therefore, as a rule, by diseased adnexa, the vaginal incision was useless from a surgical curative standpoint, although, when the operator was specifically expert in vaginal work, he might succeed and not fear injury to the intestines, rupture of the pus-sac, or other imperfect or incomplete operation. Adhesions could be broken up through the vaginal incision and gauze could be packed, but new adhesions formed even while the old adhesions high up remain. While these views were subject to change, as were all our views at present, they were worthy of the consideration of all who placed the safety of the woman paramount to brilliancy of operation.

Dr. H. J. Boldt thought that, in naming the subject for discussion, the expression "The scope of vaginal operations" would have been better. Some years ago he had held the position that the vaginal route should always be that of choice, if it were possible to do the operation intended by that route. Many who opposed at that time now expressed the greatest enthusiasm of the vaginal route, while experience had led him to modify his views as to the scope for the applicability of vaginal operations. He now gave preference to an abdominal section in conditions in which he would formerly have advocated an operation *per vaginam*.

Suppurative Salpingitis.—In considering the individual conditions, he first took up suppurative salpingitis. Whenever the fallopian tubes were on the floor of the pelvis, and this was usually the case, and if the illness was acute, it was preferable to open the cul-de-sac, incise the pus tubes and drain them. Suppose there was pyosalpinx, either unilateral or bilateral, and it was evident that the pus sac might be readily approached *per vaginam*, but that the general peritoneal cavity was not walled off by a pelviperitonitic exudate? After opening the cul-de-sac of Douglas in the median line with a perforating dilator and then stretching the opening with a proper dilator to such an extent that the pelvic organs might be palpated, the pelvic cavity above the tubes was then walled off with sterile gauze, then the fallopian tubes were opened, and after the pus had made its exit a strip of gauze was, if possible, inserted into the opening made in the tube. The vaginal opening was also packed with gauze to check the oozing and to keep the opening as large as it had been made with the dilator. The dressings were changed every day or every other day, according to indications. The pus cavities were washed out with antiseptic solution before fresh gauze was inserted. This treatment was continued as long as pus was formed. If an exudate was present which walls off the general peritoneal cavity, the gauze packing above the tubes was unnecessary. In such cases the prognosis for the life of the patient was good. The remaining question was the relief of the patient from disease symptoms. Out of thirty-seven cases of pyosalpinx, conservatively operated upon after this manner, nine were symptomatically cured. Fifteen were improved to such a degree that they declined further surgical intervention, five were not benefited at all, and eight were lost from further observation. This was not a very good result as far as relief from disease symptoms went, but it was time enough to do a more radical operation should a patient not get sufficient relief from this. The danger of a radical operation was not increased if one first tried a simple conservative, vaginal operation. He doubted if tubes operated upon in this way ever became normal, but they might be symptomatically cured, and subsequent pregnancy was sometimes possible. In all instances of pelvic suppuration, if it was evident that pus could be reached by means of a vaginal section, that method should be preferred. So far as conservative surgery of the uterine adnexa was concerned, abdominal cœliotomy gave better results except in pyosalpinx. Fallopian tubes were sometimes so extensively diseased that their removal became necessary for the relief of symptoms which they caused, while one or both ovaries might be in such good condition that it was feasible to save them. Should it be found that diseased ovaries, not the seat of large neoplasms, were causing sufficient symptoms to give an indication for operation upon them, either anterior or posterior colpocœliotomy, as the circumstances might indicate, should be the intervention of choice. All ovarian tumors not exceeding six to eight inches in diameter and reaching to the floor of the pelvis were suitable for approach by means of vaginal cœliotomy, although it might, in some instances, be necessary, if the adhesions were too firm to be separated from below to resort subsequently to an abdominal section. In cases of tubal pregnancy, vaginal cœliotomy should be limited to those patients who had a well defined pelvic hæmatocele, and to those in whom the diagnosis had been made before rupture of the tube.

Uterine Tumors.—The presence of uterine myofibromata was occasionally an indication for vaginal operation. While submucous, and sometimes interstitial, tumors were a proper indication for resorting to this method of surgical intervention, yet if myomectomy was to be done, these neoplasms could be better treated by conservative methods if approached from above. For the vaginal operation he indicated neoplasms which were submucous, neoplasms which were on the anterior wall of the uterus, of small size, but causing irritability of the bladder, and small subperitoneal tumors which were in the cul-de-sac. For radical operations, such tumors as did not reach beyond the true pelvis, and only then if the vagina was voluminous enough to permit of the work being done without making deep incisions for the purpose of enlarging the field of work. He had given up vaginal operations for backward displacements of the uterus, preferring shortening of the round ligaments by other methods. Mobile displacements did not require opening of the peritoneal cavity at all, and patients with firmly fixed uteri could be more conservatively managed from above. If, however, a vaginal cœliotomy was contemplated because of another pathological condition, as a small myoma or an ovarian cyst, then, if displacement was present, shortening of the round ligaments should be done at the same time through the vaginal incision. The operation for ureterocystotomy *per vaginam*, and vaginal hysterectomy for cancer, depended as much upon individual circumstances as the operations on the uterine adnexa. Septic puerperal infection was not an indication for vaginal section through the cul-de-sac with subsequent drainage, unless there was an exudate into the pelvis.

Favoring the Vaginal Route.—Dr. J. Riddle Goffe said that if one could do an operation through the vagina as expeditiously as through the abdomen he saved the patient a certain amount of shock and a certain amount of danger from infection. It was generally recognized that the pelvic peritoneum was not as susceptible to infection as the abdominal or intestinal peritoneum; it was more accustomed to violent usage. Therefore, operation through the vagina was more safe than one through the abdomen to that extent. He stated that patients who had been subjected to vaginal cœliotomy were more comfortable in their convalescence, for they had no stitches to be removed, or adhesive plasters to take off, or the scarring afterward, nor do they run the dangers of a hernia following. Dr. Goffe claimed that so far as the patient was concerned, any operation that could be done as well through the vaginal as through an abdominal incision, was far better done through the vagina. The question was what operations could be done through this incision and with what thoroughness and efficiency, and with what safety? The idea of the vaginal section had changed much during the past year, and instead of opening through Douglas's cul-de-sac, the incision was extended so as to include one into the anterior vaginal wall; through such an opening not only could one feel, but also one could see, and, therefore, it was no longer a dark cavity; you were working in the light. With reference to conservative work upon the ovaries and the tubes, whether done better by the vaginal or the abdominal route, that was a matter of experience; he thought that just as nice and complete conservative work, with just as much efficiency, could be done by the vaginal as through the abdominal incision. Through a vaginal incision he could do everything that could be done through an abdominal one, and the statement that such operations could not be done *per vaginam* did not hold. He knew the older men were not looking to any change in the technique which they themselves had so perfected; but it was the younger man to whom he looked for much in this line of vaginal work. Conservative work upon the appendages he did through the vagina; even retroversions, complicated by adhesions, not only to the uterus, but to the appendages, were treated through the vaginal incision. In cases of fibroid tumors the uterus was turned down, into the vagina and removed even easier than through abdominal section. He believed that uterine fibroids below the brim of the pelvis could be treated with as prompt satisfaction by myomectomy through the vagina as through the abdominal incision. In conclusion he stated that there were more operations being done through the vagina than through the abdomen as the younger men are growing.

The Limitations of the Vaginal Route.—Dr. A. Palmer Dudley, because he looked upon the question under discussion from purely a mechanical standpoint, said he must disagree with some of the gentlemen. He did not want to be limited to any one method of operating; in fact, the more methods he had of doing work within the female pelvis the better. In studying the scope of vaginal work, and its limitations, one must individualize, and that one could do. There were master workers in the vagina, and master workers in the abdomen, and they disagreed because one could work better from above and the other from below. The woman's life and her after-condition depended upon the skill of the man she chose, whether he did his work through the vagina or through the abdomen. He could only praise the man who could work through the vagina with the same skill as one could do the same work through the abdomen. What were its limitations? He believed it was only the work that could be done through the vagina that had its limitations, and he believed that only such work in the pelvis or abdomen which could not be reached through the abdomen should be done *per vaginam*. The limitations of the vaginal work in the hands of experts, such as Dr. Goffe had proven himself to be, were anything that they could draw through the pelvis with safety to the woman. If they could do that through the vagina they were justified in so doing; but, if they endangered the lives of their patients by such individual idiosyncrasies, they were then taking such chances which the general profession would condemn.

Dr. H. N. Vineberg, in continuing the discussion said that by the term vaginal section, as he understood it, vaginal hysterectomy was excluded, as was also the operation which was performed for the correction of uterine displacements. Vaginal section found its scope in the following conditions: (1) Pelvic Abscess—In cases of simple pelvic abscess, when the collection of pus occurred in the cellular tissue of the pelvis. When the collection existed in Douglas's cul-de-sac the section was both easy and simple. When the collection had taken place at either side of the uterus, in the base of the broad ligament, the vaginal incision was attended with considerable risk, notably from hemorrhage. When the collection was in front of the cervix, the position of the bladder had to be taken into consideration. (2) Pyosalpinx and Ovarian Abscess.—In his opinion vaginal section was indicated in these lesions only under certain conditions: (*a*) When the abscess sac was easily reached through a vaginal incision and could be removed entire, *i. e.* when it was situated in Douglas's cul-de-sac and was fairly movable. (*b*) When the sac was not large and could not be removed readily through an anterior vaginal incision. (*c*) In pyosalpinx and ovarian abscess, during the acute stage, vaginal section was indicated if the collection of pus was accessible through a posterior incision through the vagina, simply to tide the patient over the dangerous period. In some cases, when the pus sac was unilocular and favorably situated, the vaginal section may prove to be not only palliative, but a curative measure. There was a class of cases of acute and subacute pyosalpinges, which it was customary to treat palliatively for weeks, in the hope that the pus might become sterile. These cases could be safely attacked through a vaginal and abdominal section combined. By pursuing such a plan the patient was saved a long illness in bed and sometimes from an extension of the lesion through repeated attacks of inflammation during the waiting period. (3) Conservative Surgery in

Diseased Adnexa.—Vaginal section found a suitable field in a certain class of diseased appendages admitting of conservative surgery. The cases required to be selected. But after some experience in selection and the requirement of some skill in operating through the vaginal route, a mistake was seldom made in setting the indications. He excluded all cases in which there were extensive and firm adhesions and when there were evidences of marked infiltration of the broad ligament. (4) Ovarian Cysts.—One met with a number of ovarian cysts of moderate size which could be readily removed through a vaginal incision. Before deciding upon this route one should be reasonably certain that he was dealing with a simple cyst and not with an abscess of the ovary. (5) Myomectomy.—Small fibroid growths in the anterior wall of the body or fundus of the uterus constitute a suitable field for the vaginal route. Growths in the posterior wall, if they were situated high up had better, in his opinion, be removed from above. (6) Ectopic Pregnancy.—In this condition vaginal section was indicated under the following conditions: (*a*) in obscure cases, to aid in forming a diagnosis; (*b*) in cases of ectopic pregnancy, when evidently there are no further hemorrhages and when the already effused blood has formed a hæmatocele in the cul-de-sac or at the base of one of the broad ligaments. It was a good plan to pass the fingers into the cavity of the hæmatocele for the purposes of exploration. If a mass be found projecting from its upper wall, it was usually the ectopic sac containing an organized blood clot. In such a contingency he deemed it was safer to open the abdomen from above and remove the mass. When this had not been done he had known serious hemorrhages to recur after the patient had been returned to bed.

Dr. Brooks H. Wells said the first vaginal sections for disease of the appendages were made by the late Wm. F. Byford of Chicago, in the late '80's. But one was seldom a profit in his own country, and the operation was overlooked and forgotten. Later it came back with the glamour of a foreign fame and many surgeons became so enthusiastic as to say they would never again cut through the abdominal wall for conditions that could be reached through the vagina. When they came to their senses again they found that while all the conditions under discussion *could* be treated by vaginal section yet the ultimate results were not in all cases as satisfactory as those obtained by the abdominal route. Granted that the mortality was essentially the same by either route, what were the advantages claimed for the vaginal section? (1) The avoidance of the visible abdominal scar and the liability to neutral hernia. The chance of hernia was remote with modern methods of wound closure. The discomforts of the visible scar were often more than counterbalanced by the dyspareunia from the scar hidden in the cul-de-sac. (2) The smoother, quicker, and less painful convalescence. His own experience, as well as that derived from the observation of many cases of other operators, was just the reverse, except in the instances in which the vaginal operator was able to leave a closed wound, as in the method usually employed by Goffe, the clamp operation was done, or any method employed, which required the repeated packing of the vagina with gauze, the frequent dressings required were often extremely painful, and there was usually a foul discharge. In abdominal work these sources of discomfort were avoided. (3) That, as there was less disturbance of the abdominal contents in operations by the vaginal route, fewer adhesions resulted.

In simple conditions, these needed little disturbance by either route. In difficult cases it should be evident to every practical surgeon that one could separate complicated attachments more safely and accurately through the abdominal incision, and that one could better cover over and repair injuries to the peritoneal surface by this route. The more completely peritoneal surfaces could be restored, the less the probability of the formation of new adhesions. The fewer the adhesions the better the ultimate result. These considerations sharply defined the scope of vaginal work. When we wished primarily to drain the pelvic cavity, as in certain cases of puerperal sepsis, or large collections of virulent pus, vaginal incision was proper. In other conditions we should, in the great majority of cases, enter the abdomen from above.

Book Reviews.

A Text-Book of the Science and Art of Obstetrics. By Henry J. Garrigues, A.M., M.D., Consulting Surgeon to the New York Maternity Hospital; Gynecologist to St. Mark's Hospital; Professor Emeritus of Obstetrics in the Post-Graduate School; Honorary Fellow of the American Gynecological Society and of the Obstetrical Society of Edinburgh. Philadelphia and London: J. B. Lippincott Company, 1902.

For many years the science and art of obstetrics seemed to be at a standstill, and the books on this subject which appeared from time to time represented little more than old knowledge in a new dress—indeed, as regards the illustrations, even this was not true, for one book after another copied the cuts of the old masters, errors, inaccuracies, and all. The last few years have seen a great change in this respect, and very naturally, for the present teaching of obstetrics is as different from that of the past as daylight is from darkness. The improvements in the bookmaker's art, especially in the reproduction of illustrations, have also done much for the student of obstetrics. In the present work he is given a clear, logical, and systematic presentation of the subject, for the author, unlike many others, never falters in his determination to teach, and to avoid confusing his pupils by lengthy discussions and unnecessary details. On the other hand, everything that is really of importance is described with great minuteness.

There are two grand divisions of the book; the first, dealing with what the author calls "the foundation," and with normal pregnancy, labor, and the puerperium; the second, treating of abnormal pregnancy and labor, obstetric operations, the abnormal puerperium, and the diseases of the new-born child. The many illustrations have been selected with a view to elucidating the text rather than making the book attractive.

Everywhere may be seen the touch of the experienced teacher and practical obstetrician. The common-sense advice with regard to the question of adopting antiseptic or aseptic methods in the average private practice is a case in point, and the lucid and detailed instruction for the acquisition of that most useful art, the palpation of the fœtus through the abdomen of the mother, is deserving of special commendation. A distinguishing feature, which will be appreciated by the novice, is the fulness of the information on the subject of the care of the breasts, and on the diseases of new-born children. Altogether this is a textbook in the best sense of the word, yet it may be profitably consulted by the practitioner. The author's style is clear, concise, and characterized by a refreshing candor. Dryness is avoided by interrupting here and there the flow of scientific precept by touches of humor, and even of pathos, not a few of which, like the following, disclose both the teacher and the man: "Upon the whole," he says, "most women approach their confinement with a serious turn of mind, which, in some, amounts to apprehension and dread, sometimes mixed with despair. The humblest woman who is going to give birth to a child should, therefore, inspire her accoucheur with genuine sympathy. His knowledge and skill, however great they may be, do not suffice; he must feel with his patient, pity her sufferings, think of her dangers, forgive her sins, comfort and encourage her, and not forget that she is going to give birth to a human being, perhaps one of Nature's favorites, maybe one who will become a benefactor of mankind."

Practical Diagnosis: The Use of Symptoms and Physical Signs in the Diagnosis of Disease. Fifth Edition, Revised and Enlarged. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; One-Time Clinical Professor of Diseases of Children in the University of Pennsylvania, etc. Philadelphia and New York: Lea Brothers & Co., 1902.

The appearance of this new edition of Hare's Diagnosis will be warmly welcomed by the many who have been helped by the teachings of earlier editions to a correct appreciation of the significance of various obscure symptoms. The plan of the work is eminently rational and practical. Instead of beginning with the disease and describing its symptoms, as is done perforce in textbooks on the practice of medicine, the author begins with symptoms, and discusses the diseases to which they point. In this way the book serves as a guide-post in the labyrinthine paths of diagnosis, which is the only *raison d'être* of works of its class. This new edition has been considerably amplified; new matter relating to physical signs and clinical tests has been added; former teachings have been revised to keep pace with the progress of medical science; and many illustrations and colored plates have been inserted. The work is one well adapted to the needs of the practitioner, especially the young one who has yet to acquire fluency in reading the obscure hieroglyphs of disease.

Cliniques Médicales Iconographiques. Par M. P. Haushalter, G. Etienne, L. Spillmann, Agrégés de la Faculté de Médecine de Nancy, et Ch. Thiry, Ancien Interne des Hôpitaux de Nancy. Paris: C. Naud, 1901.

This great atlas of medicine, which is published in eight parts, contains sixty-two quarto plates, composed of 398 phototypes, illustrating 284 separate cases. Accompanying each plate is a brief history of the case depicted, care being taken to point out to the more obscure features in each instance, which might otherwise escape the untrained eye of the observer. The photographs are those of actual patients treated in the authors' clinics at Nancy. Many of them are of the same disease, illustrating various forms, stages, and individual peculiarities of progressive amyotrophy, infantile paralysis, and hemiplegia, Graves' disease, myxœdema, gangrene, arthritis deformans, etc. Thus the student is not misled by the contemplation of types only, but becomes acquainted with the physiognomy of disease in all its varieties. In addition to the many nervous affections which lend themselves so readily to pictorial representation, there are illustrations of the cutaneous manifestations of general diseases, of the various trophoneuroses, dermatoses, and syphilitic changes. The work cannot be commended too highly for the excellence and fidelity of the plates, and the instructive histories of the subjects of the illustrations. With it, in conjunction with a good textbook of medicine, one may pass many profitable hours in clinical study.

A Manual of Medical Treatment, or Clinical Therapeutics. By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London; Consulting Physician to King's College Hospital; Hon. Fellow of King's College; Formerly Professor of the Principles and Practice of Medicine and of Clinical Therapeutics in King's College; Examiner in Medicine at the Royal College of Physicians, etc. Tenth Edition. Chicago: W. T. Keener & Co., 1902.

This treatise differs from many of the best known works on treatment in that it is not a mere therapeutic index giving a list of medicinal and other measures for combating disease. Treatment is much more largely symptomatic and causal than specific, and consequently a knowledge of etiology and symptomatology is essential to a rational and successful therapy. This fact has been recognized by Dr. Yeo, who devotes much space to the causation, pathology, and symptoms of each disease before entering upon its therapeutic management. A feature of the book which will appeal to many who are rather weak in prescription writing, and love ready-made formulæ, is an appendix to each chapter containing a number of the "favorite prescriptions" of various well-known clinical teachers and therapeutists, in addition to those given by the author himself. There are some recommendations in the book with which the reviewer cannot agree, and several omissions which he regrets—in the chapter on pneumonia, for example—but he rejoices to find here a condemnation of the routine cold-bath treatment of typhoid fever. The reprobation of this practice by an authority such as Burney Yeo should make the heedless stop and think. This edition does not differ greatly from the one preceding—indeed, where a new edition comes out every year, the changes cannot be many—but all necessary additions have been made to keep the work thoroughly up to date.

The Public and the Doctor. By a Regular Physician. Published by Dr. B. E. Hadra, Dallas, Tex.

This little book of 150 pages is intended to instruct the public regarding its relations to the medical profession. It will serve to explain many points to the layman which will enable him to select his doctor with better judgment than is always shown, for it points out the dangers and fallacies of quackery, Christian Science, etc., in a way that would be convincing to anyone endowed with the power of judgment. The author lays stress upon the long time required for study and for work in the domain of medicine and the absurdity of the claims of exceptional knowledge, with which the advertising healer crowds the newspapers. Good, wholesome advice abounds, and the reader should make a better patient after the perusal of the booklet. To those physicians who have not the time or disposition to explain these points to their clients the work can well act as a substitute teacher

Applied Surgical Anatomy Regionally Presented for the Use of Students and Practitioners of Medicine. By Geo Woolsey, A.B., M D Professor of Anatomy and Clinical Surgery in Cornell University, Surgeon to Bellevue Hospital, etc With 125 illustrations, mostly colored New York and Philadelphia Lea Brothers & Co., 1902

For the purposes of instruction, the relations between anatomy and surgery cannot be too early brought out in the college courses and emphasized. The volume before us is one of the most recent attempts to present surgical anatomical information in a concise and comprehensive manner, and the author may be congratulated upon a successful effort. As is to be expected, the various chapters of the book are devoted to the different regions of the body, the anatomical points of which are described with special reference to their surgical importance, though strictly anatomical detail is by no means neglected. The author has drawn largely from various sources for his illustrations, which are numerous and serve their purpose, but are not particularly noteworthy. The student for whom this book is specially written will no doubt find it useful, and it will also fill a place on the reference shelf of the graduate, though no well-established predecessor is likely to be thus displaced.

The Physician's Protective Accountant. Chicago: The Clinic Publishing Co., 1901.

This is a combined visiting list and pocket ledger of monthly balances with index of accounts, which the publishers claim is the only strictly legal pocket visiting list and financial record in existence. The visiting list comes in twelve sections, each of which can, in turn, be inserted in a flap in the inside cover of the ledger. Each section contains space for the records of 128 patients, two on a page, a whole line being available for entry of the kind of service rendered each day in the month, and the amount charged therefor. At the bottom of each page is space for the total charges with credits, if any. If the account is paid within the month, there is nothing further to do than to enter the collection in the cash account for the month at the back of the ledger If it is not paid, it is transferred to the ledger, a very simple matter, since both visiting list and ledger are contained within the same covers. The advantage of a visiting list in which the nature of the service rendered is written out in full, and not expressed by signs, is that in case of death of either physician or patient a legal record exists, the courts having held that accounts requiring explanation will not stand The book is of convenient size for the pocket, of moderate price, ingenious in its arrangement, and yet so simple that no one would be likely to make errors in his accounts while using it.

The American Text-Book of Obstetrics. By various authors. Richard C. Norris, M.D., Editor; Robert L. Dickinson, M.D., Art Editor. Second Edition. Two volumes of 550 pages each; nearly 900 illustrations. Philadelphia and London: W. B. Saunders & Co., 1902.

Since this now well-known work first made its appearance in 1895 there have been many advances in obstetrics, and the present edition has afforded an opportunity for revision and extensive additions. It now appears in two volumes. The high standard of artistic and typographical excellence which marked the first edition has been fully maintained in the present one. The first volume deals with the generative organs, pregnancy and labor; the second, with the puerperium, the new-born infant and obstetric surgery. The great wealth of illustration impresses one at every turn, but special mention should be made of the plates accompanying the article, by Dr. George A. Piersol of Philadelphia, on the development of the embryo, and those showing the mammary changes of pregnancy, described by Dr Chauncey D. Palmer of Cincinnati, in his article on the symptoms and signs of pregnancy. The all-important, but rather difficult, subject of the mechanism of labor is admirably presented by Dr. Edward Reynolds of Boston, and he who will implicitly follow the judicious instructions of Dr Charles Jewett of Brooklyn, on the conduct of normal labor, will never have occasion to regret it The subject of obstetric surgery is subdivided into instrumental operations and manual operations. The former is treated of by Dr J. Chalmers Cameron of Montreal, and the latter by Dr. Robert L. Dickinson of Brooklyn Here, as elsewhere throughout the work, the numerous high-class illustrations help to a proper understanding of the subject.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 6, 1902:

	Cases.	Deaths.
Measles	160	6
Diphtheria and croup	397	49
Scarlet fever	191	12
Smallpox	1	..
Varicella	86	..
Tuberculosis	259	164
Typhoid fever	90	16
Cerebro-spinal meningitis	..	..

Purulent Phlebitis of the Sigmoid Sinus.—A. Knapp reports the case of a patient with unquestioned pyæmia of aural origin, having two to three chills a day, at operation presented an enormously distended sinus with a thin but healthy anterior wall; the sinus contained fluid blood. The sigmoid sulcus was normal. The bone posterior and external to the horizontal semicircular canal seemed unhealthy, and the neighboring dura was covered with apparently healthy granulations. The pyæmic condition, though improved at first, continued; the swelling in the right suboccipital triangle became circumscribed. At the second operation the floor of the occipital bone was explored to no purpose, and as the bone near the labyrinth seemed unhealthy, this was further resected. No new lesion was found. The lateral sinus still contained fluid blood. The jugular vein was ligated. The patient's condition grew steadily worse; meningitis became more marked, and led to the patient's death. At autopsy, meningitis was found, and an unusual condition of the sigmoid sinus. The descending portion was enormously distended, the anterior wall was very thin, but healthy. The posterior wall was thickened, measuring 6 mm.; all of the coats of the venous wall were infiltrated, the central part was red, and the part projecting into the lumen was gray and rough, apparently necrotic. Microscopic examination of the sinus wall revealed the presence of granulation tissue, showing that the process was of some standing and tissue repair had been attempted. This infiltration extended down through the bulb to the beginning of the jugular vein, thus producing the deep suboccipital induration. The cerebellar surface of the dura appeared perfectly healthy. The sinus contained a recent blood-clot. The infection presumably extended from the antral wall posterior to the horizontal semicircular canal to the dura, causing pachymeningitis, then involving the posterior wall of the sinus, the anterior remaining healthy.—*Archives of Otology.*

Two Cases of Anæsthetic Leprosy.—C. N. Valin reports two cases of this disease which occurred in his practice, and which, he considers, prove the contagiousness and the curability of leprosy. The first patient was a Syrian boy, thirteen years old, who arrived in Montreal in December, 1899. He had no cutaneous trouble on arriving, but did have fever, headache, and other symptoms, and a few months later the characteristic symptoms of his affliction declared themselves. In the lack of any specific treatment, the oil of chaulmoogra, which has been given in leprosy with good effects, was administered, and in two months there was a notable improvement in the patient's condition. The fever and lassitude disappeared, the appetite improved, the general condition became better, the spots on the skin gradually disappeared, œdemas and infiltrations were absorbed, and sensibility was restored in the anæsthetic areas. The cure has been maintained for a year and a half. The boy's father, who has been in Canada nine years, never showed the slightest symptom of leprosy until about two years after his son's arrival. He is now suffering from the disease, which, in the absence of all other possible sources of infection, he must have contracted from the boy. The author treats of the subject of leprosy at length, and suggests measures of sanitary prophylaxis.—*L'Union Médicale du Canada.*

The Early Diagnosis of the Attacks and Relapses of Acute Articular Rheumatism.—P. Achalme calls attention to a new symptom which consists in a temporary but decided cardiac arhythmia preceding the articular attacks. It is a true arhythmia and not a plurigeminal pulse; the number of the pulsations diminish and oscillate between fifty and sixty a minute, which is the opposite of the condition found in the arhythmia,of neuropathies toxic asystolic arhythmia, etc. At the same time the force of the cardiac impulse is increased. The patient complains of fatigue, and of apathy, but has no symptoms which he refers to the heart. This symptom begins abruptly and at once reaches its maximum of intensity, diminishes later, and lasts altogether from forty-eight to seventy-two hours. It has usually disappeared when the fever and the articular troubles make their appearance. The author inclines to the belief that there is a lesion of the myocardium due to the localization of the microbes of the disease, basing this view upon the results of experimentation on animals.—*Archives Générales de Médecine.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended December 6, 1902:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Los Angeles	Nov. 8–22	3	..
Colorado, Denver	Nov. 15–22	10	..
Florida, Jacksonville	Nov. 22–29	1	..
Georgia, Atlanta	Nov. 19–26	7	..
Illinois, Chicago	Nov. 22–29	1	..
Indiana, Indianapolis	Nov. 22–29	3	..
Kentucky, Covington	Nov. 1–29	64	..
Lonisiana, New Orleans	Nov. 24–29	1	..
Maine, Biddeford	Nov. 22–29	5	..
Maryland, Cumberland	Nov. 1–30	1	..
Massachusetts, Boston	Nov. 22–29	11	9
Cambridge	Nov. 22–29	1	..
Chelsea	Nov. 22–29	1	..
Lawrence	Nov. 22–29	1	..
Marlboro	Nov. 22–29	2	..
Newton	Nov. 22–29	2	..
Quincy	Nov. 22–29	1	..
Taunton	Nov. 22–29	5	..
Michigan, Grand Rapids	Nov. 22–29	11	..
Detroit	Nov. 22–29	57	1
Missouri, St. Lonis	Nov. 23–30	9	.
Nebraska, South Omaha	Nov. 23–30	3	..
New Hampshire, Nashna	Nov. 22–29	17	1
New Jersey, Camden	Nov. 22–29	1	..
Newark	Nov. 22–29	1	..
Jersey City, Hud. Co.	Nov. 23–30	1	..
Bayonne, "	Nov. 23–30	1	..
New York, Binghampton	Nov. 22–29	2	..
New York	Nov. 22–29	5	..
Ohio, Cincinnati	Nov. 21–28	3	..
Cleveland	Nov. 22–29	15	5
Hamilton	Nov. 22–29	1	..
Pennsylvania, Altoona	Nov. 22–29	1	..
Erie	Nov. 22–29	9	..
McKeesport	Nov. 22–29	1	..
Philadelphia	Nov. 22-29	5	1
Pittsburg	Nov. 22–29	35	10
		Four cases imported.	
Rhode Island, Providence	Nov. 22–29	..	1
South Carolina, Charleston	Nov. 22–29	2	..
Sonth Dakota, Sioux Falls	Nov. 22–29	2	..
Wisconsin, Milwaukee	Nov. 22–29	9	..

SMALLPOX—FOREIGN.

Ecnador, Quayaquil	Nov. 8–15	..	1
Canada, Qnebec	Nov. 22–29	1	..
France, Paris	Nov. 8–15	..	1
Great Britain, Dnndee	Nov. 8–15	2	..
London	Nov. 8–15	2	..
Manchester	Nov. 8–15	2	..
Italy, Naples	Nov. 10–17	1	..

YELLOW FEVER.

Colombia, Panama	Nov. 18–24	4	..
Ecuador, Gnayaquil	Nov. 8–15	..	4
Mexico, Tampico	Nov. 15–22	..	13
Vera Cruz	Nov. 15–22	16	11

CHOLERA—INSULAR.

Philippines, Cebn	Sept. 29–Oct. 14	5	2
Manila	Oct. 12–18	19	18
Provinces	Oct. 12–18	3,793	2,563

CHOLERA—FOREIGN.

China, Hongkong	Oct. 21-28	1	1
Egypt, Alexandria	Nov. 1–8	1	1
Turkey, Gaza	Oct. 25–Nov. 1	449	..
Lydda	Oct. 25–Nov. 1	75	..
Jaffa	Oct. 25–Nov. 1	5	..

PLAGUE—FOREIGN.

Africa, Cape Colony, Pt. Elizabeth	Sept. 25	1	1
China, Hongkong	Oct. 21–28	1	1
Egypt, Alexandria	Nov. 1–8	..	1
Japan, Yokohama	Oct. 19–Nov. 1	2	..

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Original Articles.

THE SYSTEMIC OR CONSTITUTIONAL CHARACTER OF GONORRHŒA; ILLUSTRATED BY FIVE CASES OF IRIDOCHOROIDITIS.

By CHARLES STEDMAN BULL, M.D.,
NEW YORK.

During recent years evidence has been gradually accumulating of the constitutional character of the gonorrhœal infection. Many cases of undoubted systemic infection of various kinds, and in different parts of the body, have been reported, all tending to cast great doubt on the purely local character of the disease. For twenty years or more a direct connection has been recognized between gonorrhœa and endocarditis, and, since the investigations of Bumm, in 1887, of the gonococcus of Neisser, we have come to admit the part played by the gonococcus in the production of general constitutional complications. Whether the general system is invaded by the gonococci themselves or by the toxins developed from them, is, however, still a moot point. The theory that the systemic infection is due to the absorption of a toxin derived from the gonococcus and liberated from the bacterium in the course of its destruction is very difficult of proof.

The gonococci penetrate the general system by way of both blood vessels and lymphatics. They have been found in the blood of patients suffering from ulcerative gonorrhœal endocarditis (Thayer and Lazear), and of patients attacked by gonorrhœal rheumatism. It is admitted that gonorrhœal urethritis may be the starting-point of a fatal septicæmia, and that endocarditis and arthritis are often complications of this infectious disease. It is also recognized that endocarditis may be caused by the gonococcus alone; for it has been obtained in pure culture from the blood, from the heart structure and endocardium, from the joints, and from the aortic valve vegetations. (See Thayer, Dauber, Borst, Lazear, Rendu, Haller, and Lenhartz.) (See also Lartigan, *American Journal of the Medical Sciences*, January, 1901.)

In those instances of sudden loss of sight in patients affected with septic endocarditis, which have been attributed to a clot or plug coming directly from the heart or aorta, a recent explanation has appeared that the loss of sight is occasioned by obliteration of the retinal vessels themselves, whence comes partial or total thrombosis, affecting the optic nerve and retina. This view seems to be supported by the researches of Koenig, Martin, Leyden, Wertheim, and Potain. If the aorta and heart can be attacked by the gonococcus, it is natural to conclude that the retinal thromboses may be due to a localized gonococcic inflammation of a similar nature.

As regards gonorrhœal rheumatism, the facts are not so corroborative of the constitutional character of the disease. It is not so certain that the arthritis accompanying gonorrhœal urethritis is a localized product of a general infection. Gonorrhœal rheumatism is met with only in about 2 per cent. of gonorrhœal cases, and, though the gonococcus has been found in inflamed joints, the cases reported are too few on which to base any conclusions.

As regards the inflammation of the uveal tract of the eye occurring in the course of a gonorrhœa, we have more positive evidence of its dependence on systemic infection. It develops much more rapidly than the ordinary rheumatic iritis and choroiditis, and the plastic character of the inflammation is less pronounced, it being rather of the serous variety. It is not an uncommon complication in patients affected with gonorrhœa, and here it must be regarded as directly connected with the urethritis. The inflammation of the uveal tract never seems to follow the urethritis immediately, but is invariably preceded by an arthritis, usually of the knee-joint. The iritis or choroiditis is very distinct from the usual type of rheumatic inflammation. It is very sudden in its onset, very rapid in its development, the pain is exceedingly severe, and the loss of vision is very rapid and complete. But the inflammatory process, though obstinate and subject to frequent relapses, eventually rapidly subsides, and, usually, leaves little or no trace behind it. There is almost never any gelatinous or fibrinous exudation in the anterior chamber, and the main cause of the rapid and marked deterioration of vision seems to be due to a general serous infiltration of the iris and choroid, and a diffuse serous exudation into the aqueous and vitreous humors, more marked in the latter. Posterior synechiæ do form, but they are readily broken and, as a rule, leave no trace behind on the anterior capsule of the lens. Such an iritis, or iridochoroiditis, is liable to relapse, even when no adhesions are present, whenever the patient contracts another attack of gonorrhœa. A neglected gonorrhœal iritis, in which multiple adhesions have been formed, may, of course, readily relapse, and, in consequence of these relapses, the symptoms of the disease gradually lose their peculiar character. The disappearance of the iritis under appropriate treatment, without leaving posterior synechiæ, proves the absence of the plastic character. Its prompt disappearance distinguishes it, also, from the usual form of serous iritis.

Some authors, among them De Wecker, think that there is a class of patients who never suffer from arthritis or iritis unless previously attacked by a gonorrhœa, and when the inflammation of the joints and iris is cured, it does not recur unless a fresh attack of gonorrhœa is contracted. They believe that the tendency of certain diseases, in which there is more or less of an infectious character, to localize simultaneously in the eye and in the knee must rest on some identity of anatomical disposition furnished by the structure and division of various vessels. Leber believes that, in the course of a real, specific urethritis, a lesion of the mucous membrane occurs, and that the microscopic germs developed by the urethritis thus find their way into the general circulation, and, eventually, cause the inflammation in the eye and joints. However that may be, clinically speaking, the symptoms of a gonorrhœal iridochoroiditis are usually very much more severe than the ordinary rheumatic form of the disease, and always suggest a very unfavorable prognosis, which our experience with these cases teaches us is almost never confirmed by the results of treatment. No matter how severe the symptoms may be, if the case be properly and persistently treated, the inflammation eventually rapidly subsides, without leaving any marked impairment of vision.

Case I.—A gentleman, aged thirty-three years, came under my care on November 12, 1900, and the family physician gave the following history: A number of years before he had contracted a very severe gonorrhœal urethritis, which lasted a long time, frequently relapsed, and had never been cured. He had suffered from gonorrhœal arthritis of the knees and ankles at various times. Early in November, 1900, while ill with inflammation of the knee and ankle-joints, he developed a purulent conjunctivitis of both eyes. I saw him on November 12, and found the lids of both eyes swollen and dusky, considerable chemosis of the conjunctiva, and a profuse, purulent discharge. Smears were taken from the conjunctiva and examined, but no gonococci could be found. There was a gleety discharge from the urethra, which was found to contain broken-down gonococci. I gave a favorable prognosis on account of the absence of gonococci from the secretion. The attack lasted nearly three weeks, but a cure then resulted with unimpaired corneæ. On December 24 the right eye again became very inflamed and painful, but with no swelling of the lids and no discharge. I saw him on the 29th of December, and found well-marked iridochoroiditis, with posterior synechiæ and exudation into the vitreous humor. With the onset of the inflammation in the eye, the arthritis of knees and ankles began to grow better. Continuous hot fomentations were ordered to the eye; atropine and cocaine, locally, every two hours, and sodium salicylate, five grains every hour, were prescribed. Vision rapidly failed, and in less than three days the eye had no perception of light. In one week the symptoms began rapidly to subside, and in about three weeks vision was restored nearly to the normal. This patient's case was one of unusual interest, because of the obstinacy of the eye-disease and the frequent relapses. Less than one month after the first attack in the right eye, the left eye became inflamed in the same way and with the same rapidity. Between December 24, 1900, and April 20, 1901, he had four relapses in the right eye and three in the left eye. With each attack of iridochoroiditis, the symptoms of pain and stiffness in the joints became less marked. From each attack the eyes recovered with useful vision, and, when I last examined him, on June 19, 1901, the vision was normal in each eye, the accommodation had been restored, all infiltration had disappeared from the vitreous humor, and the fundus was healthy. This patient showed the most profound degree of gonorrhœal saturation that I have ever seen, for, in addition to the iridochoroiditis and the multiple arthritis, there was a well-marked endocarditis, which lasted for a long time and interfered greatly with the general constitutional treatment.

Case II.—A gentleman, aged 28 years, came under my care early in October, 1891, and gave the following history: He had worn glasses for near work, and an examination showed that he was highly astigmatic and had very weak internal recti muscles. The glasses were cylindro-prisms, and were correct. He had had two attacks of gonorrhœa several years ago. The last, and most severe, attack was contracted in the preceding August, and still persisted. Early in September he had an acute attack of arthritis in the right knee and left shoulder-joints, which lasted nearly four weeks. The inflammation then subsided in the shoulder, but the knee was still inflamed when I first saw him. Two days before he came under my care there was an acute exacerbation in the knee-joint, and the right wrist also became inflamed, and that same evening the right eye became inflamed with severe pain, photophobia, and lachrymation, and rather rapid loss of vision. Two days later I saw him, and found a severe case of iridochoroiditis, with marked ciliary injection, exudation into the anterior chamber and vitreous, posterior synechiæ, and increased tension, and vision was reduced to $^{20}/_{200}$. No view of the fundus could be obtained, and there was very severe pain. The left eye was intact, and remained so throughout the duration of the attack. Leeches were applied to the right temple, a solution of atropine (4 grains to the ounce) was instilled into the right eye four times a day, and hot fomentations were ordered for half an hour every two hours. Five grains of sodium salicylate were ordered to be taken every hour, until the stomach rebelled. Smears were taken from the urethral discharge, and an examination showed them to be loaded with gonococci. The patient had never had any rheumatic trouble, and no trace of any arthritic inflammation existed in the family. Three days later the administration of the sodium salicylate was stopped, on account of gastric disturbance. All pain in the eye had ceased at the end of the second day, and the media began to clear. One week later there was an exacerbation of the inflammation in the right knee-joint, and, coincident with it, a relapse of the iridochoroiditis. The sodium salicylate was again administered, the local applications being continued. Ten days later he had another relapse, and, under my advice, active local treatment of the urethritis was instituted with protargol injections. Within three days a marked improvement began in the eye and inflamed joints, and the vision, which had sunk to perception of light, so improved that, in three weeks from the date of the last attack, it reached the normal standard of $^{20}/_{20}$. The arthritis of the wrist-joint disappeared, and all pain and swelling subsided in the knee-joint, though it remained quite stiff. From the time of the last attack, potassium iodide, in ten-grain doses, was administered daily until he had passed out from under my observation.

Case III.—A gentleman, aged thirty years, contracted gonorrhœa in the latter part of November, 1901. He had two previous attacks, the first one seven years before, and the second one two years before. In all of them he had been treated by his family physician. The first attack was entirely cured, but the second one was followed by a chronic gleet. On December 10 a severe orchitis developed, and two days later acute arthritis of the right knee and ankle appeared, accompanied by severe pain and great swelling. This patient had never suffered from rheumatism, but there had been several cases of acute arthritis in his family. He was treated by hot saline baths and potassium iodide and salicylic acid internally, but with little apparent effect. On December 20 the right eye became inflamed, and, after a painful night, I was sent for. I found a moderate swelling of the lids, some chemosis of the conjunctiva, great conjunctival and ciliary injection, and all the signs of acute iridochoroiditis. The vitreous was so cloudy that no view of the fundus could be obtained, and the vision was reduced to counting fingers; all these symptoms developed within twenty-four hours of the onset of the disease. Leeches were at once applied to the temple, hot fomentations were applied to the eye for half an hour every two hours, a four-grain solution of atropine was instilled every two hours, and the patient was directed to take five grains of sodium salicylate every hour as long as the stomach would bear it. The patient's stomach would not tolerate the drug, and, after the first day, it was changed to the salicylate of cinchonidia, under which he did very well. Three days later the left eye became inflamed, the iridochoroiditis developing more slowly than in the right eye. The same treatment was followed, and there was a slow but steady improvement till the tenth day, when a relapse occurred in both eyes. As the eyes grew worse, the arthritis in knee and ankle grew better, and when improvement began in the eyes, the inflammatory symptoms in the joints became more pronounced. This patient had three relapses in the right eye and three in the left eye, and the treatment was prolonged for nearly three months before he could be discharged from treatment. His vision was then $^{20}/_{20}$, or normal, in both eyes, and there was no evidence left of what the eyes had passed through. The gleet which remained after the last attack of gonorrhœa was then taken in hand by an expert and cured. The arthritis steadily improved after the last relapse of iridochoroiditis, and the patient eventually got well with no permanent joint defect.

Case IV.—A gentleman, aged twenty-five years, was brought under my care early in October, 1893. I saw him in consultation with his family physician, who gave me the following history: The patient was both hypermetropic and astigmatic, and had worn glasses in reading for several years. In the preceding April he had a severe attack of gonorrhœa, which lasted nearly three months. This was accompanied by acute arthritis of the right knee and left shoulder. At this time the eyes were not affected. He recovered from the urethritis and arthritis completely, but in the latter part of September he contracted a second attack of gonorrhœa, which resisted treatment as obstinately as the first attack. On the fourth day he was attacked by severe arthritis of both knees, and on the sixth day by an acute inflammation in the left ankle and wrist. On the eighth day after the appearance of the urethral discharge the right eye became inflamed, with severe pain, photophobia and lacrymation of a scalding character. I saw him first on October 9, two days later, and there were present all the symptoms of a severe iridochoroiditis; marked ciliary and conjunctival injection, chemosis of the ocular conjunctiva, cloudy aqueous humor, discolored and immovable iris, posterior synechiæ, and extensive exudation into the vitreous humor, marking all details of the fundus. Vision was reduced to $^{10}/_{200}$. and the tension was decidedly increased. There was excessive pain in the eye and head. At that time the left eye was intact, but on the next day signs of iritis appeared in this eye, and a severe iridochoroiditis rapidly developed. The grave nature of the attack was at once recognized. Three leeches were applied to each temple, hot fomentations were kept constantly applied to the eyes, a 2-per-cent. solution of cocaine and a 1-per-cent solution of atropine were instilled every two hours, and ten grains of sodium salicylate were ordered every hour, and this was directed to be continued as long as the stomach would bear it. On October 12 this drug was stopped on account of gastric disturbance. After twenty hours of the above treatment, the patient was almost entirely relieved of pain. Potassium iodide in twenty-grain doses was then ordered, and continued until October 28, when there was a recurrence of the inflammation in the eyes and knee-joints. The potash was stopped and the sodium was again administered in the same manner as at first, but on the second day I was obliged to discontinue it on account of gastric irritation. The treatment was then confined to the hot fomentations, atropine, and cocaine, with an occasional hypodermic injection of morphine to allay the severe pain. On November 11 the left eye was markedly improved, with a widely dilated iris and a hazy vitreous, and a vision of $^{20}/_{100}$: but in the right eye the ciliary injection was still quite marked, and there was considerable chemosis of the conjunctiva. The pupil, however, was wide, the adhesions having all been broken, the vitreous was much clearer, and all the details of the fundus were visible. By the 16th of November the vision was $^{20}/_{20}$, or normal, in each eye, the tension was normal, there was no pain, and the ciliary injection had nearly subsided. The knee-joints were nearly well, and the wrist and ankle were entirely well. Persistent treatment of the urethritis had been kept up, and the urethral discharge had also ceased.

Case V.—A gentleman, aged thirty-two years, came under my care for the first time on October 29, 1893. Three weeks before he had contracted gonorrhœa, and was treated by his family physician. For a week there was no complication except a mild orchitis, but on the eighth day the left shoulder and right knee became painful, and there was soon developed an acute arthritis in both joints, with great swelling and high fever. On the fourteenth day, after a violent attack of pain in the right parietal region and right eye, the eye became inflamed and vision was very rapidly impaired. When I saw him, on the fifteenth day, there was considerable swelling of the lids, some chemosis of the conjunctiva, marked conjunctival and ciliary injection, a hazy acqueous humor, discolored iris, posterior synechiæ, and a diffuse infiltration of the vitreous. with scarcely any reflex from the fundus. Vision was reduced to perception of light. The tension was normal. The iridochoroiditis had developed with great rapidity, which accounted for the marked impairment of vision. The same line of treatment was followed in this case as was employed in the first case. Ten grains of sodium salicylate were given every hour for nearly three days before signs of gastric irritation compelled the discontinuance of the drug. Hot fomentations were applied continually to the eye, atropine and cocaine were instilled every two hours, and three leeches were applied to the temple. For the first three days no visible effect was produced upon the intraocular inflammation, though the pain in the head, shoulder, and knee was decidedly relieved. After an interval of twenty-four hours, potassium iodide, in twenty-grain doses, was administered three times a day, combined with quinine. This relieved the pain in the eye very rapidly, but the potash soon disturbed the stomach, and I was forced to discontinue it. The local treatment was continued, and on the ninth day after I saw him, the treatment was changed to salicylate of cinchonidia, five grains every hour. The patient bore this very well and with excellent results. All acute inflammatory symptoms in the joints disappeared, the urethral discharge ceased, the aqueous and vitreous humors cleared up rapidly, and the ocular injection gradually diminished. Three weeks after I first saw him, all signs of iridochoroiditis had disappeared, the media were perfectly clear, and vision had risen to $^{20}/_{30}$ +. The other eye remained intact throughout.

47 West Thirty-sixth Street.

A CASE OF ANGINA PECTORIS, WITH AUTOPSY.

By BEVERLEY ROBINSON, M.D.,
NEW YORK.

I do not remember one instance of a case under my care of typical angina pectoris in which in private practice, I have been able to secure a good account of the autopsy. For that reason, and because of the interest of clinical aspects of the case, I am desirous of reading the following history, which in reality is more Dr. H. D. Arnold's (of Boston) than mine, and I am much indebted to his courtesy to be able to report it.

W. M., married, aged sixty-four years, American, business man, residing in Massachusetts, was seen by me in consultation with the local practitioner, at Westport, N. Y., last summer. At that time he was suffering from frequently recurring attacks of anginoid pains, which were distressing and threatening. Etiologically, a fairly manifest gouty condition in an individual who had worked hard and very continuously (except for a month's vacation in summer, latterly), and who was of highly-wrought nervous disposition, seemed to me to explain as best could be the origin and development of conditions which caused angina. There were no alcoholic habits, no syphilis, and no malaria. Moderate diet. Urine presumably free from sugar and albumin, but containing probably an excess of urates. Medication of different sorts, given by a careful and prominent physician of Boston, had failed to be of permanent use. Among these, strychnine and nitroglycerin had been evidently serviceable. Occasionally morphine was required by the mouth or hypodermically. The patient left Westport in bad shape. For his subsequent history and autopsy, which I now present, I am wholly indebted to Dr. H. D. Arnold.

Early in the afternoon of August 1, Mr. M—— had an attack of angina pectoris. A nearby physician was summoned, as I happened to be away. From all accounts this was the most severe and prolonged attack that he had had. Mrs. M—— had already given him the remedies she was accustomed to use, but it required more morphine, up to about one grain, before relief came. There was still more or less distress all the afternoon, and I was called in the evening. He was exhausted by his suffering all the afternoon. Pulse was irregular and intermittent. On the whole it was a weak pulse, although at times the tension became rather high. At such times he had distressed breathing and anginoid attacks. He had well-marked pulmonary œdema and cold extremities.

It was evident that the attacks of angina, of which he had had two or three daily, must be better controlled if he was liable to have such attacks as this one—not so much to prolong life, such as it was, as to prevent the terrific suffering. Morphine (which he had been getting frequently gr. ¼ to ½ at a time), in the doses used, was losing its effect, and he was wakeful, restless, and excited under its influence. The dosage was increased to gr. ½ as a minimum on morning of August 2. Under this he was quiet, slept at intervals, and had no attacks of real angina. His breathing at times became distressed, with high tension pulse, but he had no pain, and the tension yielded readily to nitroglycerin.

August 1 and August 2 passed thus quietly, with improvement in his cardiac condition and general strength. August 3 the morphine was omitted and cathartics given, his bowels moved without any bad attacks, and then morphine was to be given enough to secure a night's rest. This day (August 3) he developed for the first time an acute mania. He had been excitable and suspicious on August 1, but the condition was not fully developed until August 3. It took gr. i of morphine at a dose to affect him at all, and its effect soon wore off. August 4 it took grs. ii at a dose. In the meantime he was violent at times, restraint being needed twice; he refused medicine and food and could not be kept under the influence of morphine because it could not be given. August 4 he was losing strength and was wildly insane. In one violent attack he had to be restrained, and we held him long enough to inject morphine. It nearly killed him (the struggle), but this morphine, with some given in a peach and in whiskey, finally quieted him, and after that he was not allowed to come out from its influence. Grs. ii were used subcutaneously, and was renewed as often as its force weakened. He was finally under its influence at one o'clock P.M. His pulse was very weak, pulmonary œdema, cyanosis, cold extremities, and he was evidently failing rapidly. He lived until 5 P.M. Notwithstanding the free use of morphine he was awake and talked deliriously from 3 to 4 o'clock, though not violent. For the last hour he had Cheyne-Stokes' respiration, becoming very cyanosed, and struggled for air at the beginning of the cyanosis, so that ether became necessary, and then chloroform to keep him from suffering. He was mildly under anæsthesia for the last three-quarter hour of his life.

Throughout all this his heart maintained its work in a wonderful way, and I have mentioned what he went through in some detail that you might better understand the cardiac endurance. I naturally expected a sudden cardiac collapse or failure, but the failure was very gradual, and to the very last the heart action outlasted the respiration. Sudden and extreme cardiac weakness was shown only once. On morning of August 4, when, in a time of extreme violence, it took three persons to hold him quiet enough to give a subcutaneous injection of morphine. He struggled until he was almost black in the face and practically pulseless and we released him. Much to my surprise he recuperated.

This good showing on the part of his heart is explained by the autopsy findings. The heart was considerably dilated (though that is not mentioned in the report) and much hypertrophied, although the ventricular wall is not as much increased in thickness as is frequently the case. The weight, 690 grams (well distributed through the whole heart), tells the story. The cardiac muscle was of remarkably good quality. The coronary arteries, although uniformly affected by arteriosclerosis, were of large caliber and patent throughout, except near the end of a small branch. Their openings from the aorta were large. We had then a large, well-nourished, strong heart. Moreover, the angina was not due (as so often) to localized sclerosis and obstruction to the lumen of the coronary arteries.

The changes in the mitral valve were due to the same sclerotic changes, and while there was some mitral regurgitation, it played but a minor part in the case.

The important thing was the general arteriosclerosis. I have never seen a case in which it was so generally distributed, or where it was so uniform throughout the entire arterial wall. There were very few of the ordinary patches of sclerosis, and these were at an early stage, but the wall was uniformly and smoothly thickened. The walls were still elastic, though the elacticity was diminished.

This general arteriosclerosis, of course, explains the cardiac hypertrophy and dilation. It does not, however, explain in itself the attacks of angina—that heart could maintain the circulation without distress under all ordinary circumstances in spite of the arteriosclerosis. The attacks were not necessarily dependent on over-exertion. They were, at least usually in those seen by me, accompanied by high tension of the pulse. This is, of course, a vasomotor change, and is accompanied by a great increase of the cardiac work—an increase sufficient to embarrass even that strong heart when added to the usual burden of the arteriosclerosis. Possibly, too, the vasomotor spasm also affected the coronary arteries, and, by temporarily diminishing the nutrition of the myocardium, added to the result. But if there was anything of this sort it did not persist long enough to permanently affect the nutrition of the myocardium. It seems to me, then, that the cause of his attacks lay in the nervous mechanism of the vasomotor system and not in the circulatory system itself. Is it possible, too, that the vasomotor system bears in this case an etiological relation to the arteriosclerosis? We have no interstitial kidney, and not enough alcohol, lead or other toxic substance, nor syphilis, as far as I know the history. His intense, excitable, nervous temperament is suggestive in considering a nervous etiology for his whole trouble.

The only cerebral lesion of any account (beyond arteriosclerosis, which, by the way, did not occlude any vessels) was a moderate leptomeningitis. While I have seen this in some cases of insanity, I have failed to understand its relation, if any. In Mr. M.'s case it was an old affair, and hardly seems to have connection with his mental derangement, unless that is of much longer duration than I was informed.

In my answer to Dr. Arnold's first letter I directed attention to the following points:

1. Possible gouty origin of disease.
2. Hydrothorax as evidence of cardiac insufficiency (shown at autopsy).
3. Objections to use of morphine, especially in large, repeated doses, in analogous cases, viz., locking up secretory elimination.

I agree substantially with Dr. Arnold about many aspects of the case, and consider his report admirable in most particulars.

I present herewith autopsy by Dr. W. R. Brinckerhoff, assistant pathologist at Boston City Hospital.

In a second and later letter to me Dr. Arnold recognized that "the morphine was undesirable whilst allaying anginal seizures, in causing, in part, an acute maniacal attack." Upon further inquiry it was found that unusual tolerance for morphine was explained by history of morphine habit some years previously and by use of other hypnotics since. It was evident that when other drugs had been pushed to their limit without much relief, morphine was the only effective one.

It was also shown, apparently, according to Dr. Arnold, that the morphine did not cause accumulation of locked-up material sufficient to produce appreciable effect.

In a third and last letter to me, Dr. Arnold thinks that through later information received by him, a gouty condition in Mr. M.'s case is pretty definitely established. In the family history it is noted that one brother died of angina pectoris at fifty-two years. In the previous history of the patient it is noted that for twenty years he had had "anginoid" attacks, and his pulse had been irregular and intermittent. On the other hand, he had no dyspnœa or palpitation on severe exertion and no cough. About two years ago the attacks became more severe and were those of typical "angina." Patient had been mentally peculiar for many years and at times temporarily mentally unbalanced. This is accounted for, perhaps, by old leptomeningitis shown at autopsy.

In conclusion, Dr. Arnold writes: "This previous history and long duration of 'anginoid' attacks was of special interest to me. In the same patient we have had what are ordinarily called 'anginoid' attacks and 'true angina pectoris;' we have not the common organic troubles in the heart; we have arteriosclerosis of a peculiar type; we have a toxæmia ('gouty'?)—have we not a connecting link in the nervous system, possibly the vasomotor? This is one of the cases that show there is no sharp line between 'true' and 'false' angina. Is angina anything but a cardiac symptom anyway?"

After carefully considering the foregoing from every aspect, I regard the repeated attacks of angina as probably of so-called "uræmic origin," and the final maniacal seizure as being of this origin also, accentuated and made worse by repeated large doses of morphine. Of course, the general arteriofibrosis was the anatomical feature of the case, which rendered the uræmic symptoms possible and ultimately fatal. The mere fact that the kidneys showed possibly only passive congestion, does not, to my mind, render the attacks different, essentially, from what they would have been with more advanced structural changes in these organs.

I have no repeated or accurate examinations of urine to fall back upon to guide me as to what precisely the kidneys were doing functionally. Still, even presuming that the quantity of urinary solids eliminated at particular periods, or usually seemed sufficient, and that the urine contained neither albumin nor sugar nor hyaline, nor granular casts, my medical judgment of the case would not be materially altered.

That the poisons included in the term "uræmia" may produce at times neuralgia or neuritis, affecting the cardiac plexus, does not seem improbable, reasoning by analogy with facts familiar to practitioners of medicine.

The following is the report of the autopsy by Dr. Walter R. Brinkerhoff, Assistant Pathologist to the Boston City Hospital:

Autopsy, August 6, 1902.—Body of a well-developed and well-nourished white man. Age, sixty-four years. Peritoneal cavity—surface normal. Intestines of a deep purplish red color. Appendix normal. Mesenteric lymph nodes normal. Diaphragm at normal height.

Pleural Cavities.—Each contains about a liter of clear, straw-colored fluid. On the left side the apex of the lung is bound to the chest wall by firm fibrous adhesions.

Right pleura normal.

Pericardial Cavity.—Surface normal. Contains about 100 c.c. of clear amber-colored fluid.

Heart, weight 690 grams. Tricuspid and pulmonary valves normal. Pulmonary artery opened *in situ*, contains post-mortem clot. Foramen ovale, still patent, by a small opening 4 mm. across, which passes obliquely through the interauricular septum in such wise as to be guarded on either side by a valve-like flap. Left auricle presents granular, red, friable masses, entangled in the musculi pectinati of the auricular appendage. Mitral valve is considerably thickened, its chordæ tendineæ shortened and thickened, but its surface is smooth. Aortic valve presents thickening of the cusps, but no roughening. The wall of the left ventricle is much thickened, but the consistency, color, and markings are normal. The wall of the right ventricle is also considerably thickened. The coronary arteries are thickened evenly throughout, their linings are smooth, and the lumen stands open on section, except in a small branch of the left coronary artery, situated in the auriculoventricular groove. This vessel contains a small patch of sclerosis, which is circumferential and almost occludes the lumen at that point. The heart muscle in relation with this branch is normal on section.

The aorta shows diffuse thickening, with here and there an elevated yellow plaque.

Measurements of Heart.—Tricuspid valve, 13.5 cm.; pulmonary valve, 9.0 cm.; mitral valve at ring, 11 cm.; mitral valve at edge, 9 cm.; aortic valve, 8.5 cm.; wall of left ventricle, 1.5 cm.; wall of right ventricle, .7 cm.

Average normal measurements are: Tricuspid valve, 12 cm.; pulmonary valve, 9 cm.; mitral valve, 10 cm.; aortic valve, 8 cm.; wall of left ventricle, 1.1 cm.; wall of right ventricle, .6 cm.

Lungs.—Normal on inspection and palpation.

Spleen, weight 330 grams. Surface smooth and of a deep-red purple. On section, trabeculæ are prominent, spleen substance comparatively dry. Malpighian bodies not visible.

Pancreas normal.

Gastrointestinal Tract.—Much congested, otherwise normal on inspection.

Liver.—Normal size, color, and consistency. On section the cut surface shows in places, a suggestion of the "nutmeg" markings. Elsewhere the centers of the lobules are pale.

Kidneys.—Weight of one, 290 grams. Capsule strips readily from a smooth deep-red purple surface. On section the cortex and pyramids are deep-red purple, the markings are distinct, and the glomeruli present as red pin-point elevations.

Adrenals normal.

Genital organs not examined.

Brain.—Dura very adherent, and contains calcified plaques at the site of the Pachyonian granulations. Dura and pia adherent at many points.

Pia markedly opaque, particularly along the vessels over the vertex. No excess of fluid in membranes or in ventricles. On section, brain substance normal texture, but rather moist. Vessels at base evenly thickened, but with smooth intima, and only an occasional small patch of early sclerosis.

Anatomical Diagnosis.—Hypertrophy of heart; chronic aortic and mitral endocarditis (slight); general diffuse arteriosclerosis; chronic passive congestion of liver (slight), spleen, kidney, and intestine; hydrothorax; slight chronic leptomeningitis.

Microscopic Description.—Aorta—In places there is beginning atheroma, shown by degeneration and very small and scattered are as of lime-salt infiltration.

Spleen.—Much congestion of pulp. Otherwise not notable.

Liver.—Some atrophy of liver cells about central vein, with dilatation of capillaries and deposition of brown pigment in the liver cells. Other portions of lobule normal.

Kidney.—Marked injection of the vessels. Otherwise not notable.

A Case of Abdominal Sarcoma Benefited by Arsenic.—W. S. Yates describes a case in which—the tumor, from its situation, being inoperable—arsenic was resorted to in order to give some relief to the patient. He started with five-drop doses of Fowler's solution, and rapidly pushed it up to twenty-five drops t. i. d., when the limits of tolerance were reached, and he had to go back to fifteen drops, which were continued for about three months. During this time the pain entirely disappeared and the patient could sleep naturally. The neoplasm shrunk in size fully three-fourths. For four months the patient was lost to sight and took no medicine. The tumor was again enlarging, and had attained at least one-half its former size. The patient is again on arsenic in increasing doses, and the author hopes to again get improvement.—*The Wichita Medical Journal.*

A CASE OF TYPHOID SPINE.*

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In the *Boston Medical and Surgical Journal* of June 26, 1902, Dr. Frederick T. Lord gives a summary and analysis of twenty-six cases of typhoid spine since Gibney reported his first cases in 1889, including all those reported up to January 1, 1902. I have been able to find three more cases reported since then. It would appear that the disease is not so rare as was thought, and that the symptoms present a fair degree of uniformity. I have had exceptional facilities for observing the case I am about to report:

The patient, a physician, thirty-three years old, was admitted to the service of Dr. James at the Roosevelt Hospital on January 18, 1902, evidently at the end of the first week of a severe case of typhoid fever. A history was obtained of rheumatism. The attack was complicated by pneumonia and pleurisy. When, about six weeks later, the patient began to sit up, a weakness of his back was observed—he was compelled to "climb up on his thighs" after sitting. He was discharged from the hospital on March 10, and returned to his home. The weakness in his back continued, but was disregarded, and was soon made much worse by an attempt to stoop over, and again by the effort to trim a plaster-of-paris jacket. From this the real symptoms seem to date. A lateral curvature and a stiffness of the lumbar spine were observed, with a moderate amount of pain and great difficulty in standing erect.

On March 23 the patient, after an exposure to cold, had a severe chill, and again took to his bed, this time with a pneumonia of the entire left lung. The pneumonia was complicated by pleurisy with effusion. Fifty-two ounces of fluid were drawn from the left pleural sac. Repeated examinations of the sputum and inoculations of guinea-pigs failed to reveal the presence of tubercle bacilli. The temperature subsided by lysis, and the resolution of the pneumonia was very slow.

During the pneumonia the spinal symptoms were unnoticed, but when, about three weeks after the beginning of the disease, the patient began to go about, the lateral curvature was quite marked, and was accompanied, as before, by stiffness, weakness, and considerable lumbar pain. There was neither at this time nor at any subsequent period sensitiveness to pressure of any part of the spine. Inasmuch as pain, evidently due to pleurisy, was present in the front of the chest, the back symptoms were ascribed to the same cause, and the patient was allowed to depart for Southern California on May 3, at his own urgent request, though with some misgivings on the part of his medical advisers.

In California the pulmonary and pleural symptoms gradually subsided; not so those referable to the spine. These persisted in spite of massage and heat, and very slowly became more severe. The stiffness, weakness, and pain were increased by exertion, and were especially marked on starting to walk after sitting—the patient would stand for some seconds with his hands on his back trying to straighten up. Sneezing was very painful.

On June 8 the lumbar symptoms were aggravated by the attempt to use some Wolff's bottles, and for several nights thereafter the patient complained, on retiring, of a throbbing pain in his back. On June 11 the attempt was renewed, and, shortly afterward, in rising from his chair, the patient was seized with a cramp in the left lumbar region. This cramp was repeated several times during the evening, but subsided soon after retiring. The Pacquelin cautery was applied, but caused so severe a return of the spasm that it was not again used during the disease. The next morning the spasm reappeared with such intensity when the patient arose that he was forced immediately to go back to bed. The same thing occurred on the following morning. The patient went back to bed, because he recognized his absolute inability to walk. Rubber strapping was applied and affected the symptoms not at all.

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*Read before the Orthopedic Section of the New York Academy of Medicine, November 21, 1902.

From this time no attempt was made by the patient to rise from his bed. One or two quite severe attacks of pain were experienced during the next few days, but disappeared shortly after the administration of a quarter grain of morphine by the mouth. The urine was analyzed. It was strongly acid, specific gravity 1,030, and contained a few uric-acid, and many oxalate-of-lime, crystals.

Stiffness and pain persisted for three days, and, then, in the evening, while turning over in bed, the patient was seized with a terrible muscular spasm in the left lumbar region. The spasms were tonic in character, lasting about thirty seconds, gradually relaxing, and with an interval of about the same length. The pain was excruciating, and was not affected in the slightest degree by a quarter of a grain of morphine by the mouth and a quarter of a grain hypodermatically. After it had lasted for about half an hour, the patient was chloroformed to complete narcosis. He was chloroformed several times that night, and once or twice daily for three days thereafter. During one of these periods of narcosis, the rubber strapping was removed. It was necessary to chloroform the patient to put him on the bed-pan or even to turn him in bed. Changing the bed linen was out of the question. Morphine was of little use in the spasmodic pain, but the chloroform caused a rapid, irregular, and intermittent pulse, and was discontinued on that account. The temperature during all this time had ranged between 97° and 100° F. by the mouth, and the pulse had not gone above 80° under ordinary circumstances.

The pain now shifted to the right lumbar region. Besides the stiffness and a moderate amount of constant pain, the spasmodic attacks were fairly frequent, though never so severe as the initial paroxysm. The ordinary pain was much lessened by morphine, three-quarters of a grain to one grain daily.

Examination at this time, according to data furnished by Dr. Barlow of Los Angeles: Extreme prostration, abdomen distended with gas, patellar reflexes greatly exaggerated. Plantar reflexes produce contractions of the quadriceps extensor. No ankle clonus, no Babinski symptom. Intermittent twitchings distinctly visible of the muscles of the thigh and of the abdomen, especially of the recti. Muscles not tender, except on deep pressure. Sensation perfect everywhere, including senses of position, pain, and temperature. No paralysis, but weakness of the lower limbs and fear of movement on account of producing spasm.

Urine, alkaline. Specific gravity, 1,022. 50 ounces in twenty-four hours. 24 grams of urea. Microscopical, negative.

Blood count: red cells, 6,000,000; leucocytes, 6,000.

Chloral, 30 grains, and extract of digitalis, 3 minims, per rectum, were without effect. Hyoscine hydrobromate seemed to lessen the spasm, but was abandoned on account of its apparent effect on the heart. Hyoscyamine was useless.

On June 25 the location of the pain had changed to the abdomen. The spasmodic contractions of the abdominal muscles during the paroxysms could be felt with the hand. The disability was now so great that the patient was only moved on his side occasionally, in order to cleanse and powder his back, and to change the bed clothes. The next day, June 26, the pain returned in the back. Severe spasms occurred, in which the head was drawn back and thighs were flexed. The lower extremities were cold and clammy.

On the morning of July 1, after a very bad night, the patient awakened, feeling chilly. The temperature shortly afterward was 104.2°, the pulse 120, respiration 25. Nausea and explosive vomiting occurred twice during the day, the patient being in a semi-comatose state, but easily awakened, and then the temperature slowly sank to 100.4°, and the pulse to 96 at 7 P.M. They fell to normal on the following day. The temperature from now on ranged between 97.1° and 99.8°, on two occasions running to 100.2°. I am told by one of the nurses that the attacks of pain were usually preceded by a rise in temperature, and that their occurrence could often be prognosticated.

The spasmodic attacks continued at intervals until July 27. Their location was in the right side of the back and abdomen, and in the right groin and hip. They occurred almost invariably at night. When they were very severe, ether was used, when milder, morphine.

From about the middle of July until the middle of August the patient suffered from a pain which is worthy of note—the so-called "starting pain." Upon falling asleep he would immediately awake with a severe pain in his groin, and usually with a cry. This would sometimes be repeated three or four times, unless morphine was used. In the end this drug would almost always be necessary.

On August 5 the patient sat up for a few seconds, with assistance. A day or two later a gas-pipe, canvas-covered frame was made for him, and he was carried about on this. On August 14 he stood up. On August 16 the last dose of morphine was given.

From this date on convalescence was slow, and easily interrupted by the slightest over-exertion. On one occasion it was necessary to confine the patient to his bed again for ten days, on account of the return of the pain and stiffness, and following another rise of temperature to 101.4°.

On September 22 a Taylor brace was applied. The improvement now became more marked. The most persistent symptom was pain and stiffness in the right groin, especially on waking in the morning.

On October 13 the patient left California, and on the 18th was seen in New York by Dr. Whitman. The only objective sign of disease at that time was a stiffness and limitation of motion in the lumbar spine. This was much less three weeks later.

The patient now goes about wearing his brace. He can walk a moderate distance, and attend to the lighter duties of his practice.

A few facts may be mentioned in addition:

1. No doubt is possible of the diagnosis of typhoid fever. It was a perfectly clear case, with the usual abdominal symptoms, the roseola and a Widal reaction of 1-100.

2. The urine during the acute attacks of pain was scanty and concentrated. In fact, during all the active period of the disease a small amount of urine was passed, ranging in the twenty-four hours from 18½-30 or 40 ounces, rarely up to 52 or 53.

3. While any motion of the trunk or lower

extremities was often painful, and while great weakness was present, there was no paralysis.

4. The pains were such as we are apt to hear of as accompanying disease of bone. They were evidently "referred" pains. The painful area was never sensitive to pressure.

5. There was a distinct history of a trauma. While the back after the typhoid was always weak and perhaps slightly painful, the real symptoms of the disease were first apparent after a strain, and by a strain were on three different occasions aggravated.

To our knowledge of the pathology of typhoid spine, a little has been added since Gibney reported his first case. No case has ever come to autopsy, but nine have been accompanied by a kyphosis, showing a probable destructive lesion. It is quite possible that there is the same analogy between typhoid spine and Potts' disease as there is between a typhoid pneumonia and a tuberculous pneumonia —one tends to an acute course and a comparatively rapid recovery, and the other to a more chronic course and a breaking down of tissue. We feel fairly certain that it is an osteitis. It is probably combined with a periosteitis. Indeed, Quincke reports two cases much alike, builds up a more or less complete pathology, and calls the disease, with true German precision, "spondylitis typhosa." Könitzer has heard of no other cases than Quincke's, though the latter in his article quotes Gibney and Osler, and follows his lead with the name. He cannot, however, quite fit his case to Quincke's exact description. The other three Germans who have reported cases, Kühn, Herz, and Neisser, use the same nomenclature, and are guilty of the same bad manners.

In the case which I have reported, it is reasonable to assume an inflammation that, affecting first one region, subsided there and then attacked adjacent regions of the spine. It is not unlikely that a neuritis was caused by the inflammation of the bone and of the periosteum, and that one or more of the spinal articulations were involved.

This is generally considered to be the pathology of typhoid spine. The only writer of note who takes an entirely different stand, based on cases he has observed, is Osler, who thinks it is a neurosis, and reports six cases. Case 1 was seen some time after the acute trouble would seem to have subsided, remained in the hospital one week, and had slight pain in his legs and back. This resembles very slightly what we understand as typhoid spine. Case 2 was seen two months after the beginning of the trouble. This was evidently hysteria. Whether or not the patient had had typhoid spine we are unable to say. Cases 3 and 4 were probably mild cases. Case 5 was possibly typhoid spine, and case 6 a mild case. Osler finds that the disease yields promptly to treatment by massage, electricity, and general tonics, while other observers say that it is apt to last somewhat more than a year. In regard to prognosis, Osler delivers this somewhat Delphic utterance: "The patients get promptly well or improve with great rapidity . . . It is true it sometimes takes weeks or months before a complete cure is effected." (*Johns Hopkins Hospital Bulletin*, No. 125, p. 265). It is quite evident that Dr. Osler has forced some of his cases into a category where they do not belong.

Lovett and Withington's case had stigmata of hysteria, and was regarded by them as a post-typhoid neurosis until the kyphosis appeared. Taylor's case had stigmata of hysteria, but it also had a kyphosis. Our patient was considered hysterical by his nurses, and by them was given hypodermics of water, but Dr. Brainerd, a nerve specialist of Los Angeles, could find no evidences about him of hysteria.

The increased knee-jerks in our case could be due to slight pressure above the reflex arc, or to the increased nervous irritability following typhoid. In some of the cases described the knee-jerks have been diminished.

No cause is known for the disease other than the presence of the typhoid bacilli. Including the case I have reported, twenty-six out of thirty have been in males. Only six of Lord's collection of cases gave a history of a trauma, yet the impression that one gets in reading up the histories is that the patients were accustomed to use their muscles freely. Often the occupation is not given, but two were blacksmiths, one a peddler, one played tennis after his typhoid, one skated, one was a physician who had been an instructor in physical culture, one a servant, one a coppersmith, one a ship's boy, and in this case the patient was addicted to violent muscular exercise.

The chief symptoms are pain, weakness, stiffness, disability, and muscular spasm. The pain may be in the back, groin, abdomen, hip, or thigh. Local tenderness to pressure has been observed in eighteen of the reported cases. Probably if the posterior portion of the spine is affected, tenderness to pressure will be observed. The symptoms are much like those of lumbar Potts, but they are more acute, and have the history of a previous typhoid fever. In our patient there was a strong suspicion of a tuberculous lesion, on account of the preceding pneumonia with slow resolution, and because of tuberculosis in the patient's family.

Lateral curvature has been observed in three cases, including the one described above. Taylor's case had the peculiar rhythmic contractions of the abdominal muscles. Moorehouse mentions the muscular twitchings in one of his cases, and says a suspicion of meningitis was awakened. One of Neisser's patients had twitching in his legs. A diagnosis of meningitis was at one time made in our case.

At some time in the course of most of the cases in which the symptom is mentioned, the temperature runs up quite high. In some it stays up for a long time. Neisser makes prolonged fever one of three cardinal symptoms of typhoid spine, but a cardinal symptom based on three or four cases is not of much value.

The diagnosis, with our present knowledge, may at first be very difficult, and we are not yet able to shut out any cases with certainty, but any severe lumbago following typhoid fever should be viewed with extreme suspicion, and should be treated as typhoid spine.

If we have any spasmodic attacks of pain, or evidences of muscular spasm, or limitation of motion, especially if fever is present, we may feel fairly certain of our ground.

Prognosis.—The prognosis is good. All the patients recover, though two or three instances of relapse are on record.

Treatment.—All authorities except Osler agree on the treatment—rest. If our patient had kept quiet he would not have been exposed to injury. We know that the several strains made his trouble worse, but whether or not he would have escaped the severe pain altogether if he had kept quiet, we can only surmise.

The more complete the rest is, the better. The recumbent posture is best, perhaps, in a plaster-of-paris bed or on a gas-pipe frame. Later, a spinal brace or a plaster-of-paris jacket may be applied. Massage, electricity, heat, or cold may be useful. The Pacquelin cautery has been recommended. If the pain is very severe, it ought to be stilled, even if an anæsthetic be necessary.

The writer acknowledges his indebtedness, for information included in this article, to Drs. James and Braunlich of New York; Wynne, Tyler, and Power of Redlands; Barlow, Brainerd, and Cole of Los Angeles; and Sherman of San Francisco, Cal. He considers it right to say that he himself was the patient, for, while this fact may lend a certain realistic coloring to the description, it may, perhaps, be thought to detract from its scientific value.

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A STUDY OF THE INDICATION FOR NEPHROPEXY.*

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Bear with me until you have heard me through if I say at the outset that the indication for fixation of the kidney is prolapse to the third degree or beyond; that is, when the whole organ is found prolapsed below the last rib in front. I make this statement without qualification, except absolute contraindication to operation. Even where there is apparent absence of symptoms or external evidence that the prolapse is causing disturbance, the contention holds good, because the kidney is necessarily crippled in consequence of the prolapse.

In order to be able to give the views of others upon the indication for nephropexy, I wrote to a number of gentlemen, and received the following replies:

Howard A. Kelly of Baltimore writes: "Nephropexy has come to be one of the commonest operations I have performed. I base the indication for the operation upon the symptomatology and upon the displacement of the kidney and upon an injection of the kidney, bringing on an artificial attack of colic, definitely proving that the symptoms complained of come from the displaced kidney. I operate in cases of displacement in which the upper pole can be palpated and in which there are attacks of intermittent pain referred to the right or left side. I am very hesitant about operating upon lesser grades of displacement, or where the symptoms are rather vague and the patient complains rather of ill health associated with digestive disturbances."

Robert T. Morris of New York writes: "Nephropexy is not indicated in cases of true floating kidney, with long mesonephron, or in cases of acquired loose kidney, provided that there is no nephritis present, and provided that the pressure symptoms and reflex nervous symptoms are controllable by the application of a straight front corset, laced from below.

"In cases with nephritis that is apparently dependent upon vascular interference due to the position of the kidney, nephropexy and decapsulation of the kidney are indicated even in cases in which artificial support gives relief from pressure symptoms and reflex nervous symptoms.

"Nephropexy is a futile resource in cases with general enteroptosis unless the suspensory ligaments of the liver are shortened at the same time, to prevent that viscus from pressing a kidney away from its anchorage. There is usually in such cases a diastasis of the rectus abdominis muscles which requires repair, before nephropexy is indicated.

"In general, nephropexy is indicated in a large proportion of all of the cases of floating kidney, and in practically all of that group of cases of acquired loose kidney in which the excursions of the kidney cannot be controlled by the corset sufficiently to give relief from the pressure symptoms, and the symptoms of reflex nervous disturbance."

Charles P. Noble of Philadelphia writes: "In reference to the indications for operation I would make the following:

"Careful discrimination in diagnosis, in order to separate cases in which movable kidney is a coincidence in a case of neurosis from those in which it is the cause of local and reflex symptoms.

"Resort to the rest cure for cases of slightly movable kidney, especially in young women.

"The employment of symptomatic treatment in cases in which the relation between the movable kidney and the nervous symptoms present is uncertain. Nephrorrhaphy should be employed in these cases only after nonoperative measures have failed to afford relief.

"The immediate resort to operation in those cases in which local symptoms, such as pain, sense of weight, or symptoms of strangulation, are present, and when the examination of the urine shows indication of congestion of the kidney, such as the presence of hyaline casts or albumin."

Henry Morris of London in the *Lancet* for November 30, 1901, gives the indications for nephropexy as follows:

"1. When movable kidney is associated with enteroptosis no operation should be done unless it is evident that the more serious symptoms are due to the movable kidney alone.

"2. When movable kidney is complicated by movable liver the same rule should be followed as in general enteroptosis.

"3. When the movable kidney occurs in a hysterical or neurasthenic subject palliative means should be tried before resorting to operation.

"4. For uncomplicated movable or floating kidney in which the principal symptoms are pain and gastrointestinal troubles the operation may be confidently advised and carried out without any previous trials of belts or of rest.

"5. When renal crises are a feature of the case, nephropexy ought to be strongly urged because of the constant risk of hydronephrosis and recurring pain.

"6. When a movable kidney gives rise to no inconvenience, an operation ought not to be thought of and belt need not be worn."

Continuing, he says:

"It is chiefly in the rare cases in which movable kidney is associated with enteroptosis that belts are of any real value. My experience leads me to attach no value to rest in the recumbent position. In several instances in which I have operated with most gratifying results the patients have kept the recumbent position for six or nine months before operation without the least improvement from it, all of their symptoms returning immediately after getting about again."

I would like it understood here that I employ the term "prolapse of the kidney" to designate those degrees of descent of the organ where the upper pole can be palpated below the border of the last rib in front. So-called prolapse of the second and third degree, where only the lower pole and half of the organ respectively may be palpated at the same point upon deep inspiration, might be more properly designated loose kidney or movable kidney, and is, no doubt, the condition referred to by most authors as "movable kidney." These latter are the cases that are benefited by belts or corsets.

There are three principal indications to be found for fixing the kidney:

1. The symptoms of inconvenience it produces.
2. The influence it may exert in producing or maintaining disease of the female pelvic organs.
3. Its influence in causing disease of the kidney itself.

(1) The symptoms produced by prolapse of the kidney appear to be viewed in different light by different observers and indifferently by others. Though they have been attributed by some to other causes which may co-exist, they are frequently relieved temporarily by artificial support of the kidney and permanently by fixing this organ, if the operation is resorted to early enough.

The disturbance that may be produced by prolapse of the kidney depends much upon the condition and environment of the patient. If the health is already impaired, its influence is more pronounced and its evil effect is more noticeable. Then, again, if the patient is obliged to earn her living, or if her social or domestic requirements compel her to be actively employed and much upon her feet, she will suffer much inconvenience from it. If she wears corsets in the usual manner, the symptoms will be more pronounced, whereas, if she be one of the fortunate few who do not wear corsets, nor even wear clothing tight about the waist, she may suffer little inconvenience for a time. But while such omission of the requirement of fashion may remove one source of irritation of a kidney that is prolapsed, it does not obviate it entirely, and in time if the condition is neglected the influence of the prolapse will be manifested in an unmistakable manner.

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*Read at the nineteenth annual meeting of the New York State Medical Association, October 20 and 23, 1902.

Not only does prolapse of the kidney give rise to symptoms that are readily recognized by those who have given the subject careful attention, but it sometimes causes marked impairment of the health of the patient, and at times considerable loss of flesh. The most frequent and most distressing symptoms are those which point to derangement of the digestive apparatus and of the genitourinary organs, with fatigue and general depression following exertion of any kind in the erect position. Though the symptoms may not be always severe or unbearable, they frequently cause chronic invalidism, in which may be found sufficient indication for operation.

There can be no good reason offered for delaying an operation that involves no risk because the symptoms which the condition gives rise to are not unbearable, or until the health of the patient becomes so much impaired that recovery is doubtful or impossible.

More serious operations are done every day for conditions in the pelvis which cause far less inconvenience than does prolapse of the kidney.

(2) In a paper presented at the last session of the American Medical Association in the Section on Diseases of Women,* I pointed out that the prolapsed kidney, by interfering with the return circulation from the pelvis, may cause or maintain disease of the female pelvic organs. This is brought about chiefly by pressure of the prolapsed kidney upon the ovarian vein in its course along the spine. When the kidney descends, its lower pole swings inward toward the spine and overlaps the ovarian vein and ureter. Therefore, when the abdomen is compressed by corsets or clothing at the waist, the kidney is forced backward and compresses the ovarian vein between it and the solid structure of the back. Thus, during the greater part of the twenty-four hours when the patient is on her feet, the return circulation from the pelvis is interfered with and pelvic congestion is the result. It will be unnecessary to detail here the conditions in the pelvis that may be produced or maintained in this manner by prolapse of the kidney. They have been set forth with sufficient fulness in the paper referred to.

The association of pelvic disease with prolapse of the kidney cannot be a coincidence, as has been contended by some who have opposed my views on this point, because, *first*, it is too frequent; *second*, the explanation of cause and effect is rational; and, *third*, these conditions in the pelvis are cured by fixing the kidneys in some instances in which measures directed only to the pelvic condition have previously failed.

If the above premise is correct, the co-existence of pelvic disease may be considered a strong indication for fixing the kidney when it is prolapsed.

(3) We come now to the third and most important indication for nephropexy, namely, the condition of the kidney itself produced by the prolapse. It will be admitted that we have in prolapse a condition which interferes with the function of the organ, produces congestion, and frequently retards or obstructs the outflow of excreted urine—a condition which, if left uncorrected, must eventually lead to inflammation of the organ or degeneration of its structure. Henry Morris, in his work on "Surgical Diseases of the Kidney," referring to the prognosis of movable kidney, says: "Besides the tendency of the mobility to increase, there is also a tendency for the kidney itself to undergo degenerative or inflammatory lesions. . . . Intermittent hydronephrosis due to repetitions of kinking or curvature of the ureter, intestinal obstruction due to compression of the bowel by the displaced kidney, and later, a pyelonephritis and pyonephrosis from septic infection of the dilated renal pelvis are complications which are occasionally provoked by movable kidney."

My own observations upon the operating table convince me that these kidneys are never in a healthy or normal condition after the prolapse has progressed to the third degree. I have already drawn attention* to the marked difference of the two kidneys in the same subject when one is prolapsed to the third degree or beyond and the other is only in the second degree of prolapse when the operation has been done on both kidneys at the same time. These observations, more than anything else, have convinced me of the advisability of early operation if the whole of the organ is below the level of the last rib in front when the patient is on her feet. As a rule, I fix the other kidney at the same time if it is found in the second degree of prolapse; that is, when half of the organ descends to the lower border of the last rib in front, on deep inspiration when the patient is in the erect position. This is done to avoid the necessity of a second operation later, which would inevitably be required.

It is my custom to submit the urine of every patient with prolapse of the kidney to careful microscopical examination to ascertain definitely just how much injury the kidney has sustained as a result of the displacement. These examinations are repeated at intervals until operation is decided upon to ascertain the progress of the disease. After operation the urine is also submitted to careful microscopical examination to note the improvement that follows operation. I have selected ten cases, taken at random from among those that have consulted me during the past month and in which I have advised operation, and I append herewith the result. Some of these cases have already been operated upon.

In every case except two there has been found evidence of either marked irritation or inflammation of the ureter, pelvis, or kidneys, and in many of them an associated cystitis. In one case only (No. 7) was there evidence of only moderate inflammation of the pelvis of the kidney. This patient who had the right kidney prolapsed to the third degree is a single woman, thirty years of age, had not worn corsets since she was seventeen years old, and has never worn her clothing tight, yet for the past few years she has had pain in the region of the kidney, with marked disturbance of the digestive apparatus, occurring every few weeks, precipitated by some unusual exertion. I operated upon her recently, and found the kidney enlarged, congested, and adherent to the fatty capsule, showing evidence of perinephritic inflammation of long standing.

It will thus be seen that the kidney is always in a crippled condition as a result of the prolapse, and we are not justified in disregarding it or in delaying operation until the health of the patient becomes seriously impaired or the kidney is irreparably

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Journal of the American Medical Association of August 23, 1902, p. 4177.

*"Technique of Fixation of Prolapsed Kidney," by the author, *American Medicine*, December 28, 1901.

diseased and recovery doubtful, more especially as the operation involves no risk, and it is the only positive means of cure.

It must be admitted that a kidney constantly irritated, or in a more or less constant state of congestion when the patient is about on her feet, is a crippled kidney, and that such irritation or congestion, if unrelieved, must lead to inflammation of the organ. It must also be admitted that the constant pressure from belts or corsets, however well-fitted and adjusted, must be a constant source of irritation to a kidney thus crippled.

Upon this subject Henry Morris, in a recent article in the *Lancet*, November 30, 1901, says:

"Belts and bandages have no efficiency in nephroptosis uncomplicated with enteroptosis, and when employed in cases of movable kidney they increase the pain and may otherwise do harm if not carefully and properly adjusted. Though some patients are rendered more or less comfortable by them, they are not cured by these appliances. Moreover, pads and bandages are not free from the risk of doing more harm than good."

According to my own observations, belts are often discarded by patients because of the discomfort they produce and the irritation of the kidney that they are able to observe themselves. Evidence of such irritation is quite apparent upon careful microscopical examination of the urine of these patients if the examination is conducted by an expert, and the specimen selected for examination is taken at the proper time.

	Name	Age.	Married or Single.	Children and Mis.	Diagnosis.	Microscopic Diagnosis.	Microscopical Findings.
1	Mrs. M K	28	M. 2 yrs	1 mis.	Pro. R. Kidney 3d deg. Endometritis.	Oxaluria	Sp. gr. 1028, oxalate of lime, large amount, pus-corpuscles, blood-corpuscles epithelia from pelvis of kidney.
2	Mrs. M S.	[illegible]	M 7 yrs	2 chil 3 mis.	Pro. R. Kidney 3d deg.	Chronic instestitial pyelonephritis with catarrhal cystitis.	Blood-corpuscles (few), pus-corpuscles; epithelia from convoluted tubules of kidney with fat globules. Epithelia from straight collecting tubules of kidney, epithelia from pelvis of kidney with fat globules, epithelia from ureter, epithelia from upper layer of bladder, epithelia from middle layer of bladder with fat globules, free fat globules.
3	Mrs. L M	24	M. 4 yrs	1 child 3 yrs.	Pro. R. Kidney 4th deg. R. hydrosalpinx.	Subacute interstitial pyelonephritis with catarrhal cystitis.	Oxalate of lime, blood-corpuscles, pus-corpuscles, epithelia from convoluted tubules of kidney with fat globules, epithelia from straight collecting tubules of kidney, epithelia from pelvis of kidney with little fat, epithelia from ureter, epithelia from upper layer of bladder, epithelia from middle layer of bladder with few fat globules, few free fat globules.
4	Mrs. A. D.	27	M 2 yrs	3 mis.	Pro. .R. Kidney 3d deg Pregnant 3 months.	Subacute interstitial pyelonephritis with catarrhal cystitis.	Blood-corpuscles, pus-corpuscles, epithelia from convoluted tubules of the kidney with few fat globules, epithelia from the pelvis, of the kidney with fat globules, epithelia from middle layer of bladder with few fat globules, epitheiia from ureter epithelia from upper layer of bladder, mucous, and few free fat globules.
5	Mrs M. G	24	M 7 yrs.	1 child 0 yrs.	Pro. R. Kidney 3d deg. Pro. L. 1st deg. Salpingo-oophoritis, chronic.	Acute interstitial pyelonephritis.	Uric-acid gravel. blood-corpuscles (many), pus-corpuscles, epithelia from convoluted tubules of the kidney, epithelia from pelvis of the kidney, epithelia from ureter, also epithelia from upper layer of bladder.
6	Mrs R	40	M. 18 yrs	4 child	Pro. R. Kidney 3d deg. Pro. L. Kidney 3d deg. Endometritis.	Chronic catarrhal pyelitis and cystitis.	Uric-acid gravel (few), pus-corpuscles, free fat globules, epithelia from pelvis of the kidney with few fat globules, epithelia from ureter, epithelia from upper layer of bladder, epithelia from middle layer of bladder with fat globules.
7	Miss B	20	Single	. .	Pro. R. Kidney 3d deg. Right ovaritis, chronic.	Catarrhal pyelitis.	Incomplete triple phosphates, oxalate of lime, uric acid of three varieties, blood-corpuscles, few pus-corpuscles, epithelia from ureter, epithelia from upper layer of bladder, epithelia from pelvis of the kidney.
8	Mrs. S.	27	M. 4 mos	. . . .	Pro. R. Kidney 3d deg. Pro. L. Kidney 1st deg. Small ovarian cyst of right ovary.	Chronic interstitial pyelonephritis with catarrhal cystitis.	Blood-corpuscles, pus-corpuscles, epithelia from convoluted tubules of the kidney with fat globules, epithelia from straight collecting tubules of kidney, epithelia from pelvis of the kidney with fat globules, epithelia from ureter, epithelia from upper layer of bladder, epithelia from middle layer of bladder with fat globules, free fat globules, mucous, triple phosphates.
9	Miss C.	37	Single	. .	Pro. R. Kidney 3d deg. Anteflection with dysmenorrhœa.	Catarrhal cystitis.	Oxalate of lime, bacteriate (many), mucous, blood-corpuscles, pus-corpuscles, epithelia fromupper layer of bladder, epithelia from middle layer of bladder.
10	Mrs. I. B.	29	14 yrs.	1 child.	Pro. R. Kidney 3d deg. Pro. L. Kidney 2d deg. Retroversion of the uterus.	Chronic interstitial pyelonephritis.	Blood-corpuscles (few), pus-corpuscles, urate of ammonia, oxalate of lime, epithelia from convoluted tubules of the kidney with fat globules, epithelia from pelvis of the kidney with fat globules, epithelia from ureter, epithelia from upper layer of bladder, free fat globules.

My friend, Dr. Gallant, will tell you that he cures these cases of prolapsed kidney with corsets adjusted and worn so as to support the kidney by external pressure upon the abdominal wall. I believe he is sincere in his statement, but believe he is deceiving himself. I have not seen one of his cases that he has cured, it is true, but my experience with prolapse of the kidney convinces me that it is impossible to maintain the prolapsed organ in anything like normal position by any form or artificial support. Hence such support is incapable of curing after the kidney has prolapsed to the third degree or beyond. I am confident that if the urine of these patients be submitted to microscopical examination, there will be found abundant evidence of inflammatory lesion in either the kidney or the pelvis.

The sphere of usefulness of the corset is to prevent or retard an exaggeration of the earlier stages of prolapse (loose or movable kidney), which are inevitably progressive if disregarded. When, however, the kidney has descended below the border of the last rib in front; that is, when its upper pole can be palpated below this point, it is in a position where it is extremely liable to injury and it is constantly subjected to irritation in consequence of interference both with its circulation and the outflow of excreted urine. The most carefully-adjusted support will provoke increased and undesirable and often serious irritation, owing to the pressure it must exert to furnish adequate support.

My contention, then, is, that when the kidney is prolapsed so that its upper pole may be palpated below the border of the last rib in front, it should be fixed without delay, mainly because the organ, one of the most essential to the human economy, is already in a crippled condition, owing to the prolapse, and that we are not justified in delaying operation until demanded either by marked impairment of the health of the patient or by serious disease of the kidney itself. Operation is demanded when the condition is discovered, and if it is done then we will save our patients much suffering and secure better results from the operation.

An analogy is to be found in appendicitis which at one time was considered operable only as a last resort, when there was nothing else to be done, but which now, thanks to the light of modern surgery, has been placed in the list of curable diseases by operation early resorted to. In consequence the mortality has been greatly reduced and thousands of lives are now saved every year which but a few years ago were lost through ignorance and distrust of surgery.

Let us not commit the same error with this condition of the kidney. It is too important an organ to be permitted to remain in a crippled condition when it can be restored to a state of health and usefulness by a simple operation that involves no risk.

Let me enter a strong plea here for more careful and more frequent microscopical investigation of the urine of female patients who we know are extremely liable to the condition under consideration. To be satisfied with testing the urine for sugar and albumin is both unscientific and careless. To regard the detection of albumin necessary for the existence of a nephritis is a serious error, because the amount may be so minute as to make its detection uncertain or practically impossible, or it may be absent, yet grave kidney lesions may exist (Heitzman). It is also a serious error to think the presence of casts in the urine the only microscopic evidence of nephritis (Heitzman).

It is true that some of these women with prolapse of the kidney apparently suffer little inconvenience therefrom, but, without careful microscopic examination of the urine, who can tell what is the condition of the kidney. The great risk is that it may progress to the danger point before it is detected, particularly if the medical adviser happens to be indifferent upon the subject. There can be no excuse for permitting the patient to live thus over a mine which may explode at any time.

2030 Broadway.

The Post-Operative Treatment of Adenoids.—Macleod Yearsley finds that compound syrup of hypophosphites is a valuable medicine to prescribe for children who have been operated on for adenoids, as it contains iron and strychnine, both of which are needed. In children who have been operated upon some time after deafness has appeared, the strychnine will be found of great help to the aural condition. It improves the trophic nerves of the middle ear, and also gives tone to the auditory nerve. As to the hygienic treatment of the patients, good food, good air, surroundings, etc., may be taken for granted. In addition, children should be taught simple breathing exercises, beginning about a fortnight after operation. An erect position, mouth closed, hands together with the arms extended, a slow motion of the arms backward to a little behind the shoulder line while a deep inspiration is taken through the nose. A slight pause and reversal of the process with expiration. This should be done every morning for five minutes, at the normal rate of from fourteen to eighteen respirations per minute. This exercise should be performed in an airy room, or, in summer, in the open air.—*The Medical Times and Hospital Gazette.*

OBSERVATIONS ON GERMAN THERAPEUTICS.

By SIMON BARUCH, M.D.,
NEW YORK.

The sessions of the section on internal medicine of the recent congress of German naturalists and physicians were marked by the rarity of papers on clinical (practical) medicine. Session after session was consumed by the delivery of papers and addresses on bacteriological, chemical, physiological, philosophical—every branch except that paramount one—clinical medicine, to which this section should be chiefly devoted, but which was crowded out by fine-spun theories, philosophic platitudes, and "scientific" papers on subjects much better fitted for the sections on pathology, chemistry, and microscopy. History has repeated itself. Therapeutics, of all branches the most important to the sick and, therefore, to the doctor, has, since the advent of "modern medicine," been treated with stepmotherly regard and scant attention. A retrospective glance over the history of medicine reveals the deplorable fact that the chapters on therapeutics have been the least creditable to our calling. In the earlier periods of medical history, the various schools wasted time and wisdom and much ink in disputation over each other's claims to ascendancy; in these latter days much time and ink and wisdom are devoted to cognate branches, while a deplorable therapeutic nihilism has replaced the former too active medication, and occasional "discoveries" of new remedies, specifics, etc., are thrown "as a sop to Cerberus" in obedience to the demands of suffering humanity, which has cried aloud for relief throughout all these centuries of strife and contention. To the credit of our guild be it said, that although actual curative agents have not been added in noteworthy quantity, much—very much—has been accomplished in the prevention of disease by prophylactic sanitation. In Germany a marked absence of typhoid fever from the morbidity and mortality lists offer a striking illustration of the value of sanitary vigilance. In favorable contrast to our American methods, the supervision of the milk and water supply, which are the chief etiological factors of this disease, is extended to the *source* of supply—the rural districts. As a result, typhoid fever is just now very rare in some parts of Germany. To one who is accustomed to seeing much* of this disease, it was a revelation to discover only two genuine cases in the new Dresden City Hospital (581 beds), and one in the old City Hospital. In the Leipzig Krankenhaus, the presiding genius of which is the well-known clinician Curshman, I saw but one case, in Jena, Halle, and in Leyden's wards at the Charité none; in Goldscheider's wards, at the great Moabit Hospital, only one doubtful case. Such brilliant achievements in preventive medicine entitle German physicians to the highest encomium. Far be it from me, therefore, to depreciate, by the above criticism, the labor of the men who have not only diminished the morbidity statistics of fatal diseases, but whose self-sacrificing labors have given the world a diphtheria antitoxin. My plaint arises from the alarming absence of bedside workers, while every eye is strained, every ambition is spurred, every thought concentrated on laboratory research. It is a sad commentary on the therapeutics of the present time that the main army is occupied, with so-called advance work while only a very small detachment remains as rearguard to cover the retreat and protect the lives of those who are in *present* daily peril from the attacks of the enemy—disease. This was painfully demonstrated by the papers and discussions in the section on internal medicine, about 5 per cent. of which only were of therapeutic value.

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*On beginning my service in the Hood-Wright Hospital I found three cases, and two days later I saw on West Seventy-second street two cases in consultation, thus aggregating a larger number than those I met in the largest hospitals of Germany (December 1.)

In Leyden's wards, which I had the pleasure of visiting under the personal conduct of the genial professor, the serum treatment of cancer and of chronic rheumatism seemed to engross attention. The chief of the clinic waxed warm in praises of the antirheumatic serum. He showed a case under treatment, but had no recovered cases present. An eminent bacteriologist expressed to the writer serious doubt as to the safety and permanency of this treatment, which he then still had under investigation.

The locations of the great hospitals of Dresden, Halle, and Leipzig deserve passing notice, inasmuch as their environment must contribute vastly to successful treatment. The buildings consist of one, two, or three stories high, are detached, and stand amid parks of trees and grassplots, intersected by well-graded gravel walks. Even in the old Charité and in the great Moabit Hospital of Berlin there are traces of the same tendency, somewhat obliterated now by the great increase of buildings. The Charité is now being entirely reconstructed, the buildings being demolished and replaced successively, so that the service is not materially interfered with. The Moabit Hospital, with Renvers and Goldscheider in charge of the internal division, consists of over a hundred one-story barracks, originally built for cholera cases. Curshman's new pavilions in Leipzig are lofty one-story buildings, on the Eppendorf (Hamburg) plan. They are heated by radiation from the (Terrazo) floor, which contains steam coils within the cement bed. This floor is kept scrupulously clean, and its temperature is under constant observation, on thermometers sunk within a depression in the floor. Curshman pointed with justifiable pride to the lovely park surrounding this pavilion. He orders the beds of all his infectious fever cases to be rolled into the open air and to remain all day.

In the parks surrounding the new Dresden and the Leipzig hospitals large pavilions, open all around, and protected, when necessary, by adjustable curtains, are used for convalescents, who are thus forced to spend most of the time in the open air in contact with that greatest healer—Nature.

It is refreshing to note that while acute diseases are mostly left to their own course, under the best hygienic conditions, there is now very pronounced activity in the management of chronic cases. These opprobia of medicine, which were formerly regarded with disdain in the German hospitals, and are still so regarded in our own country, now receive the lion's share of attention in the best hospitals of Germany. Large halls in the new City Hospital of Dresden and the University Hospital at Leipzig are devoted to Physikalisch-Diätetische Therapie (aptly called Physiologic Therapeutic, by Dr. S. Solis Cohen of Philadelphia, who has edited a work of five volumes on this important subject). The first object that greeted me on entering this hall of the Dresden Hospital was a pale man chopping wood on a large block. My question where the wood was burned, answered with a smile, was that the man was a neurasthenic, for whom this kind of exercise was prescribed by Prof. Windscheid. Presently some twenty men marched into the hall and went through various gymnastic evolutions; others worked the ergostat, turning a weighted wheel, others received various baths and douches, and others practised on the Fraenkel and Goldscheider apparatus for developing muscular coordination in tabetics. One room is devoted entirely to sand baths, which consist of minute pebbles from which the sand has been carefully screened, and which, after being disinfected, is heated to 120 or 150° F. The heating is done in a large kettle, containing a steam coil. From the bottom of this kettle the hot sand issues through a pipe, controlled by a stop cock, into a large wooden tub. When the latter is half filled the patient lies down nude; his entire body, except two-thirds of the chest (to prevent oppression), is now covered with hot sand, a cold, wet turban placed on his head, a blanket over the tub to prevent escape of heat. He now perspires freely, the perspiration trickling through the gravel. Sand is avoided, because it creates much dust, and when applied often forms a cohesive mass which checks heat radiaton. In 1896 I visited the celebrated sand baths at Kœstritz, where the late Dr. Sturm first demonstrated and long maintained the systematic use of sand baths. from which he reported some marvelous results (see "Practical Data on German Health Resorts," *Medical News*, 1896). Professor Curshman dwelt with justifiable pride on this splendid institute for physical therapy, in which his neurasthenics, tabetics, and other chronics are treated with results far exceeding those formerly attained, and warranting the large outlay demanded for the expensive apparatus. The Leipzig and Dresden institutes are on a more elaborate scale, though less ornamental, than that of the best-appointed private sanatoria, many of which I have visited in Germany and France. A novel feature of Curshman's Institute for Hydrotherapy, and one I have only once before met (in Elgersburg), is the Wellen-Bad—wave bath. This consists of a sunken basin, ten feet long, four feet wide, and six feet deep, lined with glazed brick, with the upper end of which another basin, two and one-half feet wide and three feet long, is connected. The latter (separated from the former by a coarse meshed galvanized iron net like that seen around bank desks), contain a paddle wheel of five curved paddles, which revolve rapidly under steam power, throwing strong surf-like waves upon the patient, who stands just outside the iron network partition. This minature surf bath, administered in the large, well-ventilated hall, devoted to hydrotherapy, is said to produce excellent results. Professor Curshman informed me that it increases blood pressure materially, and has been chiefly effective in chlorotic women and neurasthenics. The douche apparatus of this institute, like that in the Dresden hospitals, is imperfect, the supply of hot water not being separate from the main hot water supply, the temperature fluctuates, and is, therefore, unreliable. Moreover, there is no thermometer to indicate exact temperatures; the latter are regulated by a lever, moving from a point marked cold to a point in the middle marked lukewarm, and thence to a point marked hot. This imperfect arrangement for regulating the temperature of the baths I found also in Marienbad and in Professor Brieger's new Hydrotherapeutic Institute of the Berlin University, as well as in the magnificent Kaiser-Bad in Carlsbad. The latter boasts of a thermometer, but it has been broken for some time, without the knowledge of the physician in charge. Not a single douche apparatus in these well-appointed hospitals, nor, for that matter, in any private sanitarium which I have visited, is supplied with a pressure gauge which in our country is now justly regarded as important in the "dosage" of these procedures.

The Leipzig Institute for Physical Therapy is under the special direction of Professor Windscheid, who teaches neurology. When I saw the large and expensively-appointed halls for physical therapy and the large shaded grounds of the Dresden Hospital (63,000 square meters) built and maintained by the city, my thoughts reverted to grim, old Bellevue. The highest flight of imagination could not picture gray Bellevue or Charity Hospital patterned after these models. If ever Bellevue Hospital is demolished (as it certainly should be), and our city authorities construct a hospital worthy of one of the world's greatest cities, the plan of the New Dresden Municipal Hospital (Johannesstadt) would furnish many valuable features. This hospital consists of a series of seventeen separate, handsome, but plain, buildings, which are connected by a well-lighted underground passage of ample breadth and height, on the walls of which are secured the water and sewer and light mains. There are 103 wards and rooms, ranging from one to thirty beds, each now complete and in full operation, and when the buildings are completed the number of beds will be increased to 881. The cost of the land and buildings was $1,500,000; the cost of furnishing, $96,000. The Charité in Berlin is now in process of complete reconstruction. Under the practical and energetic management of Ministerial Director Althof, the old, grimy walls of this renowned clinic are being demolished, and plain but substantial pavilions are rising to take their places. One by one the old buildings succumb to the march of improvement. The surgical clinic, on the side of which stands the statue of Bardeleben, is now approaching completion. Direktor Althof is a remarkable man, possessing marvelous foresight, and displaying marked interest in the development of special practical departments. He it was who developed the enormous advances in hygiene and in the prophylaxis and management of infectious diseases by affording Koch abundant aid and furthering his studies by ministerial backing, without which nothing can be accomplished here. To Althof is due also the construction of the new Institute for Hydrotherapy and Massage and the appointment of a truly scientific teacher for these branches—Professor Brieger. Althof discerned years ago that the Naturärtze (empirics) were making inroads upon legitimate practice. A commission, consisting of well-known teachers, was appointed several years ago to investigate the defects of the existing teaching facilities. Kussmaul, being one of this commission, reported, among other things, as follows: "It cannot be denied that faith in prescriptions is waning among educated people, and that confidence in dietetic remedial methods and in the curative powers of water is in the ascendant. Even the lower strata of society begin to realize how much may be accomplished with air, water, and proper regulation of habits of life without the use of medicine. A distrust against the most powerful and indispensable medicinal agents is becoming more pronounced in large circles. Water is the chief agent, which has won steadily-growing confidence as a remedy, because, unlike others, it may be utilized in varied temperatures and methods, for the most varied therapeutic purposes. According to the correct and skilful selection of the procedure, it regulates the circulation and distribution of blood, the production of heat and tissue change, and influences the respiration and the nervous system. The treatment by water has passed its childhood days, when it not infrequently did as much damage as is done by improper medication. Ripened experience and physiological knowledge have rendered it safe. Hydrotherapy, combined with diet, etc., may undoubtedly bring about, or aid in, the cure of numberless acute and chronic diseases. Of hydrotherapy the young physician knows almost nothing when he leaves the university. Unfortunately, he sooner or later encounters discomfiture when an uneducated quack steps in and cures the patient after he has failed. Deeply chagrined and disappointed in his confidence in scientific therapeutics, he may pass into the camp of the crude empirics. Here lies a great gap in the education of our physicians, here lies the real cause of weakness in the contest for public favor which our physicians must encounter. A revision of our course of study must be made, above all things. The teacher of clinical medicine has already so many duties in his work of instruction that no time is left for familiarizing students with hydrotherapy. In order that the latter may be instructed without the usual superficiality, distinct chairs, supported by clinical divisions, are required, in which appropriate cases may be treated by hydriatic procedures. These lectures may be combined with those on balneology and diet, but, for Heaven's sake (um Gottes Willen), let not this professorship be connected with that on pharmacology."

This energetic report appears to have borne good fruit. In Jena, Professor Matthes is appointed to teach hydrotherapy in connection with clinical medicine; in Leipzig, Professor Windscheid; in Halle, Professor H. Winternitz (not the Viennese Nestor). In Berlin, Professor Brieger was given charge of the new Institute for yHdrotherapy, which he teaches practically and ably, assisted by Drs. Krebs, Lacquer, and Machant. At present clinical lectures are delivered with demonstrations on four days each week, 11 to 12 A.M.

I found quite a number of German, Austrian, Russian, Japanese, and Swiss students in attendance in the large pavilion (constructed for this purpose in the Charité grounds), in which there is an anteroom for policlinic patients, dressing rooms, and a large room for douches, tub, and other baths. In this room Professor Brieger lectures on practical hydrotherapy. In another building Zabludowski teaches massage. Brieger also has another pavilion of thirty beds devoted to clinic (ward) patients, in which physical methods are chiefly applied. In the near future the outfit for hydro therapy is to be greatly enlarged. The appointment of this man of exact science to teach hydrotherapy is fortunate for the development of this special branch of therapeutics. Any one who knows the career of Brieger must feel assured that its merits and failings will be cautiously and methodically studied and taught. Brieger was assistant in the clinic of Quincke at Bern from 1877 to 1878 to Professor Frerichs in Berlin for seven years; in Leyden's clinic, two years. For three years he was director of a separate policlinic in which 2,000 cases of internal diseases were treated annually. For nine years he was chief assistant to Professor Koch in the wards for infectious diseases, containing 115 beds. In 1901 he was appointed professor of general therapeutics with special directions to teach hydrotherapy and other physical methods. In order to obtain a practical insight into this branch of therapeutics, Brieger made a tour of observation of the institutes of Winternitz in Vienna and others. Among his numerous contributions may be mentioned "Contributions to the Knowledge of Fibrous Hepatitis;" "On Chyluria;" "On the Antifebrile Action of the Hydrobenzole Preparations;" "On the Therapeutic Value of Chinolinum Tartaricum;" "Report on 126 Cases of Febris

Recurrens in Professor Frerich's Clinic from July, 1879, to end of 1880;" "On Metallic Heart Sounds;" "On Grouping the Observation of Drugs;" "On Malignant Œdema in Typhoid Fever;" "Clinical Aspect of Tabes Dorsalis;" "On Wandering Pneumonia;" "The Connection of Acute Joint Rheumatism with Nervous Diseases;" "Bacteriological Observations on Puerperal Fever;" "Physiological Action of Purgatives." Those who know Brieger only as the patient and successful bacteriologist, who has given the world an insight into the principles of immunity, of ptomains, toxins, and other intricate laboratory subjects, wonder that he has assumed the care of that orphan child of medicine (hydrotherapy), which, until recently, has received but scant and stepmotherly care in the universities. The man who has a clinical experience of twenty years in the wards of Quincke, Frerichs, Leyden, and Koch, and whose brilliant laboratory work on toxins, ptomains, etc., has proved him a patient toiler in the intricate branches of clinical medicine, will surely bring this neglected child of medicine to full maturity. Minister Althof has again signalized his keen insight into and sympathy with practical medicine by obtaining the consent of this many-sided man to teach a branch of therapeutics which has been hitherto disdained by the great professors. Massage is also taught in a separate institute, under the renowned Zabludowski, in a building on the Louisenstrasse, in which so many university polyclinics are situated.

Physical therapeutics is, therefore, in full swing in Germany; its rise is a benignant "sign of the times;" it will, under the present régime, be developed into the most valuable weapon of the physician, especially against chronic diseases, in which at present he is so powerless. It is a gratifying fact to the writer that in our own country the subject of physiologic therapeutics is receiving much needed attention, a large work of five volumes having recently appeared. It would be well if our medical schools would emulate the German universities and establish special chairs and departments for this branch.

BERLIN, October 15, 1902.

INSTRUCTIONS TO PATIENTS AFFECTED WITH SYPHILIS AND GONORRHŒA.*

By FOLLEN CABOT, M.D.,
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ATTENDING PHYSICIAN, CITY HOSPITAL; SURGEON TO THE GENITOURINARY AND VENEREAL DEPARTMENT PRESBYTERIAN HOSPITAL DISPENSARY.

IN April, 1898, I read a paper before the Post-Graduate Clinical Society entitled "The Management of Syphilis." The paper was published in the *Post-Graduate* in October of the same year. In that article the following lines appeared: "The patient must understand that syphilis is not necessarily a venereal disease, and he should be told the various ways it can be communicated to the innocent. When instructions of this kind from physicians to patients are conscientiously carried out we may look for a diminution in the ravages of syphilis, and particularly in the innocent. In private practice instructions to patients can be readily given. I believe, however, even in private practice this part of the physician's duty is, in many instances, neglected. It is, however, in dispensary practice that careful instructions to each patient are practically impossible, owing to the lack of time, the insufficient understanding on the patient's part of the few words hardly spoken, and the natural carelessness of many physicians in relation to dispensary work. I believe that a very good way to proceed in dispensaries where syphilis is treated would be to have a small card with printed instructions as to the nature of the disease, etc. One of these cards should be given to each patient suffering from the disease."

Since writing these lines, four and a half years ago, I have been looking for an opportunity to carry out the plan described in the paper. Since my appointment to the Presbyterian Hospital, Genitourinary Outdoor Department, I have had the opportunity of carrying out my previous idea.

The plan has succeeded well, and I present here the instructions in printed form, which are given to the patients affected with syphilis or gonorrhœa.

Instructions to Those Suffering from Syphilis.—Syphilis is a constitutional disease. It is "in the blood." Local remedies and taking medicine for a *few months* will not cure you.

You must be treated for three years.

The effects of this disease are far-reaching, and if treatment is neglected, much trouble and suffering may be caused, not only to yourself, but to others.

The following rules must be observed during the first year:

1. Sexual intercourse should not be indulged in.
2. Alcohol in all forms should be avoided, as it always aggravates the disease.
3. Do not smoke or chew tobacco.
4. Sleep alone.
5. Under no circumstances should any one be allowed to use your toilet articles, as towels, brushes, combs, razors, shaving brushes, etc.
6. No article that has been in your mouth should be used by others, as tooth-brushes, tooth-picks, pencils, pipes, cigars, cigarettes, forks, spoons, drinking-cups, etc.
7. You must not kiss any one, especially children.
8. Brush your teeth night and morning and keep your mouth clean.
9. If you have bad teeth, have them attended to by a dentist, and be sure to tell him that you have syphilis, so that he can take necessary precautions and avoid the possibility of infecting others.
10. Acids in food and drink should be limited.

Instructions to Those Having Gonorrhœa or "Clap."—Gonorrhœa or "clap" is a local contagious disease which requires treatment until the physician pronounces you cured.

To avoid infecting others and to prevent complications, a bubo, stricture, swollen testicles, etc., the following rules should be observed:

1. During the first few weeks walking should be limited. When the discharge is profuse you should keep off your feet as much as possible.
2. Do not use alcohol in any form, as it always prolongs the disease. Drink milk, tea, Vichy, or seltzer, and from six to eight glasses of water during the day.
3. Avoid all sexual relations until you have been pronounced cured by your physician, as the disease may be given to a woman even after the discharge has apparently ceased. When it is present you should avoid sexual excitement, as erections always aggravate the disease.
4. Always wash the hands after handling the parts. The discharge, if carried to the eyes, will cause blindness.
5. Sleep alone, and be sure that no one uses any of your toilet articles, particularly towels and wash cloths.
6. Never lend your syringe to any one, and as soon as you are well destroy it.
7. Be sure that the bowels move every day. If

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*Read before the Harvard Medical Society, November 22, 1902.

they are inclined to be constipated, take a dose of Rochelle salts before breakfast.

8. Do not use mustard, pepper, horseradish or stimulating sauces on your food.

I believe that all dispensaries and hospitals should adopt some such plan to help educate the public in this matter. We can in this way accomplish much, and gradually, as the public learns of the dangers attending persons who are infected with syphilis or gonorrhœa, we shall have less of these dangerous and often fatal diseases. It seems to me that this is the most rational and practical method of educating an ignorant public. I believe, if such a system becomes general, we shall, in time, have an entering wedge toward controlling venereal disease, and, as a result, also of prostitution.

I sent some of these printed slips to Dr. Morrow, asking him his opinion as to the advantage of such a system. He wrote me as follows: "I highly approve of the slips, which will serve an important educational purpose; and, indeed, recommended them in a paper before the Medical Society some two years since."

In talking to Dr. Lilienthal, and showing him these slips, he said that he considered the plan an excellent one, and that he would suggest its introduction into the Mt. Sinai Hospital.

In getting these cards into their present form, so that they would be understood easily by patients, I am indebted to Dr. McWilliams, Chief of the Surgical Clinic, and to Doctors Kingsbury and Spooner, my assistants, all of the Presbyterian Hospital, for their cordial coöperation.

129 East Thirty-first Street.

CONGENITAL ABSENCE OF PECTORAL MUSCLES.

By CHARLES V. BURKE, M.D.,
NEWARK, N. J.

The subject of this record, F. B., aged nineteen years, came into my service at St. Michael's Hospital, out-patient department, to find out what was the matter with his chest.

He first noticed a peculiarity of that part of his body three years previously, and began to take athletic exercises to develop what he thought was weak muscle.

His health is good. He is left-handed; works at the machinist's trade; is pitcher on a baseball nine, using his left arm; boxes and wrestles.

When stripped, the absence of an anterior border to the left axilla is at once apparent to the eye. The examining hand feels the ribs immediately beneath the skin. The axillary artery can be seen and felt pulsating until it disappears beneath the clavicle 3½ inches from the suprasternal notch. The artery can be almost picked up along its whole length.

The sternal portion of the pectoralis major and the entire pectoralis minor are lacking. The clavicular portion of the pectoralis major persists, and is particularly well developed.

The chest shows evidence of rachitis. The ribs are flattened at the sides, more so on the left; and on that side are thrown forward at the costosternal junction, accentuating a sternal depression (funnel chest), extending from the third to the fifth rib.

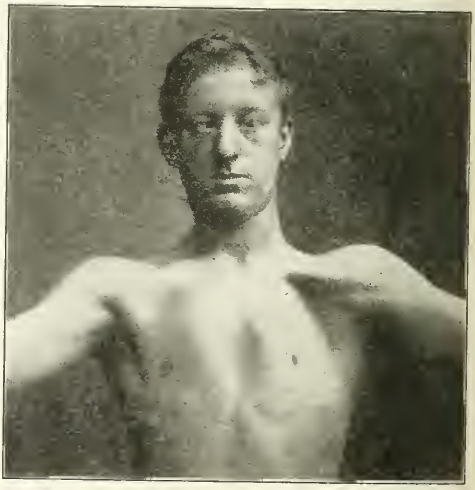
The absence of the pull of the two pectoral muscles on the ribs of the left side must have contributed considerably to this deformity, if indeed it were not alone sufficient without rachitic softening.

The circumference of the chest is 31½ inches in expiration; in inspiration, 35 inches.

The functions of the pectoralis major are chiefly to draw the arm forward and downward, and to rotate it inward upon the chest. If the fixed point is above, the muscle can assist in raising the trunk, and also serve as an auxiliary muscle of respiration.

The chief function of the pectoralis minor is to depress the shoulder by drawing the scapula forward and downward. The salient line visible in the illustration, running from the insertion of the clavicular portion of the pectoralis major to the level of the mamma, is not caused by muscle, but by skin and a small slip of fascia thrown into relief by the elevation of the arm and shoulder. It is, moreover, too far external for the pectoralis minor. When the subject makes the effort that would throw into prominence the pectoralis minor, if it were present (resisted effort to draw the arm and shoulder forward, downward, and inward), this fold does not appear, but the skin is lax, and the hollow is pronounced.

It is of interest to note what perfection of movement the young man enjoys in the absence of this considerable amount of muscle.



I could determine no movement or combination of movements which he was not able to perform with apparently undiminished force.

He pitches a left-hand ball, wrestles, and boxes, and is said to be skilful in all three.

His efforts to develop that side have increased the circumference of the left arm at the insertion of the deltoid ⅜ of an inch above that of the right arm. The measurement of the right arm is 10½ inches; of the left, 10⅞ inches.

There being no evidence of illness, paralysis, or injury, I have accepted the phenomenon as a congenital deformity.

537 Ferry Street.

Collodium after Nose Operations.—K. Pischel advocates the use of collodion in operations on the septum, and turbinals in place of the usual packing. He applies adrenalin to the bleeding surface, and then drops on collodion, compressed air being blown into the nose at the same time, in order to quicken evaporation. Thus secondary hemorrhage is prevented and the wound sealed.—*Archives of Otology.*

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LORENZ'S OPERATION FOR CONGENITAL DISLOCATION OF THE HIP.

THE visit of Professor Lorenz of Vienna to this country, and his cordial reception by the profession of New York and other cities, has centered an amount of public interest in his bloodless operation for reducing congenital dislocations of the hip which is quite remarkable from many points of view.

No greater compliment to his skill in his special line of work could have been given him than has been accorded by the crowds of his fellow workers who have attended his clinics and applauded his demonstrations.

This has been due ,not so much to the fact that the operation itself is of such a complex nature, or so difficult of execution, as the desire on the part of his audiences to witness the detailed and painstaking methods of an enthusiast for a special procedure.

His expertness is the outcome of such large experience that even to such as never expect to treat such cases themselves there has been afforded a very useful object lesson in the perfection of technique which always commands success in any field. The opportunity of seeing master-work in any calling is always inspiring, interesting, useful and suggestive. In such a spirit Professor Lorenz has been welcomed to this country as an honored guest and a distinguished professional brother. No better evidence of the cosmopolitan character of American medicine can be presented than its readiness to learn from any and every scientific man who may have something new to say or something novel to demonstrate.

The method of performing the Lorenz operation is not new, however, to the readers of the MEDICAL RECORD. As long ago as May 29, 1897, soon after Lorenz published his first observations, Dr. Geo. R. Elliott of this city, in an elaborately illustrated article in the MEDICAL RECORD of that date, gave a full description of the procedure, and reported the first American case. This article appeared before Lorenz himself had written fully upon the technique of his operation, and was widely quoted in this and other countries. Since that time the operation has been performed frequently in this country with a due proportion of success.

While the subject is still fresh in the minds of the profession, it may be pardonable to refer also to some of the points in the operation which were presented in an editorial in the MEDICAL RECORD of October 25, 1902, on the occasion of Professor Lorenz's visit to Chicago to treat the little Armour girl.

Although the method was then presented in detail, it will be obviously more interesting in connection with Professor Lorenz's visit to study his manœuvres while he is actually at work, and thus be more directly benefited by the accumulated results of his personal experience. He now seldom uses forcible screw-extension, but relies entirely upon manual force.

The essential part of the operation lies in producing marked flaccidity of the contracted muscles about the joint, so as to get a limb that is practically limp. This is accomplished by using sufficient manual force to overcome all resistance of the contracted muscles. The amount of force required is very great, even to tearing some of the muscles from their points of attachment. The thigh with the leg flexed is forcibly abducted, for it is chiefly the contracted adductors that offer the greatest resistance. An assistant holds the pelvis while this forcible abduction is being made. The attachment of the muscles is forcibly kneaded at the same time. Then the contracted muscles on the posterior side of the joint are stretched. This is accomplished by forcibly flexing upon the trunk the fully extended leg, carrying the foot by gradually intermittent movements quite up to the shoulder.

The patient is now turned upon the stomach, and the anterior muscles of the thigh are forcibly extended by bringing the leg into extreme hyperextension so that the heel touches the buttocks. These various movements are repeated in turn until full flaccidity of the contracted muscles is accomplished. A certain amount of groin skin abrasion occurs.

With the contracted muscles fully overcome so that the leg is quite limp, the second step of the operation, or reposition, is readily accomplished. If the reposition is successful the head of the femur is felt to leap over the posterior edge of the acetabulum with a certain distinct sound.

According to Professor Lorenz, a considerable rigidity of the muscles is still present after reposition, and this is to be completely overcome by repeating the forcible movements before described.

The third and final step in the operation has for its object the formation of a solid acetabulum. By manipulation the soft parts of the acetabular cavity may be molded, but the substantial changes occur when the patient is allowed to go about. In order to retain the head of the bone in contact with the acetabulum, and thus reawaken the process of growth so long dormant, the thigh is flexed at a right angle with the pelvis in a position of hyperabduction so that the knee is posterior to the midplane of the body. The fixation is made with a plaster-of-paris bandage carefully applied about the pelvis, and extending to the knee-joint of the affected side. After a few days the child is urged to walk. Every step tends to drive the head of the bone deeper and deeper into the acetabulum. "Growth is reawakened, the parts are reactivated." Lorenz styles this treatment—the lodging of the head of the bone with the body weight, together with the reposition, as the two chief points in the operation—as decidedly original with him.

Formerly Lorenz removed the first fixation apparatus at the end of three months, and usually subjected the patient to a second fixation period of three months. He now advocates rather longer fixation periods of six months, or even a year or two, according to circumstances.

The particular merits of the operation, as compared with others having the same end in view, is hardly a subject for extended discussion at this time. There is no argument, however, against Professor Lorenz's 60 per cent. of recoveries claimed for a deformity which in times past was considered irremediable. Still operators by the open method—Hoffa's, for instance—claim equally good results. It may yet be a question how much the "bloodless" method surpasses the more surgical ones of treating the parts directly under the eye. In these days of advanced surgery the mere division of tissues by the knife and the immediate instrumental gouging of the acetabulum are no more formidable proceedings than the manipulatory tearing and bruising of subcutaneous parts, and the possible rupture of a large blood vessel. Professor Lorenz is, however, the earnest advocate of the bloodless method —at least in the sense that no blood is seen—and is evidently abundantly able, by his skill and perseverance, to prove its good points.

SOME CLINICAL ASPECTS OF PNEUMONIA.

The season of the year is now with us when respiratory diseases begin to be rife, among which pneumonia takes the first place as the most deadly. It is therefore fitting that current literature on the subject should be widely disseminated and freely read and discussed.

Among papers of note recently published dealing with pneumonia are two of special interest: The first is by the late Dr. Washbourn, and the other by Sir Dyce Duckworth. Dr. Washbourn, late physician to Guy's Hospital and one of the best known of English pathologists, had prepared, before his untimely death, the Croonian lectures, which he had been chosen to deliver for 1902. These lectures had been revised and arranged by some of his colleagues, and were delivered on November 11, by Dr. Hale White. Dr. Washbourn's lectures treat of pneumonia chiefly from a purely scientific standpoint and give an excellent résumé of these aspects of the disease.

However, it is, after all, the clinical features of a malady that most closely concern the general practitioner of medicine, and for a clear presentation of pneumonia, regarded from this point of view, one cannot do better than turn to an article by Sir Dyce Duckworth which appeared in the *British Medical Journal* of November 15. After giving a lucid description of the symptoms of pneumonia and its progress, the English physician proceeds to discuss its treatment. The late Sir William Gull used to say that the essential course to adopt in the case of a patient suffering from pneumonia was to put him in a warm bed, use few drugs, but to be most careful as to nursing. The failure of appetite to be looked upon as only a symptom, and food not to be forced upon the patient. Diet to consist principally of milk and beef tea. With these opinions Sir Dyce Duckworth agrees. So long as the temperature keeps within limits—that is, not higher than 102° or 103°—it is not necessary to take means to check it, but if it reaches hyperpyrexia—105° F.—then steps should be taken to reduce the temperature. Sponging with ice-water and placing a cradle underneath the bed covering will sometimes have this effect, but if not, small buckets of ice may be suspended from the cradle in order to cool the atmosphere. Leiter's tubes, with ice-water over the head or ice-bags placed in the axillæ and on the head, will often give relief. Such remedies failing, resort may be had to quinine in 5 gr. doses every two, three, or four hours until temperature subsides.

The writer does not recommend the placing of the patient in a cold bath, as he considers it a severe and exhausting process and unnecessary. As to internal remedies, the usual procedure of prescribing may be followed: Potassium citrate and ammonia citrate will be found helpful, while quinine is useful in all stages of pneumonia. If the fever continues until the eighth, or even the twelfth, day, there is probably some further disorder or complication; either the patient is in a very low condition and the disease is not resolving properly, or there is some pleural effusion, probably empyema, the presence of which is to be ascertained by the insertion of a needle in the dull area. Delirium through exhaustion is more apt to occur in intemperate subjects and in elderly persons. Pneumonia in the drunkard is always exceedingly serious, while double pneumonia in such subjects is absolutely fatal. Insomnia is the most important nervous symptom, and when occurring toward the crisis is a very grave matter, and opens up the question as to the use of opium. In some cases it is beneficial, but there must be no reason to suppose that the kidneys are affected. Morphine, in small doses, with compound spirits of ether often has an excellently soporific effect.

Failure of heart power, especially in patients after the age of forty, is much to be dreaded and likely to happen. When, through defective circulation, due to the disease, the patient becomes cyanosed, the heart cannot long stand the strain, and if the organ be originally weak it will give way and death will result. This condition may be relieved by bloodletting. If the heart begins to falter and the pulse becomes irregular and small, oxygen should be promptly given, or strychnine may be injected hypodermically, or musk may be used. Stimulants should be given in pneumonia, as in other diseases, when necessary; the younger are generally better without them. If, however, there be engorgement of the side of the heart, high temperature, rapid pulse, the first sound of the heart barely audible at the aortic area, stimulants should be given. In the majority of cases 2 oz. to 4 oz. of brandy are sufficient in the course of the day, but even 12 oz. may be taken with beneficial result. Pure water may be given to the patient *ad libitum*. A mercurial purge may be administered at the onset of the disease, and probably no other aperient will be required throughout the case. In winter time the application of hot poultices to the affected area is a procedure to be recommended. In hot weather these may be replaced by cotton wool, sprinkled with spirits of camphor.

Lastly, Sir Dyce Duckworth says that with a patient suffering from pneumonia there is no need of a steam-laden atmosphere, but the room should be well ventilated.

VACCINATION IN THE UNITED STATES.

On October 28 and 29 the seventeenth annual meeting of State and Provincial Boards of Health was held at Minneapolis. At this conference the question of the production and control of vaccine virus and antitoxin was discussed.

Dr. A. O. B. Wingate of Wisconsin, in view of the fact that vaccine virus of proper strength and of good quality was difficult to procure, urged that some measure should be taken whereby a sufficient amount of protection would be given to the public so as to obtain its confidence. Dr. Wingate thought it would be practicable to have agents appointed to inspect the products of vaccine virus, and, perhaps, the other products, or some means might be adopted by which we could say to the public that these products are safe to use, and that they are efficacious.

Dr. Peter H. Bryce of Toronto, Ont., said that, in his opinion, vaccine virus from a commercial standpoint could be produced quite as well as by a government laboratory. In England no one handles government vaccine except the public vaccinators, who have received a certificate of efficiency from some educational vaccine establishment, of which there are some twenty-five throughout England and Scotland.

He would not encourage the establishment of a national or federal laboratory or institute, where lymphs and serums could be manufactured, until he was perfectly sure the work of vaccination could be put into trained, certified hands, and the work done in such a systematic, routine manner that there would be no question that the lymph will be used this week or next week, when it is fresh. The question was finally referred to a committee, who submitted the following report, which was adopted:

1. That vaccination may be defined as follows: An inoculation by scarification, puncture, or injection beneath the epidermis of a vaccine which produces, with some constitutional disturbance, the typical vaccine vesicle, which leaves, after the pock has healed, its characteristic scar.

2. That, in order to obtain the most satisfactory results, vaccine must be produced either by federal, State or provincial officials, or by private producers under the closest supervision of qualified government officials.

3. That, for the greatest protection against smallpox, State and provincial laws should provide machinery whereby certified public vaccinators must be appointed for the systematic vaccination, by house-to-house visitation, of all children born during any year, and at public stations or otherwise, of such others as circumstances may make necessary.

4. That the evidence of successful vaccination of all school children naturally forms a part of any system of public vaccination, and certificates of such should be accepted only when signed by a municipal or local health officer.

5. That, in order that the best results may be obtained, it is essential that medical colleges should be urged to provide for thorough instruction in the theory and practice of vaccination, and that all licensed physicians must hold certificates of having had practical instruction in the operation of vaccination in medical colleges, dispensaries, or public vaccine stations.

Vaccination as carried on at present in many parts of the United States is unsatisfactory, for the reasons that the vaccine is not always to be depended upon, and that the operation is frequently not performed skilfully and thoroughly. The recommendation that there should be a system of inspection of the virus is to be highly commended. Private manufacturers can produce quite as efficient vaccine as if the making of the substance were put into the hands of government officials, but a rigid system of inspection by recognized competent persons would tend to satisfy the public that an article free from impurities was being used. The recommendation that certificates should be issued to those medical men who have given evidence of being proficient in the technique of vaccination would be another step in the right direction. The opponents of vaccination should be given no just cause to declaim against the operation, nor should they be able in any way to discredit its value in the eyes of the people.

The Dangers of Handshaking.

The pernicious microbe is omnipresent and persuasive beyond belief, and acts upon the minds of certain imaginative individuals with the force of a continual nightmare.

Such persons are obsessed with the idea that hurtful germs are lurking everywhere and are only waiting for the opportunity to pounce upon their unsuspecting victim. To so absurd an extent is this view of the matter carried, that in the most simple actions of every-day life deadly danger to health is seen. Kissing has long been interdicted by these advanced thinkers as an especially dangerous custom, and now it is declared that handshaking is the means of spreading a long string of maladies.

With regard to kissing, there may be some danger in this habit, particularly in promiscuous and excessive salutation of this nature, but handshaking has ever been looked upon as a very innocent and harmless mode of demonstrating one's friendliness, politeness, or respect. The Anglo-Saxon, as a rule, indeed, prefers shaking hands to kissing, and has always firmly put down his foot upon the habit so often followed on the continent of Europe of men using the latter form of greeting when meeting or saying farewell to a male friend. It comes, therefore, as a shock to read that handshaking has been denounced in exceedingly strong terms, and that the advice has been given to discontinue the practice on the ground that disease is thereby spread far and wide.

Dr. J. M. Hirsch of Chicago gives his opinions on the subject in *Popular Mechanics*. He says, in part: "The most delicate perfume upon the hands is neither a sign of freedom from germs, and the most refined are not free from disease of lungs or throat which are rapidly spread by touching the hand that has handled the handkerchief of one afflicted with a cold, catarrh, or consumption. These diseases claim more than one-seventh of all the deaths. Our street-cars carry signs requesting passengers to abstain from spitting therein. These same passengers may hold their hands before their mouths when they cough and cover it with germs enough to infect a thousand people. They may use their handkerchiefs with the same result, and when we have an epidemic of the grip, it is spread by the 'grip of the hand' of a friend or a casual aquaintance or a mere stranger just introduced." The writer then refers to eczema, scarlet fever, and diphtheria, and declares that these diseases are often spread by means of the hands. He also asserts that all germ diseases may be disseminated in this manner.

The above has been quoted merely to show to what extreme lengths faddists will go in order to drive home their theories. As to infectious diseases being spread by the hands, the event in some instances may be possible, but it is always very improbable. Handshaking will doubtless flourish as vigorously as if there were no possible fear of getting into one's system an obnoxious germ during the process.

The Abuse and Control of Hypnotism.

In the October number of the *Contemporary Review* is an article by Drs. F. W. Eldridge-Green and E. G. P. Bonsfield referring to the manner in which hypnotism is being prostituted in Great Britain by adventurers, who by means of specious advertisements take advantage of a credulous public and pervert a useful science to their own sordid ends.

Speaking of the menace to health and morals which may eventuate from the misuse of hypnotism, the writers say: "When a subject is in a hypnotic sleep suggestions may be given that at any time in the future he will perform some given action; the actual time and date may be suggested, or he may be told to perform the action when a certain foreseen probable combination of circumstances occur. Now, in proper hands, post-hypnotic suggestion is of benefit to mankind; as, for instance, for curing deleterious habits. But if beneficial suggestions may be made, so also may detrimental and immoral suggestions, and examples are not wanting in the annals of hypnotism where such suggestions have undoubtedly been made."

The courses published by the self-elected professors of hynotism to induce persons to place themselves in their hands, under the plea that hypnotic influence is not only harmless, but in many instances beneficial to health, are, when not false, misleading.

Therefore, the authors of the paper in the *Contemporary Review* urge that the time has come when the practice of hynotism should be restricted, like that of vivisection, to qualified men, in whose hands it may be used for the good of humanity and not for mischievous objects. Meanwhile the most feasible way of striking at the roots of the matter appears to be the voluntary suppression of the advertisements of these "courses." If the various publishers would refuse to insert such advertisements in their publications, we should, for a time at least, be able to prevent the multiplication of unscrupulous operators.

The advertisements of the hypnotists in England, like those of a similar breed here, are insidious and subtly worded, calculated to make a confiding public believe that nothing but good can come from following the alluring inducements therein set forth, and that the professors of the heralded treatment are actuated by no love of filthy lucre, but are impelled solely by their overpowering love of mankind. A large number of people, avid of something new and willing to be deceived, eagerly swallow the bait, frequently with disastrous consequences. If publishers, both of journals and of magazines, would exercise a wide discrimination, and refuse to insert advertisements of this nature, it would, in the long run, be for the good of all concerned.

Malta Fever.

This fever, contrary to the opinion formerly held, is prevalent in all tropical and sub-tropical countries. It was first observed by English medical officers in Malta and other Mediterranean stations. The condition in some respects simulates typhoid, but differs in other features. Burnett, in 1816, gave a full and clear description of the disease, looking upon it as a remittent malarial fever. In 1878, however, the distinction between Malta fever and remittent malarial fever was drawn. Several cases of Malta fever have occurred in the Philippines which have been described by Strong.

In the report of the Surgeon-General of the United States Army for the fiscal year ending June 30, 1902, Dr. Charles Craig gives an account of the disease. He says: "Various opinions were held by observers as to the etiologic factor in the production of Malta fever, but it was not until the painstaking researches of Bruce were published in 1887 that anything positive was known. Bruce demonstrated the cause of the disease to be a micrococcus, to which he gave the name micrococcus melitensis.

Malta fever is generally a fever of long duration, subject to frequent relapses, presenting a most irregular and confusing temperature course, accompanied with severe pains in the joints, constipation, and profuse perspiration, and often followed by arthritic pains, with or without swelling of the joints. An enlarged and tender spleen is very common. Diagnosis of the disease has heretofore presented many difficulties, as it resembles in many instances typhoid or remittent malarial fever, and even with the help of the microscopical examination of the blood and the Widal test, the distinction between these diseases cannot always be made. In 1897, however, Wright, of the Royal Army Medical School, England, discovered that the blood serum of a patient suffering from Malta fever will agglutinate the micrococcus melitenses in very dilute solution, and that this agglutination test is most delicate and can be depended upon absolutely in diagnosis."

The literature relating to Malta fever among soldiers of the United States Army is very limited. The most valuable report of Malta fever occurring in soldiers of the army is that written by Curry and published in the *Journal of Medical Research*, Vol. 6, No. 1.

Dr. Craig concludes his report as follows: "The important lesson to be learned from a study of the literature of Malta fever occurring in the United States Army is that the conditions are not easily recognized clinically, and may be attributed to typhoid, malaria, or, in the chronic stages, to articular rheumatism. This being so, the great value of a microscopical examination of the blood and the performance of the serum test is at once proven. None of the cases observed by me were diagnosed as Malta fever, and in only one of them was there any suspicion of the occurrence of this disease. Two cases presenting the chronic symptoms would, in all probability, have been transferred to Hot Springs, Ark., for anti-rheumatic treatment, while in two cases presenting the acute symptoms the patient would probably have been treated for either typhoid fever or malaria. In fact, in cases when, on account of finding malarial parasites at different times in the patient's blood, the treatment has been altogether that for malaria, had a diagnosis of Malta fever been made more quickly much discomfort would probably have been saved the patient."

The following conclusions may be drawn from a study of these cases: (1) There occurs in the tropics a fever which may resemble in its acute stage either typhoid or malaria, and in its chronic stage articular rheumatism, caused by the micrococcus melitensis. (2) There is no pathognomonic symptom of Malta fever. The symptoms are so inconstant and confusing that no one of them can be said to be typical of the disease. (3) A differential diagnosis of this fever is almost impossible in the majority of cases without the aid of the microscope and the serum test.

Beriberi and Diet.

In the Medical Record of November 15 the etiology of this disease was made the subject of editorial comment, and Dr. Patrick Manson's views as to its cause were briefly discussed. This authority is of the opinion that the immediate cause of beriberi is a toxin produced by a living germ, and that the toxin does not enter the human body in food. Other medical men who have had experience in tropical diseases—notably Dr. Travers—are of the same mind.

Lieutenant Waterhouse, Assistant Surgeon, U. S. A., reported from Malagi Island, Laguna de Bay, during the past year, concerning beriberi, a part of his report appearing in that of the Surgeon-General of the Army for the year ending June 30, 1902. Lieutenant Waterhouse considers that diet has little to do with the propagation of the malady. He says: "The theory of germ propagation and of infection by personal contact and by place infection appears to me to account more satisfactorily for the spread of the disease. To begin with, we had one hundred prisoners hard at work here for a month and a half without the slightest symptom of the disease; then two cases of beriberi were introduced, and after that the spread was steady. Again, it was noticed that most of the cases came from one set of quarters, the first erected, and that the number of cases from those barracks decreased to a marked degree after scrubbing the bamboo floor with a 4-per-cent. solution of chloride of lime.

"Efficient isolation was impossible, owing to the necessarily limited area of the stockade. Most writers claim that beriberi is due to old, damp buildings, made of stone or of brick, but in this case the conditions were just the reverse, as we had new, airy, spacious barracks, located on high, well-drained ground, with a constant stiff breeze and no flies or mosquitos, conditions apparently ideal for health and the more marked as this epidemic occurred during the dry season, whereas the rainy season is said to be especially favorable to such outbreaks. The fact that the natives go barefooted and that some of the cases appeared in unfloored tents makes one incline strongly to the possibility of place infection occurring from the ground. Another noticeable fact was that of prisoners sleeping next to one another; if one developed beriberi the other was very likely to do the same.

"From the fact that none of the prisoners had developed beriberi prior to its introduction here from a known infected point, of the apparent spread by contact, and of the slight influence which diet appeared to exert over it, the presumption is that we are dealing with a disease of microbic origin, prone to attack those in a run-down and mentally depressed condition, and one which is conveyed by vomits and by close personal contact.

"That it is not very easily contracted unless all the conditions are favorable to its spread is shown by the complete freedom from infection of the entire white population of the island."

The conclusions reached by Lieutenant Waterhouse agree, in the main, with those come to by Dr. Travers, as the result of somewhat protracted and exhaustive experiments regarding the etiology of beriberi. Such testimony, founded upon practical experience, is of the highest value. As yet the mass of evidence goes to show that diet is the most important factor in the causation of beriberi, but, latterly, careful investigation has tended to weaken the idea that it is by any means the sole cause. Further research into the matter will clear up the point, and in the final solution Americans in the Philippines will have the opportunity to play a conspicuous part.

The Dietetic Treatment of Pulmonary Tuberculosis.

Dr. Noel D. Bardswell and Dr. J. E. Chapman read a paper with the above title at the meeting of the Section on Medicine of the British Medical Association on November 1.

The salient features of the paper were as follows: A physiological diet for an average man of 154 pounds, doing moderate muscular work, may be considered to contain 120 grams of proteid, 110 of fat, and 365 of carbohydrate, with a calorie value of 3.008. If this same man were "at rest"—for example, doing clerical work—he would require only 2.500 calories. Such a diet as the following would be sufficient: Proteid, 120; fat, 100; carbohydrate, 240.

The existence of tuberculosis in an individual, however, renders it necessary to considerably change his diet table. The following dicta may be laid down with regard to food, assimilation, etc., of a consumptive: (1) The presence of tuberculosis causes increased waste of all tissues, especially of fat. The indication is, therefore, an increase in all constituents of the physiological diet. (2) The patient may be under normal weight. A sufficient increase in diet, especially as regards fat and carbohydrate, must be made to restore the tissues in addition to meeting the current requirements of the body. (3) Clinical experience and experimental work have shown us that, equivalent for equivalent, proteid has a much greater effect in inducing arrest of tuberculous processes than either fat or carbohydrate. In fact, good results have been so consistently obtained on these high-proteid diets that we now invariably make use of them. (4) Intestinal absorption. The following conclusions are based upon the results of an extended series of experimental investigations: (*a*) The percentage absorption of proteid is normal on moderate diets, and falls somewhat when very large diets are given, but even this is very rarely below 90 per cent. of the total proteid taken. (*b*) The absorption of fats is also normal, and in cases under weight is frequently higher than normal; this absorption remains very high even when very large amounts of fat are taken; for example, a patient taking 231 grams of fat absorbed 96 per cent. In short, our researches have shown us that the consumptive, of whatever clinical type, digests and absorbs at least 90 per cent. of proteid and fat of all food he retains, and the probabilities are that he deals equally well with his carbohydrate. (5) Another factor to be remembered is that patients can be overfed; the good absorption already referred to makes this an easy matter.

In practice, diets are used yielding from 120 to 160 grams of proteid daily for men, with a proportionate reduction for women; with regards to fat and carbohydrates, amounts are given considered necessary to supply the current demands for energy and to restore wasted fat at a moderate pace.

The authors wish particularly to draw attention to their view that, although overfeeding is frequently associated with very satisfactory progress in the lungs, yet the administration of what is practically only a small increase on the physiological diet is quite sufficient to ensure equally satisfactory improvement in the lung condition, with much less risk of injurious consequences, and with the minimum discomfort to the patient.

The practice employed at many German sanatoriums of continually stuffing consumptive patients would not seem to commend itself as the wisest method of treating such persons. Good results, however, are claimed for the excessive feeding process, and while this is the case, the procedure cannot be condemned as wrong. Nevertheless, commonsense characterizes the contention of Drs. Bardswell and Chapman, that if satisfactory progress is made with consumptives when slightly increasing the physiological diet, that it would be absurd to over feed them.

News of the Week

Dr. Keen to Dr. Gallinger.—In an open letter to Senator Gallinger, who, in virtue of a degree granted him by the New York Homœpathic Medical College, in 1869, poses as the medical foe to vivisection, Dr. W. W. Keen of Philadelphia has exposed the folly and ignorance, if not criminality, of the antis in seeking to stifle medical progress by prohibiting all animal experimentation. His text is the successful operation he recently performed on a naval cadet, who was insensible following a football injury, and he affirms that the operation would have been an impossibility were it not for the knowledge of cerebral localization derived from vivisection. He asks Senator Gallinger whether, had the young man been his son, he would have been willing to let him die rather than sacrifice the lives of a few dogs. But antis, like Christian scientists, have no use for logic, and argument is, and ever will be, wasted on them. In his reply the Senator resorts to the quibble that Dr. Keen did not save the young man's life by his operation, since blood clots on the brain have been known to become absorbed. And he also betrays the weakness of his case by accusing Dr. Keen of an attempt at self-advertisement, which, he sententiously remarks, "is prohibited by the ethics of our profession."

The New Jersey State Village for Epileptics.—According to the report of the Board of Managers of Skillman village, the New Jersey State epileptic colony, eighty-five patients have been received at the village since it was opened, in 1898, and of this number nine have been discharged as cured, four have been transferred to other institutions, four have been removed by parents, two have died, and three have run away. During the past year twenty-five male and twenty female patients were admitted, making the total population at the present time seventy-five cases. Dr. Weeks, the medical superintendent, pleads for more buildings for the proper housing and care of the many epileptics now in hospitals for the insane and other institutions in the State. He estimates that there are at least 2,500 epileptics in New Jersey, of whom only an insignificant percentage can be accommodated at Skillman. Concerning the mode of life of the patients, he says that: "as the village progresses, the patients are realizing more and more the advantages of colony life, and are becoming better colonists. More interest has been manifested during the summer and more willingness shown to assist with the work indoors and out, by both men and women, than ever before. The men have been employed at farm work for 9,191 hours, and in grading and caring for the lawns, 3,740 hours. The female patients have been employed at housework, in the laundry, in the sewing room, and during the season many of them were engaged in gathering vegetables from the garden for use in various households and pickling, canning, and preserving berries and fruit."

The Cholera Epidemic in Egypt is declared to be practically at an end. The original outbreak occurred at Moucha, a village some 150 miles south of Cairo, on July 15, and was officially confirmed on the 19th, when 107 cases and 50 deaths were declared. In spite of a military cordon, the disease soon spread, and made its appearance in Cairo in alarming proportions. During the reign of the epidemic nearly 2,000 towns, villages, or hamlets were infected. There were up to the end of November 39,038 cases of cholera, 33,236 of which proved fatal. The epidemic was at its height during seven days, September 9 to 15 inclusive, and during which period there were 9,466 cases, with 8,278 deaths. September 9 was the worst day on record, as the bulletin for the day showed no less than 1,639 cases and 1,371 deaths.

Philadelphia College of Physicians. Section on General Medicine.—At a stated meeting, held December 8, Dr. J. Milton Miller reported a case of arteriosclerosis in a lead worker, aged thirty-two years. The patient, who was presented, had been engaged in the manipulation of white lead for twelve years. He had exhibited a blue line on the gums, but this had disappeared in the course of treatment. The radial arteries were markedly tortuous and resistant, the urine contained albumin and tube-casts, and a systolic murmur was audible in the aortic area. Dr. David L. Edsall presented a patient suffering from typhoid spine. The case occurred in a man about thirty-five years old, the spinal symptoms appearing a few weeks after the termination of the attack of typhoid fever. There was impaired mobility of the vertebral column, attended with pain on attempts at movement, together with irregular elevation of temperature and areas of hyperæsthesia in the distribution of a number of spinal nerves. The condition was believed to be dependent upon perispondylitis. Dr. J. Alison Scott reported a case of typhoid septicæmia with endocarditis. The patient was a man about forty years old, who had presented an irregular temperature-curve, with chills, fever, and sweats, a positive Widal reaction, the presence of typhoid bacilli in the blood as determined by culture, and the signs of an endocarditis resulting in mitral obstruction, but with an absence of intestinal symptoms. Dr. Scott also referred to other cases terminating fatally, in which endocarditis, dependent upon typhoid bacilli, was found post mortem as a complication of typhoid fever. Dr. J. Norman Henry presented a case of endocarditis occurring in the course of typhoid fever. The case had been a most protracted one, and for a time it was thought the systolic murmur audible at the apex was due to relative insufficiency of the mitral valve, but with the recovery of the patient and the persistence of the physical signs the conclusion was reached that there had actually been an endocarditis. Diplococci were isolated from the blood by culture. Dr. James C. Wilson presented a communication entitled "Polyuria in the Course of Enteric Fever." The patient was a physician who, toward the close of his attack, began to pass increasingly large amounts of urine, when suddenly in the fourth week, during defervescence, the amount rose to almost 225 ounces and with equal suddenness declined again to normal limits.

Philadelphia Pediatric Society.—At a stated meeting, held December 9, Dr. Abraham Jacob iof New York delivered, by invitation, an address entitled "Peribronchitis and Interstitial Pneumonia." These conditions, he pointed out, may be primary as well as secondary, not rarely beginning in early life and persisting indefinitely thereafter. They are not rarely mistaken for tuberculosis from the physical signs and the long duration, but, of course, the sputum contains no tubercle-bacilli, and though there is retraction of the chest, with impairment of the percussion note and increased resistance, râles are wanting. There may, however, be roughened breathing, increased vocal resonance, and fremitus, and slight elevation of temperature. The lesions and the physical signs are most commonly situated on the right side superiorly and anteriorly. The treatment, as well as the prophylaxis, is in large part hygienic. Among medicinal agents that are useful are phosphorus and iodine, and, in the absence of fever, iron.

Philadelphia County Medical Society.—At a stated meeting, held December 10, a symposium was held on the "Therapeutic Status of the Coal-Tar Products," papers being read as follows: By Dr. Wahrton Sinkler, "In Neuralgia and Other Painful Conditions;" by Dr. F. Savary Pearce, "In Central Nervous Affections," and by Dr. Milton B. Hartzell, "In the Treatment of Diseases of the Skin." Dr. Hobart A. Hare read a paper entitled "Report of a Fourth Case of Aortic Aneurysm, Treated by Electrolysis." The patient was a comparatively young man, without syphilitic or alcoholic history, in whom an aneurysm of the ascending arch of the aorta developed as a result of injury of the chest-wall, incurred by striking the pommel of a saddle. Twelve feet of gold wire were introduced into the sac and a current of from five to twenty milliamperes was passed through the blood vessel by means of a needle connected with the anode. Temporary relief followed the operation, but bulging appeared in the course of two months in a new situation. The operation was repeated in this situation, but rupture took place in a short while with a fatal termination.

Pathological Society of Philadelphia.—The annual exhibition meeting was held on December 11, and a large number of interesting specimens of most varied kind, together with collections of skiagraphs, were exhibited. Among the more noteworthy were a group of sections of eyes, presenting various abnormal states, by Drs. G. E. de Schweinitz and E. A. Shumway; frozen sections of the head, by Dr. M. H. Cryer; specimens illustrative of various lesions of the brain and spinal cord, by Drs. W. G. Spiller, D. J. McCarthy, C. W. Burr, Chas. K. Mills, and F. Savary Pearce; the bacillus of dysentery, its lesions and antidysenteric serum, by Drs. Simon Flexner and F. P. Gay; lesions of the pancreas, by Dr. R. M. Pearce; lesions of bones, by Dr. John M. Swan; skiagraphs, by Dr. G. E. Pfahler; models of cutaneous lesions, by Drs. W. M. Welch, J. F. Schamberg, and J. M. Wallis.

Hospital Association of Philadelphia.—Twenty-five hospitals in the city of Philadelphia have united to form an association with the following objects: To consider all questions that may pertain to hospital management. To discuss matters and methods that may increase the efficiency of the hospital service. To consider possible abuses and methods to protect hospitals from imposition. To confer when necessary with State and municipal authorities. To devise methods for protection from contagious and infectious diseases. To secure such comity and coöperation as may promote the best interest of all the hospitals of Philadelphia and the public good. The association has been organized for advisory purposes only, and whatever it recommends is to be submitted to the Boards of Managers of the hospitals represented for consideration and action.

A Grave Insinuation against Immigrant Physicians.—At a hearing recently held by the Senate Committee on Immigration on the pending bill to regulate the admission of aliens to this country, Commissioner Williams suggested amendments designed to perfect the administration at Ellis Island, one of which was to punish for perjury physicians who certify to the good health of immigrants who are often afflicted with disease. Dr. A. B. Richardson of the Government Hospital for the Insane urged the passage of legislation to shut out lunatics and insane persons. Mr. Goodwin Brown, representing the New York State Lunacy Commission, proposed an amendment along that line providing for the deportation of any immigrant who shall develop insanity or epilepsy within two years after arrival, on the presumption that that condition resulted from conditions existing prior to landing.

Dispute between a City and a State Board of Health.—About a year ago a boatman at Perth Amboy was found to be suffering from smallpox, and was removed from his boat to the Perth Amboy Emergency Hospital. The State Board of Health requested a physician to take care of the man, and the impression is said to have been that the State Board would pay the expenses of the man's treatment. When a bill for groceries and supplies was presented, however, the State Board refused to pay, claiming that the city of Perth Amboy was responsible. The grocer has sued the State Board for the amount of his bill, and is supported in his contention by the Board of Health of Perth Amboy.

The British Association for the Advancement of Science has, it is said, accepted an invitation from the British South Africa Company to hold its annual meeting in 1905 at Victoria Falls, on the Zambesi River, where a hotel will be erected to accommodate the members. The company has allotted £7,000 for the expenses of the meeting.

The Manhattan Eye and Ear Hospital.—At a recent meeting of the Board of Directors of this institution it was decided to double the capacity of the hospital as soon as sufficient funds could be accumulated to make the desired change. The hospital at the present time has only sixty beds. The new building will contain from 125 to 150 beds, and will be better equipped in every way than the present structure. A man, whose name is withheld for the present, has offered to give $50,000 on condition that $150,000 additional be raised by January 1, 1904, that the hospital be moved to another part of the city, and that a ward for children, which shall perpetuate the name of the donor, be established. It is thought that the new hospital will be erected on east Forty-fourth or Forty-fifth street, between Lexington and First avenues.

A Drastic Anti-Spitting Law.—The City Council of Alton, Ill., has passed an anti-spitting ordinance under which any person spitting on the sidewalks within the confines of the city will be liable to a fine of not less than $5 nor more than $200. The police will be instructed to enforce the ordinance to the letter, and an attempt to keep the streets of Alton clean will be made. The passage of the ordinance is the result of the efforts of many of the women of Alton who made their pleas to health Officer Smith, who, in turn, requested the council to pass the ordinance.

Electric Flash Eye.—Employees of the elevated and other electric roads in the city are said to be subject to visual defects owing to the dazzling flashes of light which shoot from the third rail whenever the connection is broken.

Food Poisoning of Naval Cadets.—One hundred and fifteen cadets in the Naval Academy at Annapolis were poisoned by some sausages eaten at supper one evening recently. The chief symptoms were nausea, colic, and a cutaneous eruption. Many of the cadets were seriously ill, but no deaths occurred.

Plugging Bone Cavities for Caries.—Prof. Mosetig-Moorhof of Vienna, in a recent paper, advanced what he claimed was a new method of treatment of caries of the tibia. He scrapes out the necrotic cavity and fills it with a plug of paraffin and sesame-oil containing iodoform. This, he says, at once arrests the carious process and promotes rapid healing.

Clinic for the Treatment of Trachoma.—The trustees of Bellevue and allied hospitals are preparing to establish a clinic for the treatment of trachoma, which is prevalent among the school children of the city, and for the treatment of which there is at present no city hospital available.

The first floor and part of the second of the old building of the Gouverneur Hospital, which is now in use as a dormitory, have been fitted up for the treatment of these cases. There will be the usual waiting room, operating room, recovery room, and a ward for each of the sexes, in which the patients may be kept for from twelve to twenty-four hours.

The Late Major Walter Reed.—At a stated meeting of the New York Academy of Medicine, held December 3, 1902, the following resolution was unanimously voted:

Whereas, In the recent death of Dr. Walter Reed, Major Surgeon, U. S. A., the science of medicine has lost the one whose brilliant research led first to the demonstration of the transmission of yellow fever by the mosquito and later the practical removal of the disease from a large part of Cuba, and the prevention of its transmission to the shores of this country,

Be it resolved, That the New York Academy of Medicine records its sense of the greatness of the loss to science and to mankind, and its sympathy with the friends and relatives of the deceased.

John H. Huddleston, Secretary.

Obituary Notes.—Dr. Lucy Edwards, sixty years old, was found dead in bed on December 15, at her home in Newark, after having retired in apparently good health. She had locked her room door, and a servant who tried to awaken her in the morning had to summon neighbors, who got into her room through a window and found her dead. Death was attributed to heart disease.

Dr. J. Landis Seitz died of apoplexy at Harrisburg, Pa., on November 28, at the age of forty-five years. He was graduated from Jefferson Medical College in 1882.

Dr. Malcolm Ethan Parrott died at his home in Brooklyn on December 16, aged fifty-six years. He had practised dentistry for several years before his graduation from the Jefferson Medical College in Philadelphia in 1883. He was resident physician and surgeon of the Jefferson Hospital for a short time, and for a year was surgeon of the Red Star Line Steamship Company. He was a member of the Medical Society of the County of Kings, the Associated Physicians of Long Island, and the Brooklyn Medical Society, and was on the staff of the Bushwick Central Hospital.

Dr. Mary Willets, who is said to have been the first woman admitted to the Philadelphia Medical Society, died of cancer on December 17 at the State Insane Hospital in Norristown, Pa., where, for eleven years, she was first assistant physician of the female department. She was gratuated from the Woman's Medical College of Pennsylvania in 1881.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—KING EDWARD'S HOSPITAL FUND—EARL ROBERTS ON CAPTAIN CREAM AND OTHER DOCTORS—GYNECOLOGISTS ON MYOMA AND ADHESIONS OF APPENDIX—COLLEGE OF SURGEONS' MEETING—VIRCHOW MEMORIAL—SLEEPING SICKNESS—OBITUARY.

London, November 28, 1902.

The General Medical Council has been sitting through the week, and has transacted a good deal of formal business, but little of general interest has been done. The president opened the session—the seventy-fifth—on Tuesday, with one of those lengthy addresses which I have more than once called useless. Sir Wm. Turner is a good president, and thoroughly understands the work, but it does seem unnecessary to devote time—which, in this case, is so costly—to telling the members what they know, or ought to know, as well as he does. This time it was the new Midwives' Act which he proceeded to expound, supplemented by remarks on some other things that had occurred since the last meeting.

A vote of thanks being duly proposed, a member declared that thanks were due to the President and Dr. McAlister for being instrumental in getting the penal clause inserted in the act. This led to a curious development. The next day Sir Victor Horsley obtained leave to correct that statement, and claimed the credit of framing the clause for the British Medical Association, by which it was put forward, six years ago. On Thursday a letter appeared in the *Times* from the secretary of the association enforcing that claim. As the new secretary would scarcely know anything about it, he was, of course, put forward by others. Query? If it is wicked of one medical man to write to the newspapers, is the same act of a big association innocent?

Penal cases have occupied the time of the council up to yesterday. One practitioner, convicted of a felony, was struck off the register. Another, found guilty of manslaughter, under unusual circumstances, was not removed. Another, charged with covering, was not proceeded with, as he is now in a lunatic asylum. Another, charged with advertising by means of handbills, was postponed until next session, to give him an opportunity of reconsidering his conduct.

The Prince of Wales presided over a meeting of the General Council of the King's Hospital Fund on Monday. Lord Lister moved the report which recommended the distribution of £100,000, twice the amount available last year. His Royal Highness congratulated the council that they had arrived within measurable distance of the attainment of the King's hope in founding the fund, and that without injuring the Saturday or Sunday funds. He conveyed the King's thanks to those who had devoted their time to this object. Of course, this has been an exceptional year, on account of the coronation gift being handed over by the King to the fund, as well as the other munificent gifts presented in commemoration of that event.

Earl Roberts and Captain Crean, V. C., were the chief guests at the Irish medical graduates' dinner on Wednesday. Sir Philip C. Smyly, president, occupied the chair, and the company numbered about 500. At the request of the president, Lady Aileen Roberts presented the Arnott Memorial Medal to Captain Crean, V.C., who briefly returned thanks, disclaiming any merit. When the war broke out, Dr. Crean was practising at Johannesberg, and joined the Imperial Light Horse; he was wounded at Elandslaagte; served in Ladysmith, and went to Mafeking with the relief force. He acted as surgeon at Tigersloof, continuing his work after being wounded in the arm until another bullet completely disabled him. He was awarded the Victoria Cross.

Professor J. Little, T.C.D., Inspector-General Lloyd, R.N., Colonel Hutchinson, and Surgeon-Captain Bourke, having spoken on previous toasts, Lord Roberts replied to "Our Guests," who said he was proud of his Irish descent, though, unfortunately, he was not born in Ireland. It had been his pleasure to meet many Irish medical men in South Africa, who went out to help the sick and wounded, and he knew what excellent work they did. One member of their association, Sir John Stokes, did not return, and he feared that Sir Wm. MacCormac contracted the seeds of his fatal illness there.

Dr. Herbert Snow brought before the Gynæcological Society a very rare specimen, viz., a "soft œdematous myoma" of Lamson Tait, complicated with three myomata of the ordinary type. Tait found this myoma always solitary; always steadily progressing toward death; accompanied by hemorrhage and painful. All this contrasts strongly with the ordinary multiple myoma. In Dr.

Snow's specimen both forms coexist. There is a round, softish mass as large as a fetal head. When first seen in an out-patient, it was taken for an ovarian cyst, complicated with fibroids, but when the patient was anæsthetized, it was found to be a solid growth—soft, very vascular, embryonic. The finger was easily pushed into the pulpy tissue. At each corner of the fundus, a hard, tough myoma of the size of an orange, sessile and interstitial, and behind one of them another, smaller, with a thin pedicle, form the complications. The microscope shows the myoma to consist of unstriped muscular fibers, with large nuclei and numerous leucocytes—in fact, to be much more embryonic in structure than ordinary myoma, and apparently passing into myosarcoma.

There were no adhesions, but great vascularity of the tissues. The mass was dissected out from the cervix by a flap operation, and the flaps sutured. The abdominal was closed in two layers, after saline fluid was poured into the cavity. Recovery uninterrupted.

Mr. Mayo Robson (chairman) commented on the rarity of the case. He thought he had met the combination, but in the absence of his notes, he could not assert that he had.

Mr. Bowerman Jessett had seen one or two cases in which a soft myoma inside the uterus was present, with other fibroids outside.

Dr. MacNaughton Jones said the specimen had the appearance of a large fibrous tumor enclosed in a capsule, and suggested that degeneration might account for differences in consistency.

Some interesting cases, involving the appendix vermiformis, were mentioned at the Gynæcological Society, apropos of specimens shown by Dr. Macnaughton Jones of (*a*) an adnexal tumor with the appendix; (*b*) a large blood cyst of the right ovary, with left cystic ovary and hydrosalpinx. As to the first, Mr. C. Ryall said he was present at the operation, and the way the appendix was attached, not only to the Fallopian tube, but to the ovary and surrounding parts, was remarkable. He also mentioned a case of double pyosalpinx, on which he had just operated, in which he diagnosed implication of the appendix, and found it distended at its extremity beyond a stricture and adherent. The other tube being affected, both were removed. Mr. Jessett mentioned several cases of adnexal trouble involving the appendix; in one it was attached to the stump of an old operation; he agreed with Dr. Jones that it was well to examine the appendix in all operations for adnexal troubles. Mr. Mayo Robson had had at least three such cases. Lately he removed the appendix attached to the stump of a uterus removed twenty years ago by an eminent operator. In all cases with pain in the right ovary unaccounted for by prolapse, with tenderness between the anterior spine and the umbilicus, he examined the appendix, and that was one reason against vaginal operation for adnexal disease.

Discussion as to another point in adnexal disease took place at the same meeting on a paper by Dr. Mcnaughton Jones. The point was the propriety of conservative procedures in cœliotomy for such cases. Should both ovaries be removed when there was only cystic disease in the second? To this Dr. Jones said no—but when there was doubt as to the prudence of a conservative procedure, and the probability of a future operation being necessitated, it was different. Nothing could justify the removal of sound adnexa, but if they were so diseased as to render the success of an attempt to save them improbable, they should be removed.

Mr. Furneaux Jordon's experience was that conservative operations on one side had little chance of success when the other was incurably diseased, and it was rare to meet lesions warranting removal on one side with no disease on the other. He thought patients were less anxious than their surgeons to save their appendages.

Mr. Mansell Moullin said the age of the patient should have some influence in doubtful cases. If over forty, he would remove them, but in a young woman, he would try to save them.

Dr. Edge said a fairly healthy ovary need not be removed, even if the tube on that side must.

Mr. O'Callaghan quoted Lawson Tait's dictum that if the appendages were not removed on both sides in such cases, a second operation was always required.

Mr. May Robson thought that Tait only referred to gonorrhœal cases in that statement. For himself, Mr. Robson questioned if it was ever right to remove a healthy ovary because the other was diseased.

The annual farce of the Royal College of Surgeons was enacted last week. For the nineteenth time the members and fellows were permitted by the council to meet in their own building, and offer certain resolutions which, of course, were negatived. Some questions were put to the president asking explanations about the report of the last meeting. As to one, the president said it was legally and ethically right for the council of the college to choose the representative in the General Medical Council. Thus the twenty-four councillors hold fast to the right, as they declare it, to choose one of themselves, and, moreover, to prevent the 16,000 members of the body corporate being consulted. If right and legal, of course it is ethical. The legality is only based on the assumption. At first it was proposed to contest the point in the courts, but the money was not forthcoming. The council pretends that it represents the members as well as the fellows—a very foolish pretense, considering that no member has any vote in the election of the council, or on any other matter.

We are taking a share in the memorial to Virchow. Lord Lister presided at the inaugural meeting, and about one hundred well-known men have joined the committee. Lord Avebury is treasurer of the fund, which will go toward the statue to be raised in Berlin.

The monument to Virchow will, therefore, have an international character, and other nations will, no doubt, contribute.

The Commission sent to Uganda by the Royal Society and the Foreign Office to investigate sleeping sickness has apparently made fair progress, for Dr. Low, the pathologist, is reported to be on the way back, having finished his part of the work. Dr. Castellani, the bacteriologist of the commission, is continuing his research in the country, and the third member, Dr. Christy, will continue his studies along the Upper Nile, by which route he will return It is reported that the cause of the disease is bacterial, and not filarial, but, of course, nothing authoritative can be stated until the commissioner has returned and reported.

Among recent deaths announced are several old members of the profession—three octogenarians, viz., Dr. Chubb of Torpoint, aged eighty-two years; E. D. Hacon, F.R.C.S., aged eighty-four years, and Dr. Oldham, F.R.C.P. aged eighty-eight years.

OUR PARIS LETTER.

(From Our Special Correspondent.)

OPERATION FOR HYPERTROPHY OF THE PROSTATE—CURIOUS INCIDENT AT THE SOCIETY OF BIOLOGY—CONGRESS OF SURGERY—NARCOSIS—SUPPURATION OF THE PANCREAS—GASTROENTEROSTOMY AND ITS TECHNIQUE—FEMALE ELEMENT IN BERNE UNIVERSITY.

Paris, November 28, 1902.

At a recent meeting of the Society of Surgery, the question of operation for hypertrophy of the prostate came up for discussion. Of the younger school of surgery, Dr. Leguen and Dr. Albarran are those who favor it the most. Dr. Leguen, who has now been surgeon of the hospitals for about five years, described the results he had obtained in twelve different cases in which he performed prostatectomy. One patient died, an old man of seventy-two years, who showed symptoms of infection and whose kidneys were diseased. Speaking of the technique followed, Dr. Leguen said he considered it well to incise the urethra as soon as possible, as it was generally cut later on in the operation, and with doubtful results. The whole gland should be removed, and not piecemeal, but in large sections. Complications, such as hemorrhage and tearing of the rectum in two instances, had been observed, but with no subsequent fistula. Incontinence of urine was seen after two operations, but experience had shown him that this was likely to be only temporary. Indications for the operation are specially to be found in the very considerable size of the prostate, and this, with dysuria, followed by retention, would justify an operation. Calculi are also a good indication, and may be removed by the same operation.

Dr. Albarran is a Cuban, who was naturalized and became Dr. Guyon's favored pupil. He married Dr. Guyon's daughter, and in good time was named surgeon of the hospitals. He still has a foreign accent when speaking French. Dr. Albarran and Dr. Bazy have several times had discussions at the Society of Surgery as to the advisability of catheterizing the ureter, Dr. Bazy considering it well to employ this exploratory method in certain well-determined cases, and not using it as frequently as Dr. Albarran does. He has performed prostatectomy forty-two times, and has lost but one patient from cachexia. The latter was seventy years old, and had pyelonephritis on both sides. Dr. Albarran felt he could not, as yet, discuss the indications of this operation, which had not as yet been performed a sufficient number of times.

The Society of Biology, the finances of which were not, it seems, in a very flourishing condition, has just received a gift of 10,000 francs, which were delivered anonymously in a sealed letter to the president of the society.

At the Congress of Surgery, which was held in Paris last October, the time-honored question of narcosis came up again for discussion without anything definite being decided. There is no doubt that ether is slowly but surely superseding chloroform among members of the younger school, and even the A.C.E. mixture is mentioned. Dr. Julliard of Geneva said he had operated in 9,289 cases in which narcosis was obtained by the use of ether, and he had so far not had a single death. Asphyxia supervened in three cases, and was cured by artificial respiration. Bronchial pneumonia was largely due to the fact that the patients were insufficiently protected, or that the mucus which accumulated was not removed with sufficient care. Roux of Lausanne has a distinct preference for ether. The A.C.E. has already been tried in Vienna, as well as in England and Italy, and Dr. Reynès of Marseilles has found it of advantage when operating on weak and old patients, or when there are cardiorenal or bronchopulmonary disorders. Chloride of ethyl is also being used more and more, and the least amount to be given is five cubic centimeters every five minutes. The period of anæsthesia is followed by one of analgesia which lasts sometimes just as long. When the operation is to last more than half an hour, it is well to use this preparation and then chloroform or ether.

Suppuration of the pancreas has been recently observed by Dr. J. L. Faure of the Paris hospitals, and he described the two cases he had seen. A young woman was taken ill with symptoms of perforation of the stomach, and, on being operated, was found to have a large collection of pus back of the stomach. Gangrene of the pancreas had set in, and the fistula, which remained a long time after the operation, showed that the pancreas was the primary seat of the disorder. In the second case the patient, who had lost fifty kilos in weight, was supposed to have cancer of the stomach. Instead of this, a large mass of adhesions was found, and the latter were due, undoubtedly, to previous suppuration of the pancreas. The patient made a good recovery.

At this same Congress of Surgery the different techniques employed in gastroenterostomy were discussed. Monprofit of Angers has performed gastroenterostomy 707 times. Woelfler's method of anterior anastomosis he only employed fifteen times, whereas von Hacker's was used seventy-five times and Roux's Y-method thirteen times. The latter would be the best, but takes more time, and can only be used when the patients are sufficiently strong to stand an operation of an hour's duration. Dr. Hartmann spoke of the sixty operations he had performed for non-cancerous lesions of the stomach, and for which he had only a mortality of 16.5 per cent. to declare. Since 1900, out of thirty-seven cases, there have only been four deaths, which is only a mortality of 10.5 per cent. Dr. Hartmann complained of the patients' being sent to him when they were already weak and emaciated, though an exception should be made for the patients sent by Dr. Hayem and Dr. Loupault, who have made a special study of stomach troubles. An accurate diagnosis should always be made, as he does not consider it well to operate on all forms of chronic dyspepsia. As for his technique, it is that of von Hacker, which has never been followed by the complication feared by Roux—the circulus viciosus. Dr. Roux of Lausanne said he did not consider that gastroenterostomy was sufficient in ulceration of the stomach, as cancer may come on afterward. Excision of the ulceration should be carried out in such cases, and, as for profuse hemorrhage, he considers it well to operate immediately under such conditions. Dr. Pauchet of Amiens has performed thirty-three operations for non-cancerous disease of the stomach, and he only reports two deaths. According to his views on the subject, the symptoms command an operation much more than the diagnosis; for instance, vomiting, hemorrhage, pain, loss of flesh, and mechanical changes of the stomach. When the patient is in good condition, Roux's method is undoubtedly the most favorable.

Since the promulgation of the recent laws, which prevent foreigners from obtaining the State diploma of medicine unless they pass the preliminary examinations required of French students, a certain number of Russian students have gone to Swiss universities. At Berne, for instance, there are almost as many foreign students as native students. In the medical department there are 252 women students to 199 men students.

SYPHILIS IN THE BARBER SHOP.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Dr. Antonio Fanoni (page 936 of your issue of December 13) and other readers of the MEDICAL RECORD will be interested in the following quotation from I. K. Proksch, the most eminent historian of syphilis ("The Need of the Study of the History of Medicine," 1901, page 7):

"From the end of the fifteenth century down to the present time the literature is overfull of the reports of the communication of syphilis from secondary affections of the mouth by drinking cups, kissing, biting, licking, nurses, nurslings, etc. As early as 1496 the medical men (or rather, and literally, the barbers) were forbidden, under a fine of ten guldens, ever to employ again such surgical tools as had been used on syphilitic persons (Ch. G. Gruner *de Morbo Gallico Scriptores*, Ienæ, 1793). What amount of misery must have occurred before that order became necessary! Nevertheless, an epidemic of syphilis originated in Brünn, in 1577, from a barber shop, by the use of cupping instruments. Its history was reported by Thomas Iordanus (*Luis novæ in Moravia Exortæ descriptio*, *Francofurti*, 1580) and Ioannes Sporischius (*Idea medici*, *Francofurti*, 1582). Several other extensive infections, caused by cupping instruments, occurred in Germany and were reported. In the year 1805 I. N. Rust (*Helkologie*, Berlin, 1811) made the discovery that a large number of the Hebrew infants in Cracow became syphilitic from the lips of the circumcisors. . . . During the last four centuries more than a thousand monographs have been written on the extragenital contagion of syphilis."

A. JACOBI, M.D.

NEW YORK.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Dec. 11, 1902.

Leucoplakia.—Frederick C. Cobb, discussing the etiology of this affection, says that of all irritants tobacco is, perhaps, the most effective. Leucoplakia has been called "smoker's paralysis." As to treatment, the evidence is most conflicting. Cases treated by papayotin, by excision, by cautery, and by "let alone," are all credited with successful results. On the other hand, many leucoplakias, in spite of all treatment, end in carcinoma. Butlin recommends soothing alkaline lotions and ointments, with avoidance of the cautery and all irritants, and decrease or abstention from smoking. If the patch, in spite of all these measures, remains stationary, and, above all, if induration or warty growth or any appearance of cancer suggests itself, thorough excision of the patch is advised. Of ten cases occurring in the Massachusetts General Hospital four developed carcinoma.

Infantile Paralysis; an Epidemic of Thirty-eight Cases.—Charles F. Painter reports these cases, which occurred in the summer of 1900 in Gloucester, Mass., within a radius of four miles, and which go to show the possible infective and epidemic character of this disease. The author thinks it probable that there may be several organisms capable of producing this symptom complex, given the proper conditions present in the individual; and that of all the contributive factors which prepare the way for the entrance of a bacterium or a coccus to the anterior horns of the cord, perhaps the one most to be reckoned with is the exposure to temperature changes through the vasomotor system; it is to be noted that the majority of cases occurred on, or more frequently twenty-four to thirty-six hours after, periods of extreme heat, and in some cases after a sudden or sharp drop from an abnormally high temperature; in other cases they followed bathing in the ocean. There were twenty-three males and nine females. The youngest was thirteeen months and the oldest ten years. Twenty-one cases were three years or younger; eight cases two years or younger, and seven cases four years or older. No cases observed got entirely well, and only one died, though this one was not included among the thirty-eight reported.

Journal of the American Medical Association, Dec. 13, 1902.

Alcoholic Epilepsy.—T. D. Crothers considers the convulsive and maniacal types of the malady, those cases attended with dementia and confusional states and, finally, psychic cases and those attended with automatic trance. Illustrative clinical histories are given under each of these headings. He offers the following conclusions: (1) Alcoholic epilepsy is increasing rapidly in this country. (2) It is a psychosis and neurosis which should be recognized, having distinct symptoms, the recognition of which is imperative in the treatment. (3) Where the toxic symptoms are convulsive and explosive and come on suddenly, the future of the case is very ominous and the warnings from these symptoms should be heeded. (4) The connection between mixed drinks and these spasmodic symptoms are traceable, and should be considered in the prognosis and treatment. (5) The treatment and curability of these cases can be carried on with great hopefulness, and undoubtedly in the future will become a prominent part of the work.

The Pathology of Chromidrosis.—M. L. Heidingsfeld maintains that this malady is not as its name would seem to imply, an anomaly of secretion. Judging from the limited number of cases in the literature, and as a matter of common observation, it is an exceedingly rare affection as regards forms characterized by yellow and brown and probably black, blue, green and intermediate shades of discoloration. Red chromidrosis is an entirely different and by no means an infrequent type of affection, with an extraneous cause, probably some form of erythro-micrococcus-tetragenus infection from individual to individual and yielding to antiparasitic remedies. In the light of this investigation the pigmented elimination, in the yellowish-brown forms at least, is insoluble in water, alcohol, ether, etc., is readily soluble in chloroform, stains linen indelibly, shows no reaction when treated with ordinary reagents, and is amorphous, homogeneous and resinous in character. Pathologic examination reveals the sudoriferous glands of the affected area to be normal, sebaceous glands absent, a hyperkeratosis around the openings of hair follicles, and pigment accumulations near the hair follicles, in the stratum corneum, lower layers of the rete, and the adjacent cutis. The pigment is grouped in cell-like masses, is not finely granular, and does not bleach with hydrogen dioxide like chromophores. Spectroscopic examination of the eliminated pigment reveals no absorption bands, and hence it is not a derivative of oxyhæmoglobin. In view of the pathologic findings, the absence of sebaceous glands, the normal condition of the sudoriferous glands, cases of so-called chromidrosis (excluding red forms) are anomalies of pigmentation and not glandular secretion.

Medical News, December 13, 1902.

Remarks on One of the Complications of Anæsthesia (Asphyxia).—Thos. L. Bennet does not use the word asphyxia here in its literal sense alone, of death through the respiration, but rather denoting the condition produced by a lessened percentage of oxygen, or an increased percentage of carbon dioxide, or both, in the blood. This state is produced in a number of ways during the administration of anæsthetics: (1) By the simple exclusion of oxygen, as in the inhalation of pure nitrous oxide, or highly concentrated ether vapor. (2) By paralysis of the respiratory center from over-narcosis, producing failure of the respiration. (3) By the production of a condition, the exact nature of which is unknown to the writer, a condition in which cyanosis is marked notwithstanding free respiration, and no exclusion of oxygen. This most frequently complicates the administration of chloroform, and is usually associated with some circulatory depression. Close observation has led the writer to believe that it is due either to a paralyzing effect of the anæsthetic upon the blood-corpuscles, suspending their function of carrying oxygen and carbon dioxide, or to failure of the pulmonic circulation, this, in turn, being due to depression of the cardiac and vasomotor mechanism, or to paralysis of the walls the pulmonic vessels, resulting in such inefficiency of the lesser circulation that proper aeration of the blood is not accomplished. (4) Asphyxia complicating anæsthesia is most often produced by mechanical obstruction to respiration, resulting from (*a*) narrowing of the air passages from within, *e. g.* from tuberculosis, carcinoma, etc.; (*b*) narrowing of the air passages from without, from pressure; (*c*) other forms of pressure upon the respiratory organ, *e. g.* tympanites; (*d*) diseases of the lung limiting respiratory capacity; (*e*) certain positions required in the operation; (*f*) certain operative manipulations which interfere with respiration by distortion, etc.; (*g*) foreign bodies in the air passages; (*h*) stertor and stridor; (*i*) a short, thick neck, or a long, thin nose may act as an obstruction. The treatment of asphyxia under these circumstances is the least part of the subject. The patient must not suffer from deprivation of oxygen, or breathe an excess of carbon dioxide, or have his respiration obstructed. An open airway should be maintained. Anæsthesia by nitrous oxide alone or mixed with air or with oxygen is the form of anæsthesia most often complicated by asphyxia. This is the chief risk of the administration, and patients who should not be exposed to this risk should have some other anæsthetic. Whenever a certain degree of asphyxia necessarily complicates anæsthesia, it may be relieved by the administration of oxygen throughout the narcosis. Excessive asphyxia calls for such measures as pulling forward the tongue, artificial respiration, intubation or tracheotomy. The last should not be too long delayed.

New York Medical Journal, December 13, 1902.

The Present Status of Genitourinary Therapeutics.—Eugene Fuller refers to the following point: the elimination of the gonococcus, the dissipation of general infection from the genitourinary tract, the sterilization of the tract in connection with operation, and the limitation in the use of anodynes. In reference to the gonococcus, he says that if the germ is simply washed from one place to another, more harm than good is done. We should rather make a topical application to the exact site of infection. For the elimination of general infection we must rely on diuresis, the administration of drugs by the mouth to inhibit germ proliferation in the urine, on vesical and urethral, lavage, and attention to the general condition. Concerning sterilization previous to operation, the author says that this term has merely a relative significance, as absolute sterilization is quite impossible For instance, he would not anæsthetize his patient and spend fifteen minutes in washing out the bladder before beginning operation. He would prefer to operate at once, and thus lessen the time the patient would be under the anæsthetic. Finally, he objects to the use of opium and its derivatives just before operation. They check diuresis and thus thwart nature. Consequently if a patient comes to the operation table narcotized there is the added risk of a fatal result from uræmia or sepsis or a combination of the two. He is always alarmed if after an operation the patient is comfortable and drowsy, for he fears uræmia. In non-operative conditions, of course, anodynes may find their proper field.

The Treatment of Extensive Rectal Strictures.—E Ries suggests an operation designed to replace those end-to-end anastomosis after resection of the diseased portion of the bowel and side-to-side anastomosis without resection. In the case narrated by him the following condition was found: Vulva patulous; the perineum consisted of an upper part composed of skin only and a lower portion containing part of the sphincter, the two portions being separated by an opening leading into the vagina, a vulvovaginal fistula. The posterior wall of the urethra was torn away from the anterior wall to the extent of about one inch, and the orifice of the remnant of urethra was so narrow that an ordinary catheter could not be inserted—stricture of the urethra. The posterior column of folds of the vagina was torn away from the perineum. Immediately below the end of the column of folds a narrow fistula led into the rectum and discharged (during the examination) liquid fecal matter. A finger introduced into the rectum about two centimeters was arrested by a callous stricture, which would about have admitted a match. The portion of the rectum immediately above the stricture was felt through the vagina as a hard string, extending upward for more than five centimeters. The vagina was wide, the uterus small and atrophic. Bimanual palpation of the pelvic organs revealed, as an additional and somewhat puzzling finding, high up on the brim of the pelvis, a hard, immovable mass around the rectum, which was assumed to be an exudate around the rectum caused by ulcerations. Operation revealed the fact that the sigmoid portion of the bowel could not be pulled down, and that it contained a second stricture higher up. The plan of operation was thereupon changed, and the following method followed: A median abdominal incision about 10 cm. long revealed in the sigmoid the stricture intimately adherent to the pelvic wall, its mesentery so shrunken that this portion of the gut was immovable. Above it the bowel was somewhat distended and remarkably freely movable as high up as could be felt. It was provided with well-formed mesentery with numerous vessels. About 3 cm. above the upper end of the stricture of the sigmoid, in a healthy portion of bowel with healthy mesentery, the bowel was cut in two, the assistants providing against the escape of fecal matter from the cut ends. The incision was continued through the mesentery, and the bleeding vessels of the mesentery were ligated. The strictured portion of the bowel was closed above with three layers of continuous, inverting catgut sutures. A long artery forceps introduced through the vagina and the opening in the cul-de-sac took hold of the healthy colon and pulled it down toward the anus. There was hardly any tension of the bowel, so that it could be expected that stitches would hold the colon down until it had become firmly adherent. The abdomen was closed with silkworm sutures and the operation was completed through the vagina. On the return of the patient into the lithotomy position, the lower end of the healthy bowel was found very close to the anus, and the entire length of the healthy gut fitting snugly into the opening in the cul-de-sac and the incision of the anterior rectal wall, so that the peritoneum was not closed by any suture, but reliance was placed on the bowel and its mesentery to prevent leakage into the peritoneal cavity. The rectum and sigmoid were washed out and iodoform gauze was inserted The descended end of the gut was fastened to the rectum below the lower end of the rectal stricture by four silkworm sutures. The vaginal edges of the rectovaginal fistula were cut away, and thus the entire incision in the vagina formed one straight line from the cervix to the anus. It was closed with silkworm sutures, and the sphincter united by similar sutures after a rubber tube had been inserted into the colon. The patient made a good recovery.

American Medicine, December 13, 1902.

Accessory Thyroid Tumor Situated at the Base of the Tongue.—Randolph Winslow reports this case. His patient was a girl of seventeen years, who had always had some trouble with her throat. The voice was muffled and indistinct, and swallowing was difficult. An ovoid mass extended well across the base of the tongue, just in front of and completely hiding the epiglottis. It was smooth and covered with red mucous membrane. The opening of the larynx could not be seen. The growth was about half the size of a hen's egg, and felt somewhat elastic to the finger. It was not painful. The growth was removed through an incision made from the chin to the hyoid bone. There was some bleeding, but it was not alarming, and the whole wound healed by first intention.

Infantile Diabetes Mellitus.—Myron E. Fisher reports the case of a child of twenty months, who was in convulsions when he was called to her. The axillary temperature was 105.5°. A warm pack controlled the convulsions, and later the temperature was reduced by wrapping the child in sheets wrung out of cold water. Three or four days later the mouth was found drawn to the left side, and it was found that there was a right hemiplegia. During the first year the use of the leg was restored, but the arm improved very little. A little more than two years after the attack the child began to pass large quantities of urine, was very thirsty, had a voracious appetite, and was feverish and irritable. The twenty-four-hour amount of urine was two quarts. It was very pale, almost odorless, with a trace of albumin, and a very large quantity of sugar. An unfavorable prognosis was given. Starches and sugars were eliminated from the diet, but the child began to decline rapidly. She had attacks of dyspnœa, and lost flesh. She finally relapsed into a comatose state and died.

Some Neglected Points in the Physiology of Vision.—George M. Gould declares that the observation underlying all theories is that the persistent action of the light-stimulus or image upon one part of the retina quickly lessens and extinguishes the sensation-response. The reinstatement of sensitiveness is by means of shadings, darkness, and variations of the stimulus. The writer then goes on to enumerate the devices and methods whereby this deterioration of function is prevented: (1) The shadows cast by the retinal arteries, veins, and capillaries, according to the direction and intensity of the entering light, are constantly shifted and modified, so that the retina behind them and in their immediate neighborhood is allowed variations of fatigue and recuperation. The most shaded portions serve, perhaps, as centers, whence extends the mysterious resensitizing process. (2) Certain sensitive and strained eyes, when looking toward the sky or a bank of cloud, can see a multitude of little flashing lights. These may resolve into illuminated paths or lines of light. These have been called phosphenes, corpuscular reflections, phoses, and aphoses. They are the reflections from the blood-corpuscles of the capillaries of the retina, which act as tiny mirrors. These corpuscles cast unobserved shadows upon the retina. The reflections may also have a function in producing needed physiologic irritation in parts of the retina not habitually stimulated by the incoming light, and in this way keeping it in a state of preparedness or responsiveness. (3) The shadows of muscæ volitantes are probably of greater service. They should be regarded as of physiologic, not pathologic, significance. They exist in all eyes, although not usually recognized. Every part of the fundus of all eyes during the waking life is protected by the muscæ shadows. (4) The retinal pigment extends so far toward the retinal periphery that functionally it joins that of the iris in preventing all light, except the little possibly transmitted through it, from entering the interior of the eye, otherwise than through the pupil. (5) The iris-pigmentation is essential for retinal shading. Albinotic eyes are largely due to iris-translucency. (6) The alternation of contraction and dilation of the pupil induces changes of stimuli and rest. (7) The natural pigmentation of the skin gives added exclusion of useless and harmful light. (8) The eyelashes screen the light and shade the pupil, at the same time allowing enough light to pass to give a useful image of an object above or below the eye. (9) Winking completely shuts out the entire retinal stimulus for an instant, thousands of times a day. (10) Binocular vision also serves more than would the cyclopean eye in breaking up the continuance of the stimulus of the retina upon any one spot. (11) Of still greater importance are the incessant movements of the eyes, those of the body and head aiding. (12) The eyebrow shades the eye. No room should be lit so that the individual lights are visible. Illumination should be transmitted, dissipated, and reflected light.

Philadelphia Medical Journal, December 13, 1902.

A Plea for the General Employment of Credé's Method.—N. J. Weill calls attention to this too-little practised but excellent means of prevention at our disposal. Now and then comes a report of an unpleasant though not serious conjunctivitis set up or excited by Credé's practice. All cases of innocent conjunctivitis occurring in practice, in which Credé's method has been used as a preventive, can not be justly attributed to the silver, since many vaginal secretions and antiseptic douches are capable of setting up conjunctivitis in the new-born. The physician should have the necessary slides or cover-glasses, with implicit directions as to the preparation for the examiner. The writer closes with an appeal to instil, according to Credé, a drop of a 2-per-cent. solution of silver nitrate into the eyes of the new-born.

The Lancet, December 6, 1902.

Eosinophilia Associated with Bilharzia Disease.—The patient of A. E. Russell was a man of twenty-five years, who had served in the African war, drinking at times of polluted water. He developed a cough and had a slight hæmoptysis. A month after reaching home he passed blood in the urine. The latter showed typical bilharzia ova and small patches of bladder cells. Counts showed 10,000 leucocytes, 4,770,000 red cells per cu. mm. with 60 per cent. of hæmoglobin. Eosinophiles were present in from 23 to 33 per cent. The case is of interest as showing the occurrence of a well-marked eosinophilia in many of the diseases of man caused by parasites, and is only the second on record so far as concerns the bilharzia disease.

A Case of Concealed Accidental Hemorrhage.—J. W. Ingles reports the case of a full-time healthy primipara of forty years. When called to the labor he found, on applying his hand to the abdomen, an obscure feeling of crepitus similar to that felt in a severe bruise with extravasated blood. A few drops of blood had escaped from the uterus. The patient had worked hard the day previous about her household duties. On examining per vaginam, the passages were found to be normal; the os was normal and dilated to admit two fingers, while nothing unusual was to be felt in the vicinity. The presentation was normal and the membranes were intact, but the fingers after the examination had on them a little fresh blood. There was no hemorrhage taking place externally. Taking into consideration the patient's previous day's work, her pulse, her pallor (which was not abnormal, but for the fact that the woman in health was "full-blooded"), the fact that her pains were not in character what they ought to be according to the patient's statement, the freshness of the few drops of blood which were external, and more especially the slight obscure crepitus on palpation and the globular appearance of the abdomen, it was concluded that this was a case not often met with by the general practitioner—namely, a case of concealed accidental hemorrhage. Digital dilatation of the os was at once commenced, and, as soon as possible, the membranes were ruptured and liquor amnii escaped with blood. By this time the pulse was occasionally imperceptible, so forceps was applied, and when the first blade passed the head blood poured out; the child was immediately delivered, and along with it the cord, membranes, and placenta came away all in one. The child was dead and the placenta looked as if it had been separated for some time. Following this the uterus, which was full of large clots, was emptied of blood and well contracted by manipulation and ergot. No blood was lost after this, and contraction was obtained immediately the uterus was emptied. The patient had the same appearance and her mind remained very clear. Her pulse varied, being sometimes perceptible and sometimes imperceptible. Stimulants and saline rectal injections were given, but the patient gradually became pulseless and collapsed.

A Note on the Causation and Treatment of Thrombosis Occurring in Connection with Typhoid Fever.—A. E. Wright and H. H. G. Knapp have made a series of experiments to determine coagulation time and blood-content in calcium salts in the acute stage of typhoid fever during convalescence, and in normal persons. During the acute febrile stage there is a diminished coagulability, and this may explain the serous hemorrhages occurring from comparatively small intestinal lesions. During convalescence there is a marked increase in coagulability. A similar increase of calcium salts is noticed in convalescence. The therapeutic inference is the advisability of administering at any time, when coagulability may be above normal, some agent that may diminish this hypernormal state, and thus oppose an obstacle to the deposition of fibrin and consequent thrombosis. Citric acid was the agent selected by the authors, and they present certain statistics, showing how the administration of this remedy in certain cases was followed by a decalcification of the blood and a consequent diminution of its coagulability. In searching for the cause of thrombosis in typhoid fever, the attention of the authors was fastened on the fact that their tables showed that the amount of calcium salts in typhoid convalescents was greatly in excess of that in the normal blood.Th is fact suggests that the increased coagulability during the convalescent stage may be depended upon an excess of lime salts. Evidence pointing in the same direction is afforded by the circumstance that the blood coagulation times of typhoid patients, after the content of their blood in lime salts had been brought within the limits of the normal, were longer than those of normal bloods, instead of being shorter, as we should expect them to be if the increased coagulability were dependent upon an increase in the albuminous elements which enter into the composition of the fibrin. When we consider the source of the excess of lime salts which appears to be present in the blood of the typhoid convalescents, we must conclude that such excess comes from cows' milk, so extensively used in the typhoid dietary. Hence we may, in addition to giving the citric acid, decalcify the milk by adding the proper proportion of citrate of soda, say one to two scruples to the pint of milk.

British Medical Journal, December 6, 1902.

Note on a Case of True Intestinal Sand.—C. H. Bedford records this case. The patient was a woman of forty-four years, with a very marked history of gout. Constipation with mucus was present. There was a distinct attack of mucocolitis coincident with the passage of the sand. There was no colic, vomiting, or distension. The urine showed much albumin, with a few casts. She had been for some months on milk and farinaceous diet when the sand was passed. Treatment was by preparations of lithium, occasional saline purgatives, and colchicum and potassium iodide in mixture. The deposit passed consisted of cocci and bacilli, moisture, calcium phosphate, calcium carbonate, magnesium phosphate, and organic matter. The condition would appear to be closely related to gout and to be favored by a milk diet.

An Address on Acute Manifestations of Chronic Disease.—J. Mitchell Bruce says that what we commonly call "acute disease" is, in many instances, nothing else than an acute illness in the course of a chronic disease. This manifestation is often difficult to diagnose. We are often blinded to the truth by the circumstances attending an acute illness. Still more readily may we forget the chronic element if the acute element take the form of a substantive disease, so-called. The writer cites cases showing acute phenomena in the course of chronic disease—hemorrhage, abdominal pain, vomiting, and collapse. They should not deceive us with the use of proper care and judgment. But when acute manifestations of chronic processes possess all the characters and the importance of independent diseases, they readily monopolize our attention, and lead us astray in diagnosis and treatment. Haste, thoughtlessness, and clinical inattention should be guarded against. Proper investigation of an acute illness often directs attention to the existence of a disease that has lasted for an indefinite length of time, but which has been entirely unsuspected, and which it is of vital importance that we should recognize. The immediate prognosis, like the immediate treatment, of acute illness cannot be expected to be successful unless the true relations of the attack be observed and appreciated, as with the immediate, so is it with the remote prognosis and the practical applications of it. These acute attacks offer a useful opportunity of striking at and arresting the primary disease in its course, while it is still comparatively slight.

On Colon Catarrh.—T. Stacey Wilson includes under this head the following morbid conditions: (1) Simple acute catarrhal colitis; (2) Subacute and chronic simple catarrh of the colon intermediate between one and three; (3) The so-called "mucomembranous colitis." also called "membranous colitis;" (4) Mucous colic; (5) True catarrhal typhlitis. The various types are found to pass into one another. Catarrhal condition of the colon manifests itself by altered function of two kinds. (1) Abnormal secretory activity. (2) Abnormal motor activity. With regard to the mucus passed by the bowel, there is very great variety. Catarrh of the colon is due to irritation. The irritant may be mechanical or chemical or of a more complex nature. A most important part is played by gout and the arthritic diathesis in the etiology of the subacute and chronic forms. Another possibility as to the causation is that microorganisms play an important part in the intestinal irritation. It is probable that the neurotic element is only an early symptom of the complaint and not its cause. The primary symptoms of colon catarrh are: Excessive secretion of mucus; excessive irritability of the muscular coat of the colon, causing it to harden and become palpable. 3. Constipation, due probably to both altered secretion and altered motility of the colon; pain—often colicky—and tenderness of colon: nervous phenomena, especially well-marked mental depression,often hypochondriasis, sometimes true neurasthenia. If the case be recognized early enough, and appropriate treatment by diet and medicine be given, the prognosis as to complete recovery is very satisfactory. The key to treatment of this disease is the recognition of its relation to gout and the "uric-acid" diathesis, and also that it is a catarrh of the colon. The salicylates should be given. All foods liable to leave an indigestible solid residue should not be touched. So brown bread, porridge, figs, etc., should be avoided. In old cases, enemata of saline solution or boracic acid are sometimes valuable. It is most important to recognize cases early.

Deutsche medicinische Wochenschrift, November 20, 1902.

Schueller's Parasite of Carcinoma.—Heinrich Mohr disagrees with Völcker, who holds that the bodies described by Schueller in carcinomatous tissue are none other than cork cells which have become accidentally lodged in the tissue during its manipulation in the laboratory. A morphological comparison of Schueller's parasites and cork cells shows that while they possess many features in common, yet the large size of the capsules of the former serve to absolutely distinguish them from the latter. Furthermore, a large number of carcinomatous sections have been prepared by Mohr, with the employment of a technique which absolutely excluded any possible contamination with cork or cork cells, and in all of these sections the presence of Schueller's parasites was demonstrated. It is believed that these observations will definitely negative the contention that these parasites and cork cells are one and the same.

Relations between Tuberculosis and Carcinoma.—Ed. Aronsohn draws attention to the close relations which exist between tuberculosis and carcinoma and reports twenty-two cases, which show that carcinoma in one generation is frequently followed by tuberculosis in the next. That the reverse also occurs is probable, but no statistics relative thereto have been gathered by the author. Furthermore, lupus may, probably, be regarded as a transitional stage between tuberculosis and carcinoma, for while, on the one hand, histologically it is essentially tuberculous in form, on the other hand it is a well-known fact that under certain unknown conditions typical lupus lesions may be transformed into carcinomatous tumors. The development of tuberculosis in the offspring of carcinomatous parents may be accounted for in several ways, but under any circumstances hereditary nfluences must play a most important part. In the present state of our knowledge concerning the etiology of carcinoma it is, of course, impossible to affirm with positiveness that the carcinomatous microbe is transferred in utero to the offspring in the body of which, on account of new environments, it becomes biologically altered and gives rise to tuberculous lesions; yet when all the facts are in, it is not without the range of possibility that such will be found to be the case. However this may be, there is already abundant evidence to show that the etiological conditions which underlie tuberculosis and carcinoma are closely related, and that, under certain unknown conditions, by the influences of hereditary transmission, they may become interchangeable.

Berliner klinische Wochenschrift, November 24, 1902.

Atonic Dilatation of the Œsophagus.—Max Lewinson reports a case which is of interest because dilatation of the œsophagus is rarely met with, except as the result of lesions which give rise to a permanent contraction of this tube. In such cases the dilatation occurs immediately above the point of constriction. In the case reported the etiology is not clear. The first symptoms were pain in the chest after eating, and a feeling of discomfort after eating, and a sensation as though the food has not passed from the œsophagus into the stomach. There soon developed periodical attacks of vomiting, which resisted all treatment. The vomited food was voided soon after eating, and was unaltered in appearance, not having been in the least acted upon by the gastric juice. Physical examination of the chest failed to reveal any abnormalities, and since the clinical symptoms plainly pointed to a dilatation of the œsophagus, it was decided to administer to the patient a "test meal," and examine the condition, by the aid of the stomach sound. One-half an hour after the "test meal" was given the sound was introduced into the œsophagus, and slowly passed downward. When it had been passed downward for 20 cm. undigested portions of the "test meal" be gan to flow through it. This continued until a depth of 50 to 52 cm. was reached, when the flowing stopped, and a slight resistance was encountered. On making firm pressure the point of the sound slipped into the stomach, which was immediately followed by the evacuation, through the sound, of portions of the meal, which were undergoing gastric digestion. Many examinations similar to the above were made and identical results obtained.

Metabolism in Chronic Tuberculosis.—J. Mitulescu, after a review of the pathological lesions of tuberculosis, in particular pulmonary tuberculosis, and a study of the nitrogen and phosphorus metabolism occurring in the same, concludes that the endeavors of the body to combat the infection are both mechanical and chemical in nature. The mechanical process consists in the formation of a barrier of cells of various kinds around the tuberculous bacilli, which is more or less efficient in preventing the spread of the bacilli from their primary location in the tissues to other regions of the body. The chemical process consists in the production by certain body cells of secretions, some of which are destructive of the infecting bacillus, while others neutralize or destroy the bacillary toxins produced. The body is able to successfully combat the infection just in proportion as these processes are effectively and continuously maintained. From these data it is evident that these processes can be effective only when the involved body cells possess a satisfactory degree of vitality. Such vitality is only possible when these cells possess a satisfactory nutrition. Under-nutrition of these cells must inevitably lead to a reduction in their vitality, and a consequent inability to cope with the infective process. In the presence of infection, a double work is thrown upon the body cells: (1) They must, as under normal conditions maintain their nutrition. This they do, as observation has shown, by a synthetic process. That is to say, they cannot directly assimilate the nutritive principles present in the blood and lymph, but are compelled to form the nucleoproteids, which constitute a large portion of their substance, from the albumins and nucleinic acids (xanthin bases + phosphoric acid), which are brought to them by the circulating fluids, and which originate during the process of digestion in the intestinal tract. (2) They must produce the bactericidal and antitoxic secretions which directly assail the infecting bacilli. Since the satisfactory execution of the first of these tasks is absolutely essential to the proper performance of the second, observations which determine its actual status in any given case are all important in the prognosis and treatment of the same. By a comparison of the daily consumption by the patient of nitrogen and phosphorus with the total daily excretion of the same elements in the urine and fæces were are enabled, in great measure, to judge the status of the cell metabolism. If the excretion exceeds the consumption, we know that the cells are suffering in nutrition, either because of their reduced vitality and consequent inability to assimilate the same, or because of the increased demands made upon them in their fight against the infection. Either of these conditions must inevitably lead to the same result, viz., an inability of the cells to successfully combat the infection. Observation has shown that in acute and the first stages of chronic tuberculosis the excretion of these substances almost invariably exceeds their consumption. In chronic tuberculosis, as the disease progresses, the excretion and consumption become more nearly equalized, especially in those cases in which the progression is favorable. If hemorrhages occur, the excretion of nitrogen and phosphorus in the urine and fæces becomes temporarily far less than the consumption, because of the large amount of these substances, which are lost in the evacuated blood. In all cases, however, an increased excretion over consumption signifies either that the cells are in a state of undernutrition, or that they are being overworked. This determination, if the observations are being carefully and frequently made, is one of the first signs that the body is losing ground in the conflict. In advanced cases this condition is much accentuated, because of the mixed infection, which is nearly always present.

Munchener medicinische Wochenschrift, November 25, 1902.

Gelatin Treatment of Melæna Neonatorum.—E. Oswald does not think that thus far a sufficient number of cases have been treated with subcutaneous injections of gelatin to warrant the high opinion of this treatment, which is held in many quarters. The author reports five cases, two of which were treated with gelatin and three by other means. The two treated with gelatin recovered, as did also two of the others. The child which died only weighed 1,750 grams at birth, was in very poor general condition, and would have certainly died under any form of treatment. It is evident from these two and other reported cases, which have been treated by gelatin, that the same is an efficient means of combating the disease, but it must be borne in mind that a fair number of cases which are treated by other means also survive, so that it should not be too quickly taken for granted that gelatin solution, administered subcutaneously, acts in the nature of a specific in melæna neonatorum.

Operative Treatment of Pulmonary Tuberculosis.—A. Landerer writes in favor of the operative treatment of tuberculous pulmonary cavities. It is not to be supposed that this treatment is in any sense curative, but it is certain that in many instances life is prolonged, and the local and general symptoms much improved. In all cases which are thus treated, the operation should be conducted as quickly as possible, and all hemorrhages from the intercostal vessels should be avoided. In the resection of the ribs it is important that an ample amount should be removed, so that easy access should be obtained to all portions of the cavity. On closing the wound the same should not be entirely sutured, since experience has shown that when this is done, deep suppuration is very liable to occur. In the after-treatment morphine should be given in sufficient doses to quiet the cough, since the same causes much pain, and if excessive is liable to give rise to an aspiration pneumonia. In the choice of patients for operation acute cases are to be entirely avoided. The most suitable are those in which the tuberculous process is stationary, or but very slowly progressive. Nine cases are reported in detail

Phagocytosis, Synthesis, and Other Intracellular Processes.—J. Arnold does not think that soluble substances are always taken up by the leucocytes by the process of phagocytosis. In phagocytic cells, such as eosinophiles which have been placed in contact with fat, observation has shown that, while a certain portion of the fat is undoubtedly taken up by a phagocytic process, there are still other portions of fat which are so closely combined with the eosinophilic granules that it seems certain that this fat is produced synthetically in the cell. This is not to be regarded as a degenerative condition, since such eosinophiles are in no way to be regarded as in a stage of degeneration. Furthermore, when fat is is brought in contact in excessive amount with the tissues, other cells, such as the epithelial, which are able to exert no phagocytic processes, show after a time an abundant presence of fat in their protoplasmic interior. Certainly in these cases the presence of the fat must be due to a synthetic process. Similar observations have been made with respect to the presence of the various iron compounds in cells, so that it is evident that in many instances the presence of soluble foreign compounds in the leucocytes is not to be ascribed to their phagocytic action.

A Case of Right Spontaneous Pneumothorax.—H. Maillart and A. Lasserre declare that the cases of spontaneous pneumothorax—that is, in subjects with pulmonary lesions that have not manifested their presence by appreciable troubles—are not numerous in literature. They report the case of a young man who was in a condition of apparent health, but who was suddenly attacked by a right pneumothorax, accompanied by extreme suffocation. The dyspnœa and pain rapidly decreased in the space of one or two days. The general condition remained good, and the temperature was not elevated above normal. The first radioscopical examinations showed that the lung was reduced to its minimum volume. It gradually attained its original dimensions, while the neighboring organs, which had been pressed out of position, returned to the normal condition. About three weeks after the onset of this trouble the patient left the hospital. The right pleural cavity did not contain a trace of liquid. Twelve days later an examination by the *x*-rays showed a slight effusion in the costo-diaphragmatic sinus. There was no fever. The general condition remained good up to the time of his final departure from the hospital, about nine weeks after the onset. At that time the effusion had almost disappeared. The patient has continued to improve, and has never suffered from any subjective troubles on the part of his right lung.—*Revue Médicale de la Suisse Romande*, November 20, 1902.

Society Reports.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirtieth Annual Meeting, Held in New Orleans, La., December 8, 9, 10, 11, *and* 12, 1902.

The association convened in Tulane Hall under the presidency of Dr. Henry D. Holton of Brattleboro, Vt.

The opening address of welcome was delivered by Rev. Max Heller of New Orleans.

After the transaction of routine business, the reading of papers and reports was begun.

Report of Committee on Disposal of Refuse Materials.—This was read by Dr. W. C. Woodward of Washington, D. C., a member of the committee. The report stated that the present condition of the art of disposal of city refuse had not advanced materially in the last year. Many of the largest cities in America had reduction plants for the extraction of the grease with more or less success. The latest, and in some parts of the country still the most common, method of disposal, namely, that of feeding kitchen garbage to swine was now earnestly advocated by a prominent health officer, although most ardently opposed by most sanitarians for many years. It was advocated because under many conditions it was not unhealthful, if properly conducted, and it was more economical in smaller communities than any other method. The Berlin proposition of converting kitchen garbage into compost had not yet been sufficiently tried. The results with this method in this country did not seem promising, except where the soil was quite barren and the cost of labor very low.

Report of the Committee on Animal Diseases and Animal Food.—In the absence of the chairman of this committee, the report was read by a member of the committee, Dr. M. P. Ravenel of Philadelphia. Reference was made to researches with regard to the communicability of human tuberculosis to animals. The experimental work of Ravenal, Mohler, De Jong, Delepine, Orth, Stenstrohm, Fibiger and Jansen, Max Wolff, Nocard, Arloing, Behring, and a number of other investigators, was referred to at length, and these investigations were sufficiently numerous and harmonious in the results to establish the following conclusions: (1) The bacillus tuberculosis found in human tuberculosis differed greatly in its pathogenic powers as obtained from different cases. (2) Two types of tubercle bacilli might be obtained from man, namely, one which was somewhat difficult to cultivate, which grew slowly, and the bacilli of which are short, stubby, and free from beading—the so-called bovine type; and the second, which was quite easily cultivated, grew rapidly, was longer, thinner, and inclined to show beading and curved forms—the so-called human type. (3) Virulent cultures might be obtained from both of these types, which, when inoculated, according to the methods used by Koch, and upon the species of animals specified by him, produced progressive and fatal tuberculosis. (4) The contention that human tuberculosis could not be transmitted to asses, sheep, goats, and especially to cattle, had been completely disproved. (5) Koch's failure to produce tuberculosis in the animals named with bacilli from human sources was probably due to the use of bacilli of low pathogenic powers. The report then discussed at length investigations as to the transmission of bovine tuberculosis to man, mentioning the experimental work recently done in this line. The results of these investigations showed: (1) While the bacilli of human tuberculosis were found of feeble virulence for cattle, there was a considerable proportion of cases in which these bacilli were virulent for cattle as well as other animals. (2) Bacilli of both the bovine and human type had been obtained from cases of human tuberculosis. (3) Bovine bacilli introduced into the human tissues by accidental inoculation, if left, multiplied, and produced disease at the point of inoculation and even recovered after a considerable time with their vitality and virulence unimpaired. (4) Various statistical studies indicated that a considerable proportion of cases of human tuberculosis, and, particularly, with children, originated from the ingestion of the bacilli with contaminated food. It appeared to the committee, therefore, that the conclusions of Koch, announced at the British Congress of Tuberculosis, to the effect that bovine and human tuberculosis were different; that human tuberculosis could not be conveyed to cattle, and that man was insusceptible to bovine tuberculosis, were disproved, and should no longer have weight with sanitarians. The evidence adduced indicated that greater care should be exercised to prevent infection with bovine tuberculosis, and particularly to guard children from tuberculous milk.

Sanitary Measures Proposed to the Mexican Railway Companies.—Dr. Eduardo Licéaga, President of the Superior Board of Health of Mexico, read a paper on this subject. The measures urged were: (1) To increase the number of cuspidors, and furnish them with disinfecting solutions capable of destroying the tubercle bacilli. (2) Place in conspicuous places placards containing the following: Please spit exclusively in the spittoons, as otherwise the germs of infectious diseases, especially those of tuberculosis, will be carried into the air. (3) Until paddings of the cars were changed for other and more convenient drapery, a wise plan would be to disinfect the car every time it was unoccupied with a solution of formaldehyd, which would not alter the condition of the cloth nor its color. (4) Disinfect all sheets and pillow cases before sending them to the laundry. (5) Also disinfect the tapestries and couches. (6) Keep the car as clean as possible, and especially the closets and urinals. The railroad companies in Mexico considered the above suggestions practical and promised to enforce them.

Coöperation Essential to Progress in Vital Statistics.—Dr. Cressy L. Wilbur of Michigan presented a paper on this subject in which he said we were at the beginning of a new era when, for the first time, in the history of the country, there was an opportunity for continued systematic coöperation between the permanently organized department of the national government and the various State and municipal systems of registration to the end that accurate and uniform statistics of mortality might be obtained for the United States and made available for the use of all public health offices.

Vital Statistics: A Plea for Actuarial Administration and Control of the Great Resources of Preventive Medicine.

The author of this paper, Dr. John S. Fulton of Baltimore, said the federal census, which, being now maintained as a permanent part of the national government, should: (1) Be at the approach of another census year better than ever prepared to rapidly and accurately count the people making notes of all the data needed for statistical purposes. (2) It should make such *ad interim* studies of the births and deaths occurring in non-registration areas as would serve for the better correction of the enumerators' returns for the census year. (3) It should commit all vital returns to the hands of a trained medical statistician who understands the moods and tenses of vital mathematics. Local registration should recover (*a*) records of deaths made at the time and place of their occurrence, by the most competent persons acquainted with the facts, including a medical certification of the cause of death, the making and filling of such a record being, in every instance, an indispensable preliminary to the disposal of the dead body. (*b*) Records of birth, secured by the payment of fees, by every appeal to private interest and public necessity, including, if possible, conditioning of certain privileges of citizenship upon recorded evidence of attained age. (*c*) Records of marriages and divorces, with all such items of information as had statistical importance. (*d*) Records of sickness, including all cases of those infectious diseases which fell within the provisions of the notification laws, all cases of sickness which came under study in the public health laboratories, all sickness which was relieved at public cost, and all sickness falling under the observation of inspectors of schools, tenements, and factories. The data of vital statistics should be systematically utilized, not only for the broader purposes which had grown into common use, but for the minuter inquiries to which such records in large numbers and of great variety were adapted.

Dr. Luis E. Ruiz of Mexico presented a paper in which he spoke of the period in which every contagious disease could be transmitted, and also of the period in which every sick person was dangerous to healthy persons near him.

Dr. José P. Gayón of Mexico read a paper in which he spoke of the transmission of pathogenic fungi by flies and mosquitos.

Dr. Jesús E. Monjaras of Mexico discussed the principal causes of infectious diseases and the chief means of guarding against them.

At the evening session of the first day, addresses of welcome were delivered by Mayor Paul Capdevielle on behalf of the city, and by Hon. Jared Y. Sanders, Speaker of the House of Representatives, on behalf of the State. These addresses were responded to by President Holton.

Presidential Address.—President Henry D. Holton then delivered his address. He reviewed the status of sanitation in the United States, saying the most wonderful progress had been made along all sanitary lines. Much of it was the result of the work of members of the association. In speaking of yellow fever, he said we should recognize the great courage of such devotees of science as Drs. James Carroll and Jesse W. Lazear. The practical results of work done in regard to yellow fever had been evidenced this past summer; not a case of this disease had originated in the island of Cuba for the past fourteen months, and the quarantine period had been shorter by three months. He referred feelingly to the deaths of Drs. Walter Reed, Robert C. Kedzie, Albert L. Gihon, Thomas J. Turner, John P. Kimball, Francis W. Lewis, Geo. E. Tyler, and Wyatt Johnston.

Speaking of sanatoria for tuberculosis, he said that when education had advanced a step further, and the public came to appreciate that sanatoria for the tuberculous opened to such as had unfortunately become infected, the most promising avenue of escape from certain death, at the same time it was an additional safeguard against the spread of the disease, then would the *vox populi* demand that justice be done the impecunious sufferers in the establishment by the State of institutions where, in the earliest stage of the infection, they might be placed, and thus given all possible aid to recovery and the enjoyment of social and productive citizenship.

In alluding to smallpox, he said the modified virulence and the reduced power of infection had been seized upon by antivaccinationists and the ignorant as an argument against vaccination. The association had been striving for many years for the establishment of a public health service, and the medical profession was to be congratulated that at last their efforts had been crowned with success. While all that was desired had not been granted, yet a substantial, and, in many ways, a satisfactory organization had been effected. He congratulated Dr. Wyman on the enlarged opportunities presented to him to develop upon a scientific basis a service of varied functions which shall equal in original research and demonstration any similar service in the world.

Report of Committee on Public Health Legislation.—This was presented by the Chairman, Dr. U. O. B. Wingate of Milwaukee, Wis. Representatives from various State boards of health and State quarantine officials met in Washington with the supervising surgeon-general of the Marine Hospital Service, and the matter was carefully considered, and finally a compromise was effected, changing the name of the Marine Hospital Service to that of the Public Health and Marine Hospital Service. A copy of the law was submitted with the report. The law provides for an annual conference of the health authorities of all the States and Territories and the District of Columbia, and that it shall be the duty of the surgeon-general of the service to call a conference upon application of not less than five State or Territorial boards of health, quarantine authorities, or State health officers. It was hoped that this measure provided a foundation upon which might be built up a national health service, such as the intelligence of the people and the age in which we are living demanded.

Experiments in Disinfection with Formaldehyde Gas.—Dr. M. P. Ravenel of Philadelphia read an exhaustive paper on this subject, in which he detailed his experimental work with this gas. He drew the following conclusions: (1) Formaldehyde is justly entitled to the high position which has been given to it as a disinfectant. (2) Special apparatus, while useful and convenient, is not absolutely necessary for the successful application of the gas. (3) The germicidal power of formaldehyde gas is dependent on certain factors which, as yet, are imperfectly understood. Other things being equal, moisture and temperature are the most important of these factors. (4) In practice every operation should be controlled by cultural experiment, and no room which has been exposed to infection should be considered as disinfected unless control cultures exposed in various parts of said room are shown to have been destroyed.

Report of Committee on Disinfection and Disinfectants.—In the absence of the chairman, this report was presented by Hibert W. Hill of Boston. A careful examination of articles published both in America and in Europe had failed to reveal the discovery of any new disinfectant or process of disinfection of great practical value to public health officers during the last year. As to gaseous or room disinfection, formaldehyde still held the first place in efficiency. There had been a return to a certain extent to the use of sulphurous acid, owing to its stronger action upon insect pests, but all the new experiments showed clearly that it was a far weaker disinfectant than formaldehyde, and could not be depended upon, except in a few limited cases. Gaseous disinfection, as the great panacea for preventing the spread of contagion, had been considerably discredited by recent experiments, but the committee were strongly of the opinion that when properly carried out, it was an important and effective aid in public health work, and would continue to be, and that formaldehyde was by far the best agent to use in carrying it out. In using formaldehyde two things should be provided for: (1) A sufficiency of water in the air of the space to be disinfected; and (2) a very rapid disengagement of the the gas. Most forms of apparatus failed in one or the other of those points. The work of Robinson and Hill, members of this committee, clearly showed that not only did efficiency depend upon them, but by properly observing them much time and material could be saved. The disinfection of the future must be simple, short, and sharp.

Report of the Committee on National Leper Homes.—In this report the chairman, Dr. Henry M. Bracken of St. Paul, Minn., said, among other things, that after carefully studying facts it would appear that provision for the care of lepers in Canada was an inheritance rather than a product of legislation; that the care of lepers in Mexico began with the invasion of Cortés, and that the methods of caring for them had been but little, if at all, improved upon in that country since his time. That provision for the care of lepers in Cuba was made at an early date by a Jesuit with philanthropic tendencies. Of all the countries embraced in the association, the United States was the only one that had made no provision for its lepers. The commission appointed by the

Marine Hospital Service recommended one, or preferably two, national leprosaria for the care of these unfortunates in the United States. It recommended the selection of sites covering broad areas in healthful localities, where the lepers could have unlimited out-of-door exercise and occupation. It recommended that these homes should be made attractive and comfortable, so that the unfortunate victims of this disease, instead of hiding their condition might make it known and request admission to these public institutions. With present knowledge of leprosy, and the methods employed in care of lepers, the committee advised that the resolution of last year be reaffirmed. This resolution, in substance, favored the establishment of national leprosaria, which might serve not only as a refuge for lepers, but also as a home and hospital, making their lives tolerable as far as possible, furnishing employment to those who were able to work, and giving skilled medical care to all cases, with the intent of possibly curing some, and making the road to death less wearisome and painful than it now was to others.

Dangers to the Public Health from Illuminating and Fuel Gas.—This report was read by the Chairman of the Committee, Dr. Samuel H. Durgin of Boston. In pursuing an inquiry into the danger to health by illuminating gas, it had been the purpose of the committee to consider not only the question of its poisonous effect, as observed from the ordinary clinical standpoint, and of the frequency with which the people were exposed to the effects of this agent, but also to show, from carefully-conducted experiments upon human subjects, just what physiological changes were produced by long and short exposures to small amounts of the gas, and to what extent the observed changes were continued or permanent. It was shown by investigations that the common condition of gas-pipes and fixtures was very poor, the moderate small leaks very numerous, and that a moderate increase of pressure in the fixtures above the normal gas pressure, produced leakage in 89 per cent. of all the houses examined. It was also shown that the number of fatalities from illuminating gas was not only large, but was increasing from year to year. In order to ascertain to what extent the medical profession in Boston had recognized cases of acute and chronic poisoning by illuminating gas, he sent out letters to twenty-two hundred physicians, asking for their personal experience in such cases. He received replies from 460 physicians; 246 of them reported no experience; the other 214 reported 1,025 cases of acute poisoning; 374 of these resulted fatally; 288 were found dead, and 86 lived from one hour to twelve months; 623 made complete recovery in periods varying from a few hours to three years; 28 made partial recovery, while under observation, of from three weeks to twenty-one months.

The symptoms reported in the chronic cases were practically the same as those reported in the acute cases.

Symposium on Yellow Fever.—Annual Report on Yellow Fever in Mexico.—This report was read by Dr. Eduardo Licéaga of Mexico, who presented statistics of the spread of the disease along the Mexican coast. The recent epidemic in Vera Cruz developed 877 cases, being the most severe in the country. His report showed that 873 cases were on the Gulf Coast, while only twenty-seven cases had been reported on the Pacific Ocean Coast. The epidemic in the State of Vera Cruz had been diminishing. The report mentioned the number of cases reported by States where points of infection had been found. The death rate was low, and had been held down by the successful management of the disease. The government of the State of Vera Cruz had adopted up-to-date sanitary measures for the prevention of the spread of yellow fever.

Yellow-Fever Epidemics in Orizaba, Mexico.—This paper was read by Dr. Narcisco del Rio of Mexico. The author related with particularity the history of the spread of the disease in his section. The inevitable conclusion was that the mosquito had been carrying his dangerous freight from place to place in the Orizaba section, thus causing the spread of the disease. The essayist found, in tracing the disease closely, that a coachman, who had hauled one sick person, had been bitten by a mosquito and was soon taken down with the fever. They at once took the necessary means to meet this agency of transmission, and after that were successful in checking the spread of the disease.

Yellow Fever.—Dr. John W. Ross, U. S. Army, gave at length his reasons for believing that the only way in nature for yellow fever to be contracted by man was from the mosquito. He recommended the following measures against the propagation of yellow fever through mosquitos: (1) To prevent those insects from stinging yellow-fever patients. (2) To destroy, as far as possible, the mosquitos which have been infected. (3) To consider any place unsafe so long as the last mosquitos which have stung yellow-fever patients may be alive in it. He stated that the clear-cut, scientific observations and classical contributions of Surgeon H. R. Carter of the United States Marine Hospital Service, showing the interval (about two weeks) which occurred in houses between the first (infecting) case and the first group of cases, secondarily infected, impossible to explain by the theory of fomites, were now readily understood in the light of present knowledge of the elaboration of the yellow-fever poison in the body of the mosquito, that process requiring not less than twelve days.

Concerning the Method of Transmission of Yellow Fever from Man to Man.—Dr. William C Gorgas, U S. Army, contributed a paper with this title. The author enunciated practically the same views that have been published in previous papers on this subject by him. As to whether the disease might be transmitted through fomites from man to man, or whether by the bite of fever-infected mosquitos, the decision depended on what steps should be taken to confine yellow fever when it made its appearance, whether a fight should be made against the mosquitos, or whether cargoes and vessels, and all things that were to be transferred from point to point, in which fomites could be conveyed, should be thoroughly disinfected. If the germs of the disease could not be transferred in fomites, then the disinfection of vessels and cargoes was unnecessary. The only measures necessary would be the destruction of infected mosquitos and the care of persons who might transmit the germ to the mosquitos.

Dr. Manuel S. Iglesias of Mexico discussed the disinfection of railroad cars as a precautionary measure against the propagation of yellow fever by mosquitos; while Professor Geo. E. Beyer of New Orleans related his investigations regarding yellow fever in Vera Cruz.

Dr. Edmond Souchon of New Orleans did not antagonize the theory of the transmission of yellow fever by mosquitos, but he did not believe that we were prepared to say that the mosquito was the only mode of transmission of the disease. After a close and careful study of the question, he had reason to believe that there was some other means of transmission. What it was he could not say. It might be fomites, or something we knew nothing about.

Dr. Hamilton P. Jones of New Orleans, who was in charge of the Beauregard yellow-fever hospital in this city in 1896, said that, despite the fact that 300 people were exposed to mosquitos as transmitters of the disease, as well as fomites, not one of them had been stricken, and he was still in the dark as to the doctrine of transmission of the disease.

Dr. John Guitéras of Havana said that Havana was the first of the large cities which had appreciated the necessity of adopting precautionary measures against the mosquito, and was first to do so. He then explained the prophylactic measures which were carried out in Havana.

Dr. E. R. Carter of the Marine Hospital Service expressed the idea that if the disease was conveyed to an animal host, it was conveyed there by a parasite. He said the conveyance of the disease might occur in two ways by fomites: (1) directly to the person, and (2) through an infected atmosphere.

Dr. QUITMAN KOHNKE of New Orleans, after mentioning the fact that the Board of Health was doing all in its power to guard against the disease, said that still more strenuous efforts should be made to keep it from coming to New Orleans from infected ports. If the disease was conveyed by fomites as well as by mosquitos, it was logical to conclude that there was a greater danger than if it was conveyed alone by the stegomyia fasciata.

SECTION ON BACTERIOLOGY AND CHEMISTRY.

The Occurrence of Tubercle Bacilli of Exalted Virulence in Man.—The author of this paper, Dr. M. P. RAVENEL of Philadelphia, stated that the occurrence of tubercle bacilli in man which had a high degree of virulence for experimental animals was rare, if one judged by the published reports, and it was still more rare to find cultures which were highly pathogenic for cattle. So marked was the difference in pathogenic power of cultures isolated from man on the one hand, and from cattle on the other, that a division into races had been proposed depending on this feature; and Koch held that inoculation of a given culture into cattle would surely show whether it was of human or bovine origin. Believing that bovine tuberculosis was a fertile cause of the disease in milk-fed children, he had for some time past taken every opportunity possible of selecting cultures of tubercle bacilli from the mesenteric glands of those who had died of a tuberculosis which was not clearly of respiratory origin. This had led to the discovery of two cultures, one of which was as virulent for all animals on which it had been tested as cultures obtained from cattle usually were; and the other, while not nearly so virulent, was still much in advance of the usual human culture. The material from which these cultures were isolated was furnished through the kindness of Dr. Alfred Hand of Philadelphia.

Observations on the Morphology of Bacillus Diphtheriæ, Bacillus Pseudodiphtheriæ, and Bacillus Xerosis.—Dr. F. P. DENNY of Brookline, Mass., read this paper, which was based on the study of serial preparations made at intervals from the same cultures.

Bacillus Diphtheriæ.—In young cultures, up to eight or twelve hours, the development was characteristic of all bacilli, and consisted in elongation of the rods and fission. The bacilli would stain evenly. After this time fission ceased in most of the bacilli, and changes took place in the individual organisms. Granules developed; the rods became elongated, and might become filamentous; the protoplasm might break up into segments; true branching might occur, though very rarely, all of which were changes characteristic of the higher bacteria, and especially of the streptothrix. Certain variation in the conditions of growth might hasten or retard these changes. Thus variations in temperature and in the reaction of the media, also symbiosis might prolong the solid-staining stage, and make the diagnosis of fifteen-hour cultures difficult.

Bacillus Pseudodiphtheriæ.—This was like the young forms of bacillus diphtheriæ. It had no stage of development when it grew into long forms like the higher bacteria. On the contrary, the bacilli were even shorter in old than in young cultures.

Bacillus Xerosis.—Young forms were solid-staining, like young bacillus diphtheriæ. In older cultures the bacilli became elongated and the protoplasm would break up into segments; only rarely did granules appear in pure culture. In symbiosis with other bacteria granular forms might appear which resembled bacillus diphtheriæ.

The Use of Immune Serum in the Separation of Typhoid and Colon Bacilli.—Dr. ADOLPH GEHRMANN of Chicago read this paper. The difficulty in the separation of these species was due to the constant tendency of bacillus coli to overgrow bacillus typhosus. The search for specific retaining agents had not resulted in entire success. If an immune serum active for one or the other species could be used to restrain the growth of one, without disturbing the growth of the other, it would be an ideal method of procedure. He related previous experiments along this line. The serum of rabbits immunized against bacillus coli could be used for this purpose, and gave results that were positive by artificial mixtures of the two species. The method could be improved by using the blood of immune animals direct and by rapid cultivation in the incubator. For practical purposes this method was not as yet certain, and the establishment of a control was difficult. On material containing other species the restraining effect of carbolic acid did not disturb the purpose of the blood that was used. Some rather indefinite results on the isolation of typhoid from water had been reported.

An Examination of the Value of Certain Antiseptics Used for the Preservation of Antitoxin and Other Immune Serums.—In a paper on this subject, Dr. JOSEPH MCFARLAND of Philadelphia said this investigation had for its object the determination of the antiseptic and bactericidal values of chloretone, formaldehyde, chloroform, tricresol, and carbolic acid. It had long been believed that the addition of one-half per cent. of carbolic acid and 0.4 per cent. of tricresol, and 0.1 per cent. of formaldehyde would satisfactorily prevent the growth of microorganisms in the serums so prepared. As some of these reagents threw down a precipitate, the question arose whether the reagent itself was destroyed and too little remained to preserve properly the serum. The research was conducted by preparing the serums with the proper proportions of the germicides, then adding known numbers of bacteria and determining the diminution or increase. The results showed that, other things being equal, formaldehyde was preferable to phenol, but objectionable because it did not kill molds. Phenol was better than tricresol, and the recommendation was made that hereafter tricresol be given up as a preservative of the serum.

Formaldehyde.—Dr. H. W. HILL of Boston read this paper. His conclusions were that humidity was an important factor in formaldehyde disinfection. An amount of gas which failed to kill in six hours at 42 per cent. humidity, killed in twenty to forty minutes at 100 per cent. humidity. Considering the unavoidable leaks and absorption of gas by walls, etc., found in practice, practical disinfection required a rapid discharge of gas and high humidity. The best of the generators tested ran not more than 15 c.c. per minute, and the condensed effluent yielded in the first ten minutes only about a 30-per-cent. solution, hence generation by boiling in the ordinary way was too slow. Spraying was somewhat objectionable from the wetting down of the contents of the room. Atomization by steam current under 15 pounds pressure yielded from six to eight times as rapid a flow of full strength, with no polymerizing, and produced a high humidity.

The Diminishing Importance of Public Water Supplies, and the Consequent Significance of Other Factors in the Causation of Typhoid Fever.—This was a joint paper contributed by Professor W. T. SEDGWICK, and Mr. C. E. A. WINSLOW of Boston. The authors undertook to show: (1) That in the State of Massachusetts and in many of the larger cities of the United States the public water supplies were now unimportant as vehicles of typhoid fever. (2) That in cities having pure water supplies the annual curve of typhoid-fever mortality closely followed that of annual temperature. (3) That in urban communities supplied with pure water there still remained a typhoid-fever tax of from fifteen to twenty-five deaths per 100,000 population. (4) That this tax was due not to any peculiar conditions of soil, locality, or climate (endemic factors), but to incomplete disinfection of typhoid excreta with subsequent infection of various articles of food and drink. These factors, when acting upon a few or many persons at one time, might cause obvious epidemics, sometimes large, though generally small; but more often the infection in moving from one point to another followed different and obscure routes for different victims, and hence might be described as prosodemic. (5) That the only remedies for such prosodemic typhoid were absolutely thorough and universal cleanliness and disinfection of excreta.

Officers for the Ensuing Year.—*President*, Dr. Walter Wyman, Washington, D. C.; *First Vice-President*, Dr. C. P. Wilkinson, New Orleans, La.; *Second Vice-President*; Dr. John L. Leal, Paterson, N. J.; *Secretary*, Dr Charles O. Probst, Columbus, Ohio; *Treasurer*, Dr. Frank W. Wright, New Haven, Conn.

Officers of the Bacteriological and Chemical Section.—*Chairman*, Dr. H. L. Russell, Madison, Wis.; *Vice-Chairman*, Dr. V. A. Moore, Ithaca, N. Y.; *Secretary*, Mr. G. C. Whipple, Brooklyn, N. Y.; *Recorder*, Dr. Henry D. Pease, Albany, N. Y.

Place of meeting, Washington, D. C., 1903.

THE PRACTITIONERS' SOCIETY.

174th Regular Meeting, Held on Friday, Nov. 7, 1902.

Joseph D. Bryant, M.D., President, in the Chair.

An Unusual Cardiac Murmur.—Dr. Walter B. James presented a medical student, aged twenty-three years, who was born in Hungary and came to this country eight years ago. His family history was negative, and with the exception of an attack of smallpox in early childhood, the patient had always enjoyed good health. There was no history of rheumatism. About a year ago, while practising auscultation upon himself, he discovered that his own heart sounds were not normal.

An examination revealed a loud murmur, heard most distinctly in the second left intercostal space, near the middle line. The murmur was neither systolic nor diastolic, but continuous, with a systolic exacerbation. It was transmitted over the entire precordial area, and could also be heard posteriorly, on the left side of the third dorsal vertebra. The heart was considerably enlarged to the left, and a little to the right side. The general health of the patient was good, but during the past year he had had some palpitation and dyspnœa, and he stated that he tired easily and was not able to study as hard as formerly.

Dr. James said that a continuous murmur of this kind could not be explained by any lesion or lesions of the heart itself: The phenomena of the heart were intermittent and could not give rise to a continuous murmur; the difficulty must lie beyond the aortic valve, in some tube or structure in which blood was always under positive pressure. The most plausible explanation he had to offer was that there was an opening between the aorta and some other blood-containing cavity in which the blood was at a lower pressure than in the aorta. The peculiar murmur in this case probably had its origin in a patent ductus Botalli. In character the murmur was somewhat similar to one which he reported about a year ago in connection with a case of aneurysm of the transverse portion of the arch of the aorta which had perforated into the superior cava.

In reply to a question, Dr. James said that no cyanosis had been present in this case. Still, with a small lesion, cyanosis would not be likely to occur. In a case of patent ductus Botalli that has been recorded, with autopsy, the patient, a woman, lived until the age of sixty. In that instance the murmur was very similar to that heard in this case.

Dr. Francis P. Kinnicutt said that, in common with Dr. James, he could not conceive of any lesion of the heart itself that could give rise to a murmur of this kind. Nevertheless it should be borne in mind that hypertrophy of either ventricle was not usually present in cases of a patent ductus arteriosus, and in the present instance the left ventricle certainly was hypertrophied. Moreover, it seemed to him that the left radial pulse was perceptibly weaker than the right. A radiograph of the case might prove of interest.

Dr. James said that his experience with radiographs of conditions in the mediastinal region had not been successful enough to make him very enthusiastic as to their value.

Dr. Beverley Robinson thought that if the condition was congenital it would probably have been discovered before now. According to his experience, the mere locality of a heart murmur was not always indicative of the seat of the lesion. In this case there was probably a mitral regurgitation in connection with some abnormal blood condition which might account for the continuous character of the murmur. The explanation given by Dr. James was certainly very plausible, but such a congenital defect would probably have been discovered earlier in life.

Dr. George L. Peabody said that, from the rather cursory examination he had made, he was inclined to believe that Dr. James's explanation of the murmur was the most satisfactory that could be given.

Dr. Hermann M. Biggs said the murmur was very widely diffused. It could be heard posteriorly on both sides, and quite distinctly over the right axillary artery. It recalled a case which came under his observation a number of years ago: the patient was a young girl with a murmur very much like this one; it was loudest in the second intercostal space and was very widely diffused, as it could be heard distinctly at the top of the patient's head and over the entire abdominal cavity. There was a little cyanosis, but not much. The murmur was supposed to be due to a patent ductus Botalli. Dr. Biggs said he could not quite understand the hypertrophy which was present in the case shown by Dr. James. It did not seem probable that a small opening between the aorta and pulmonary artery would increase to such an extent the work of the left heart.

Dr. James said that, according to all the best authorities, this hypertrophy of the left heart regularly occurred in these cases. The condition was sometimes associated with other congenital deformities, among them a narrowing of the aorta, which was given as an explanation of the cardiac hypertrophy.

The Systemic Character of Gonorrhœa: Illustrated by Five Cases of Iridochoroiditis.—Dr. Charles Stedman Bull read this paper (see page 961.)

Dr. V. P. Gibney said he rarely met with a case of typical gonorrhœal arthritis, and he could not recall such a case in recent years in which the eye symptoms were at all marked.

Dr. Biggs said he had never been able to convince himself that the salicylates were of any special value in the treatment of gonorrhœal arthritis. This affection was usually very obstinate to deal with.

Dr. Bull said the salicylates, in the cases he had reported, were not given for the arthritis, but for the iridochoroiditis, and upon the latter condition they seemed to exert a very beneficial effect. In ordinary acute iridochoroiditis of non-gonorrhœal origin the salicylates, apparently, did no good; in such cases, the iodides gave better results.

Dr. Peabody said that as the cases of iridochoroiditis reported by Dr. Bull manifested not only the urethral symptoms, but also the joint symptoms, it was quite reasonable to suppose that the gonorrhœal infection was systemic in character, and that the eye lesions could properly be ascribed to that source. In the treatment of gonorrhœal arthritis, the speaker said, he had practically seen no benefit result from the use of either the salicylates or the iodides: of the two, the former were a little more efficient.

Dr. Robert Abbe said he had seen one of the cases reported by Dr. Bull, and he could fully corroborate what had been said regarding the beneficial effects of the treatment. The eye symptoms, which were very severe, came on with great suddenness. The patient complained of great pain, and the sight was entirely lost for days together in each attack, and it seemed as though it must be permanently so. Before Dr. Bull saw the patient, ice applications were made to the eyes with very little effect. Hot applications—as hot as could be borne—were substituted by Dr. Bull, and these proved very grateful to the patient, and had a pronounced beneficial effect. Under the frequent doses of sodium salicylate a markedly beneficial effect occurred upon the eyes, while the arthritis, which existed at the same time, was apparently unaffected by the drug. The joint symptoms were best relieved by cold applications and plaster-of-paris splints.

Another point of interest in connection with the case referred to was that when the eye and joint symptoms developed the patient did not have a urethral discharge, but he had a very bad balanoposthitis. There was a free purulent discharge from underneath the foreskin and the head of the penis was covered by a serpiginous marking. On repeated search no gonococci were found in this secretion, nor were they ever found in the scanty secretion which could be expressed from the deeper urethra. Still, the gonococci were presumably the cause of the trouble. The patient gave a history of having had a urethral inflammation some months before. He made an entire recovery from his eye and joint trouble. Subsequently, while in Europe, he had another attack of iridochoroiditis, from which he also made a complete recovery.

Dr. Robinson said he had seen gonorrhœal arthritis in hospital practice, but never accompanied by inflammation of the eyes. In cases in which the salicylate of sodium is badly tolerated by the stomach, the speaker suggested that the salicylate of ammonium be substituted. The latter salt produced practically the same constitutional symptoms as the former, and was usually much better borne by the stomach.

Dr. Kinnicutt said it was interesting to learn that the salicylates proved so beneficial in the treatment of iridochoroiditis of gonorrhœal origin, whereas the joint symptoms were certainly very rebellious—if they yielded at all—to the salicylates. In his own experience, gonorrhœal arthritis was most benefited by immobilizing the affected joint and curing the urethritis. It was rather curious that the salicylates were beneficial in one affection of gonorrhœal origin, and were apparently of no value in another. Dr. Kinnicutt said he had seen one of the cases reported by Dr. Bull and at least two others in which an iridochoroiditis, together with an arthritis, occurred during the course of a specific urethritis.

Dr. Bull said that a gonorrhœal conjunctivitis could be transmitted by the hands, but not an iridochoroiditis.

Dr. James, after referring to the unusually large number of cases of gonorrhœal iridochoroiditis observed by Dr. Bull, said he thought it was quite possible that the local applications were the most potent factor in the improvement in the eye symptoms. It seemed very unlikely that any constitutional remedy could produce such marked results in one organ and not in another. The speaker said he had always found the treatment of gonorrhœal arthritis very unsatisfactory.

Dr. Bull said that four of his patients, while under his care for the eye symptoms, were having their urethritis treated locally at the same time. The speaker said he had never seen a case of gonorrhœal iridochoroiditis in which there was not a history of a preceding arthritis, and so far as he knew, there was no such case on record. A purulent conjunctivitis without gonococci was not an uncommon complication of gonorrhœa, and while the eye symptoms were apparently very severe, the patients got well without the disastrous results that almost invariably followed a true gonorrhœal conjunctivitis. Dr. Bull said he had no explanation to offer for the fact that the salicylates were apparently of no benefit in the treatment of gonorrhœal arthritis. In the cases he reported, the drug was given not for the arthritis, but for the iridochoroiditis, and experience had certainly proved its value in this condition. In iridochoroiditis of gonorrhœal origin there was invariably complete recovery with normal function of the eye, in spite of the apparently intense intraocular inflammation; this was not the case in rheumatic iridochoroiditis.

A Case of Angina Pectoris, with Autopsy.—Dr. Beverley Robinson reported this case (see page 964.)

Dr. Kinnicutt said that it was generally admitted that true angina pectoris, in the great majority of cases, was associated with disease of the coronary arteries and of the myocardium. In endeavoring, however, to explain the relation of the arterial and myocardial changes to the symptoms of angina we were met with innumerable theories, none of which was entirely satisfactory. A very good résumé of these theories was contained in Osler's monograph on "Angina Pectoris and Allied States."

Dr. Peabody said that all we could assert in regard to the general subject of angina pectoris was that the attacks were due to a temporary deprivation of the muscular structures of the heart of blood. They might be accompanied by or caused by arteriosclerosis or by arterial spasm, due to a disturbance of the nervous mechanism, and at the same time there was an irritation of the cardiac sensitive fibers and the pain started there. Dr. Peabody said it had been shown, and he had seen at autopsy, that extensive lesions of the coronary arteries might exist in some cases of angina pectoris; in others and even fatal cases the lesions were trifling—certainly no greater than those frequently found in persons past middle life who had never suffered from angina at all. In cases of artificial spasm, a condition of cardiac muscular ischæmia was produced. In some cases of angina pectoris, the cause was no doubt toxic in character, and the speaker said he had seen instances in which gout or the abuse of tobacco was undoubtedly the causative factors.

Dr. Peabody said it was interesting to note the character of the pulse during attacks of angina. In some cases it was rapid, in others slow; in some hard and bounding, in others weak. The most difficult cases he had had to treat were those in which the pulse was of low tension; that is, the old cases. He also saw cases of angina pectoris which were of peripheral origin, and some were hysterical. Those of peripheral origin were sometimes excited by very slight irritation of the left arm or the corresponding side of the chest. The speaker knew of one case in which driving with the left hand would excite an attack, and cases had occurred where even the force of the wind blowing against the chest would cause an attack of pain starting from the heart and extending down the arm. Dr. Peabody said he thought it was hardly necessary to ascribe the acute mania in Dr. Robinson's case to uræmia, as it was met with in various cardiac conditions.

Dr. Biggs mentioned a case of angina pectoris in a woman of forty in which the attack had persisted continuously for thirty-six hours when he first saw her. Its true character had not been recognized. She had a rather low tension pulse. He prescribed nitroglycerin in rapidly-increasing doses until she was taking one-fifteenth of a grain every hour, and in the course of a few hours her pain entirely disappeared. The drug was then discontinued, and within six hours her pain recurred with great severity, but it again rapidly disappeared under the administration of nitroglycerin. Another striking instance in which arterial spasm was relieved by large doses of nitroglycerin came under Dr. Biggs's observation two or three days ago. The patient was a man, fifty-three years old, whom he had seen in consultation with Dr. Stewart. There was gangrene of the left foot, extending up on its dorsal surface, and coldness and blueness to the middle of the left, and the right foot was cold and deeply cyanosed to a point well above the ankle. No pulsation could be felt in either femoral artery or the right axillary, trachial, or radial. The left radial pulse was very feeble. The man was in a stuporous condition, almost moribund. He was given nitroglycerin, the dose being rapidly increased up to one twelfth and then occasionally to one-sixth every hour, so that he took two grains or more in the course of twenty-four hours. At the end of four days an almost marvelous change had taken place in his condition. The circulation in the right leg was re-established, and in the opposite limb it was re-established down to the line of gangrene. He was clear mentally, was eating well, and in greatly improved condition. In some cases, Dr. Biggs said, small doses of nitroglycerin prove entirely effective, while in others, very large doses must be given. The question of dosage was solely a question of effect, whether we gave one-hundredth of a grain or one-fifth. Some years ago Dr. Peabody called attention to the enormous doses of this drug that could sometimes be tolerated.

Dr. Peabody said he never hesitated to administer morphine subcutaneously to patients who were suffering from chronic nephritis if the drug was indicated.

Dr. M. Allen Starr said that a patient who was suffering from mania should never be given morphine. The drug always increased the mania until such a large dose was given that it practically overcame and was dangerous to the patient.

Dr. Robinson said that in certain cases of nephritis, if the blood pressure was low and the pupils were normal or somewhat dilated, morphine might exert a more or less tonic effect upon a weakened, dilated heart, and under such conditions he did not hesitate to resort to it, when necessary. In those cases of either acute or chronic nephritis, however, in which indications of uræmia were present, when the heart was weak, irregular, or failing, when there was a low tension pulse and the pupils were contracted, morphine should not be given, unless in most exceptional cases, and then only in small, carefully-guarded doses.

The Treatment of Gastric Ulcer with Olive Oil.—Karl Walko describes excellent results attained in the treatment of this disorder by the administration of large amounts (3 to 9 ounces daily) of olive oil. This substance answers the requirements of the condition to an unusual degree, since it is a nutrient of great value, which taxes the stomach but slightly and for a very short time, while it also has a potent effect in modifying the composition of the gastric juice and in correcting constipation. Its value is increased by its unirritating nature, its ease of absorption, and the facts that it neither impedes the motor function, nor is subject to bacterial decomposition even in cases of marked dilatation. A further advantage is the inhibiting effect which fats exert on the secretion of hydrochloric acid, a property exhibited by olive oil to a very marked degree. By forming a pellicle over the ulcerated area it protects it and prevents contact with the irritating gastric secretions. It is also the softest form of nourishment after gastric hemorrhage, as it is much less apt to dislodge the clot than other foods, *e. g.* milk. The author's plan is to start giving the oil in doses of a tablespoonful, which are gradually increased to about two ounces. The mouth is rinsed with some pleasantly-flavored solution after each dose, and usually no disgust is excited. This is continued, with or without rectal feeding, to the exclusion of all other food, till the severer symptoms have subsided, a period usually of from three to six days. The addition of large doses of bismuth seems to assist the action of the oil, though the number of cases in which the combination was tried is still too small to permit generalizations. The results in all instances, of both acute and chronic ulcer, were excellent, and the action of the oil is especially characterized by its promptness of effect. On an average, the symptoms subsided within the first week, and the oil, combined with other suitable articles of diet, was kept up for a week longer. Carbohydrates can be very advantageously combined with the oil, as its presence is no hindrance to their digestion.
—*Centralblatt für Innere Medicin.*

Book Reviews.

Manual of Gynecology. By Henry T. Byford, M.D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago; Professor of Gynecology in the Post-Graduate Medical School of Chicago and in the Chicago Clinical School. Third revised Edition containing 363 illustrations. Philadelphia: P. Blakiston's Son & Co. 1902.

This work of 598 pages is intended primarily for the student, and is provided with marginal notes and cross references, so as to facilitate the looking up of any special topic. With the same end in view, the author has endeavored to separate the essential from the less important details by the use of small type for the latter. In the present edition the anatomy, physiology, and gynecological diagnosis and treatment have been put in the introduction, and the functional disorders at the end, or after the consideration of the diseases of which they are the symptoms. The book should prove useful to the general practitioner who makes only occasional excursions into the field of gynecology.

The Medical Record Visiting List, or Physicians' Diary for 1903. New Revised Edition. New York: William Wood & Company, 1903.

This little volume has been appearing for many years, but the reading matter of the present edition has been completely revised. Careful revision has been made of the table of average doses, all the newer drugs having been included. An obstetric chart has been added. There are various important tables, such as solutions for subcutaneous injection, emergencies, signs of death, etc. The paper, printing, and binding are all very attractive, and contribute to make this one of the most convenient of the annual visiting lists in the market.

Diseases of Infancy and Childhood. By Henry Koplik, M.D., Attending Physician to the Mount Sinai Hospital. Illustrated. New York and Philadelphia: Lea Brothers & Co., 1902.

It is impossible to take up in review all the diseases spoken of, so we will confine our criticisms to a few. The first chapter describes the ordinary method of examining infants, and ends with infant feeding. Koplik does not lay sufficient stress on the details necessary for the accurate understanding of infant feeding. This is very important for a book intended for the instruction of students and beginners in medicine. Every author must excel in some particular part. Koplik's description of the infectious diseases is certainly excellent. The association of his name with the diagnosis of measles has given him world-wide fame. Chapters VI and VII describe the diseases of the respiratory tract. The diseases of the heart and pericardium are minutely and carefully given. The author has undoubtedly weeded out the unnecessaries. The chapter on "The Nervous System and Kidneys" deserves special mention. The clinical pictures and plates in color are clearly and carefully drawn. It may be said that this book fulfils the purpose which the author had in its preparation. The dress of the book and its paper are excellent.

The International Textbook of Surgery. By American and British Authors. Edited by J. Collins Warren, M.D., L.L.D., Hon. F.R.C.S., English Professor of Surgery in Harvard Medical School, etc., and A. Pearce Gould, M.S., F.R.C.S., Surgeon to Middlesex Hospital, etc. Second Edition. Thoroughly Revised, with 461 illustrations and nine full-page plates. Vol. I, General and Operative Surgery; and with 499 illustrations and eight full-page plates. Vol. II, Regional Surgery. Philadelphia and London: W. B. Saunders & Co., 1902.

In order to keep abreast of present-day requirements, it has been found necessary to issue a new edition of the present work, and this fact alone serves to emphasize the rapidly changing and the—let us hope—advancing character of surgical science. The division of subjects in this edition is the same as in the first, but there has been extensive revision all through both volumes, and a number of new chapters have been added.

Volume I contains twenty-eight chapters, each written by a man who has devoted special attention to the particular subject, and the average excellence is very high. We commented before on the advantages of the system on which a work of this kind is produced, and the fact is made more plain in this edition. Some of the more important chapters, if we may single them out, are Chapter IV on the Surgical Pathology of the Blood, Chapter IX on the Technic of Aseptic Surgery, Chapter XVIII on Dislocations of the Hip, Chapter XXIV on Cranial Surgery, and Chapter XXVIII on the Surgery of the Lymphatic System.

Volume II is much like the corresponding volume in the former edition, and changes are chiefly in the nature of additions made necessary by surgical advances. The volume is really a cyclopedia of surgical practice, and has many advantages over the work of a single writer who attempts to cover the whole field of surgery. Such efforts are bound to be defective in some departments. Revision of this volume has been very thorough. Some of the more important chapters are Chapter VI, devoted to Thoracic Surgery; Chapter VII, on Surgery of the Breast; Chapter VIII, on Abdominal Operative Technic; Chapter XIII, on the Surgery of the Appendix; Chapter XVIII, on the Surgery of the Ureters; Chapters XXX and XXXI, on Military and Naval Surgery, and Chapter XXXIII, on Tropical Diseases Which Require Surgical Treatment, a subject which has recently assumed great importance for Americans on account of our new tropical dependencies. Both volumes are extensively and excellently illustrated, and the colored plates are the equals of any we have seen. The two volumes together form an exceedingly satisfactory cyclopedia of surgical information, and reflect credit upon the gentlemen who have edited and those who have written the chapters.

The Medical News Visiting List for 1903. Thirty Patients per week. Philadelphia and New York: Lea Brothers & Co., 1902.

In this handy little volume are 159 blank pages for records of various kinds. After the section devoted to ordinary calls, follow pages for general memoranda, obstetric engagements and practice, vaccinations, death register, addresses of patients, and cash account. There are besides, directions for keeping accounts, notes on dentition, comparative scale of weights and measures, rules for the examination of urine, tables of incompatibles, of poisons and their antidotes, a dose list, and various other items of interest.

The table of doses has unfortunately been quite carelessly prepared, and might lead one using the decimal system seriously astray, did he unthinkingly allow himself to be guided by it. For example, the decimal equivalent of 2 grains or minims is given variously as 0.1, 0.13, 0.12, and 0.15; that of 5 grains or minims runs all the way from 0.03 through 0.032, 0.3, 0.31, 0.32, 0.33, 0.35, up to 1.0—that is to say, retranslated into apothecaries' weights, from one-half a grain to fifteen grains, a rather dangerous difference if the drug happened to be morphine. In the same way, one drachm is given as the equivalent of one gram and of four grams; two fluid drachms as equal to two, four, and eight cubic centimeters, and half an ounce as six, sixteen, and thirty-two grams. The maximum dose of narceine is given as 0.3 gm., which is about ten times greater than the authorized maximum. The other less important tables seem to be accurate enough.

The Practical Medicine Series of Year Books. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. XI. General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Medicine of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. Chicago: The Year Book Publishers, October, 1902.

This series is becoming better known as time passes, and bids fair to become very popular. The present volume deals entirely with some portions of internal medicine, and lays special stress upon tuberculosis, pleurisy and pneumonia, bronchitis, diseases of the pericardium, and the heart, fevers, rheumatism, kidney and blood diseases. Also gout, obesity, vessel diseases, Hodgkin's disease, meningitis, myxœdema, exophthalmic goiter, Addison's disease, osteomalacia, caisson disease, etc., are treated to a less extent. The articles from the journals of the past year have been carefully selected and condensed, and the apportioning of space has been just. Therapeutic hints have also been abundantly reproduced, as well as the more purely scientific articles on etiology, pathology, and diagnosis.

Diet and Food Considered in Relation to Strength and Power of Endurance, Training, and Athletics. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women. Author of "Uric Acid as a Factor in the Causation of Disease." Fourth Edition. With seven illustrations. Philadelphia: P. Blakiston's Son & Co., 1902.

The author again makes a plea for the adoption of his theories concerning uric acid, its effects and their treatment. He deals with the physiology and pathology of fatigue, and outlines a dietary such as to reduce the disturbances which are engendered by exertion, and its consequent accumulation of waste products. He espouses the claim of the vegetarians that their methods are superior to those in general use in the prosperous portions of the globe where meat is eaten freely; although he advises, as still better, the diet which he has for years prescribed. There are many valuable hints in the book, although the profession, as a rule, will consider the author's views to be those of an enthusiast.

How Can I Cure My Catarrh? By J. R. Tillinghast, Jr., M.D., Formerly Assistant Attending Physician, Roosevelt Hospital, Out-Patient Department. New York: The Contemporary Publishing Co., 1902.

The title of this little book borders so closely on the sensational that a medical man looking at it would probably be prejudiced against the work at the beginning. This is unfortunate, for Dr. Tillinghast's treatment of his theme is dignified, rational, and thoroughly professional. The book is written for the laity, and it is full of sound instruction and practical advice, but the author carefully avoids giving prescriptions or recommending drugs. Although written for non-medical persons, and in a popular style, there is nevertheless much in this little treatise that many physicians might read with profit to themselves and to their patients.

A Textbook of Pathology and Pathological Anatomy. By Dr. Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition. By A. E. Thayer, M.D., Instructor in Pathology in the Cornell University Medical College, New York. Edited with Additions by James Ewing, M.D., Professor of Pathology in the Cornell University Medical College, New York. Illustrated with 351 engravings, including 35 Colored Inset Plates. Philadelphia and New York: Lea Brothers & Co., 1902.

The work before us is an unusual one, since it is so unlike most pathological treatises of German origin in being concise and eminently practical. It is particularly adapted to undergraduate students who need instruction concerning the principles of pathology and for whom a more discursive work would serve merely as a means of confusion. In the first part on general pathology, the disorders of circulation, regressive and progressive processes, congenital anomalies and deformities, parasites, and general diseases from disturbed functions, are all well described; and we believe that the simple and interesting manner in which the facts are brought out will serve to make them fast in the minds of the reader. Many of the unusual words are carefully defined, and the philosophy of the science is at the same time brought to the front in such a way as to give a sound, broad idea of the changes to be studied in diseased tissues. The second half deals with special pathology; circulatory apparatus, spleen, lymphatics, marrow, respiratory organs, digestive and urinary organs, the nervous system, organs of locomotion, genital organs, and the skin, are all fully described. The work as a whole is beautifully illustrated, containing not only the German plates, but also some added ones, and are particularly adapted to bring out the points in the text. The printing and binding are also of the highest excellence. If one wishes a concise, interesting, and instructive work on pathology, there is no doubt that this volume will give ample satisfaction.

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By James Tyson, Professor of Medicine in the University of Pennsylvania, and Physician to the Hospital of the University; Physician to the Philadelphia Hospital; Fellow of the College of Physicians of Philadelphia. Tenth Edition. Revised and Corrected. With a Colored Plate and Wood Engravings. Philadelphia: P. Blakiston's Son & Co., 1902.

In the preface the author states that over 25,000 copies of this work have been published, and with justice ascribes the success to inherent merit. There have been added many new paragraphs, while the old text has been corrected, supplemented, or in part omitted. The practical character of the book has been maintained, and it will be found to contain all the ordinary information which the clinician would find useful.

The Practice of Surgery. A Treatise on Surgery, for the Use of Practitioners and Students. By Henry R. Wharton, M.D., Clinical Professor of Surgery, Woman's Medical College of Pennsylvania, etc., and B. Farquhar Curtis, M.D., Professor of Clinical Surgery and Adjunct Professor of the Principles of Surgery in the University and Bellevue Medical College of New York, etc. Profusely Illustrated. Third Edition. Philadelphia and London: J. B. Lippincott Company, 1902.

The third edition of this work now before us adds another to the large number of similar works already in existence. The rapid issue of new editions of such books certainly indicates an extraordinary demand, or great advances in surgery, demanding revisions in order to include new matter. We believe that this volume has already become popular with the class for whom it is intended, and we ar pleased to say that the present edition is likely to increase this popularity. There has been a certain amount of rewriting, and the introduction of new material, but these changes are inconsiderable. The illustrations are practically the same as heretofore, and, while they serve their purpose, we may say that we have seen better. Whatever place the book has made for itself will be rendered more secure by the edition now offered.

A TEXTBOOK OF HISTOLOGY AND MICROSCOPIC ANATOMY OF THE HUMAN BODY, INCLUDING MICROSCOPIC TECHNIQUE. By Dr. LADISLAUS SZYMONOWICZ, a.ö. Professor of Histology and Embryology in the University of Lemberg. Translated and Edited by JOHN BRUCE MACCALLUM, M.D., Johns Hopkins University, Baltimore. Illustrated with 277 Engravings, Including 57 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1902

IN this translation from the German edition we have not only a faithful reproduction of the original, but also some valuable additions, chiefly noticeable in the numerous engravings. These are particularly well done and instructive, while the use of key-plates to facilitate the interpretations of the colored illustrations is to be especially commended. In Part I the microscopic anatomy of cells and tissues is well handled, while the bulk of the volume in Part II treats of the histology of the organs. The concluding portion of the work gives brief and practical advice concerning the microscope, the preparation of specimens, formulæ for stains, and general directions for special microscopic technique. The book as a whole is eminently satisfactory and well adapted for teaching purposes, the text is accurate and modern, the illustrations are extremely beautiful, well selected and numerous, thus making a volume which gives positive pleasure in the handling.

A COMPEND OF HUMAN PHYSIOLOGY. Especially Adapted for the Use of Medical Students. By ALBERT P. BRUBAKER, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Anatomy and Physiology in the Drexel Institute of Art, Science, and Industry; Fellow of the College of Physicians of Philadelphia. Eleventh Edition. Revised and Enlarged. With Illustrations and a Table of Physiological Constants. Philadelphia: P. Blakiston's Son & Co., 1902.

THIS little book presents the essentials of human physiology in a clear, concise manner, such as is sure to be appreciated by the student who has limited time at his disposal. The text is well divided, so that the student can readily convert the headings into questions for use in self-examination. There have been a few alterations and additions to the subject matter in the present edition, and the work can be considered thoroughly modern.

CLINICAL METHODS. By ROBERT HUTCHISON, M.D., M.R.C.P., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street; and Harry Rainy, M.A., F.R.C.P.Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. Fifth Edition. Chicago: W. T. Keener & Co., 1902.

THE popularity of this manual is evidenced by the demand for five editions in five years, and it is certainly well deserved. Many changes have been made in this new edition, the chief being in the chapters on the clinical examination of the blood, the nervous system, and clinical bacteriology. These have been largely rewritten and brought up to date. The methods advised for blood and bacteriological examinations are those which unite simplicity with reliability, the needs of the clinician being ever kept in mind. The descriptions are clear and concise, yet lack no essential details—indeed, one of the charms of the book is the scattering here and there of choice bits of practical information, the value of which can only be fully appreciated by those who have had to acquire this knowledge without the help of such a guide. The usefulness of the text is enhanced by the insertion of 150 illustrations and 8 colored plates, and the handy size of the volume specially commends it to the busy practitioner.

THE TREATMENT OF FRACTURES. By CHARLES L. SCUDDER, M.D., Assistant in Clinical and Operative Surgery, Harvard University Medical School, etc. Third edition, thoroughly revised, with 645 illustrations. Philadelphia and London: W. B Saunders & Co., 1902.

THIS excellent work on an important subject shows few changes in its latest edition, those changes which appear in this volume relating chiefly to the department of military and gunshot surgery of the bones. The reports of English surgeons in the South-African war offer many experiences with fractures from modern high power, small-caliber projectiles, and these form the basis of discussion in this volume. The illustrations are numerous and well executed, and those which are antiquated do not appear. The chapters devoted to the injuries of the skull and vertebræ might be singled out as being specially satisfactory. Although the work is upon treatment, the occurrence, frequency, and causation of the various kinds of fractures are sufficiently dilated upon to give a comprehensive résumé of the whole subject. This edition will, without doubt, be as favorably received as its predecessors.

DISEASES OF THE STOMACH. By J. C. HEMMETER, M.D., Professor in the Medical Department of the University of Maryland. Third enlarged and revised edition. Philadelphia: P. Blakiston's Son & Co., 1902.

THE excellent book of Hemmeter's on diseases of the stomach is now before us in its third edition. It is only about two years after the publication of the second edition. This shows the popularity of the work. The present issue contains a chapter, "Stomach Diseases Caused by Infectious Granulomata," discussing at length tuberculosis and syphilis of the stomach. With regard to diet in hyperacidity, Hemmeter adheres to a largely vegetarian diet. He has become convinced that proteids, such as beef, eggs, fish, etc., cause a stronger secretion of HCl than amylaceous foods, such as rice, farina, sago, cerealin. When the glandular layer is in a state of increased excitation it is logical to avoid proteid and albuminous food as much as possible. Hemmeter does not, however, take fully the standpoint of the vegetarian, for he allows a small quantity of easily digestible meat for dinner, and advises about 1½ liters of milk, if it agrees well. Like the former editions of this work, the present issue will be found of great usefulness to the practitioner.

LECTURES ON CHEMICAL PATHOLOGY IN ITS RELATION TO PRACTICAL MEDICINE, Delivered at the University and Bellevue Hospital Medical School, New York City, by C. A. HERTER, M.D. Philadelphia: Lea Brothers & Co., 1902.

A BRIEF review seems inadequate to place before the reader a clear idea of the nature of this valuable book. The mere enumeration of the topics touched upon, or more fully elaborated by the author, cannot convey the breadth of view and philosophical treatment of the material he has gathered for the delight and instruction of his readers. Only those who study the work can appreciate these qualities. The reviewer can only hope that his brief sketch of its contents will stimulate others to read what has given him such pleasure.

The work is divided into thirteen chapters. Of these, the first treats of the chemical defences of the organism against disease. The next two chapters deal with the three great classes of food-stuffs, carbohydrates, fats, and proteids, recalling what is known of their normal digestion, absorption, and fate in the body, and of the modifications in these processes met with in disease. The fourth and fifth chapters consider what is known respecting the value to the organism of water and the inorganic salts, iron, alcohol, organic acids, tea and coffee. Following these are chapters upon excessive fermentation and putrefaction in the digestive tract; the chemical pathology of gastric digestion of intestinal digestion, of hepatic disease, of diabetes and of starvation, undernutrition, and obesity.

An impression that the work was essentially one on a special and restricted part of chemistry, would be distinctly erroneous. It should, more properly, be classed as a study in general pathology, with a very proper emphasis upon the chemical aspects of the physiological and morbid processes dealt with. The bearing of the principles elucidated upon the practice of medicine is constantly in the mind of the author, and is lucidly set forth in these pages. These principles, as here presented, do not demand a profound knowledge of chemistry on the part of the reader. Considering its subject-matter, the work is singularly free of technicalities.

In works on pathology of recent years, so much attention has been given to morphological changes in disease, that it is a pleasure to welcome a book which so clearly treats of disease from the functional or physiological standpoint. This point of view is destined to advance medical practice in the future, and we commend this work for this reason, as well as for the large array of facts and suggestions for treatment which it contains. A very useful bibliography, with a statement of the scope and value of each reference, is appended to the chapters, and cannot fail to be most welcome to the reader seeking more detailed knowledge than could be compressed into so small and readable a volume as the one before us.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 13, 1902:

	Cases.	Deaths.
Measles	163	4
Diphtheria and croup	404	54
Scarlet fever	153	13
Smallpox	7	..
Varicella	107	..
Tuberculosis	218	129
Typhoid fever	81	16
Cerebrospinal meningitis	..	3

A New Method for Spinal Anæsthesia.—Kozlowski describes a modification of the technique of spinal cocainization, which he says robs it of all its disagreeable by-effects. Of the substitutes for cocaine that have been suggested tropacocaine gives the best results, but even this occasionally produces post-operative vomiting and headache. Inasmuch as this is the least irritating drug at our command the author endeavored to make the solution more acceptable to the meninges by modifying the solvent. This he has accomplished by dissolving the anæsthetic in the patient's own cerebrospinal fluid. His technique is as follows: The desired quantity, usually 0.05 g., of powdered tropacocaine is placed in a small graduated glass dish which has been sterilized and warmed. The needle is then inserted into the spinal canal and the cerebrospinal fluid allowed to drop into the dish. The dish is slightly shaken, which causes the powder to dissolve very readily, and as 5 grams of fluid are allowed to emerge a one-per-cent. solution is formed without the addition of any water. This is then immediately drawn up into the syringe and injected. The tropacocaine is taken from the original bottle and handled with aseptic precautions, but no sterilization of the powder is necessary. The author has performed thirty-two cases of anæsthesia in this way without the occurrence of any untoward sequels and strongly urges further investigation of the method.—*Centralblatt fur Chirurgie.*

Pathogenic Varieties of Bacillus Coli in Ice Creams.—E. Klein has isolated from certain samples of ice cream a variety of the B. coli communis, whose culture, on inoculation of minute doses into rodents, caused general hemorrhagic septicæmia, including acute gastroenteritis and peritonitis, and death within twenty-four to forty-eight hours. The microbe belongs unquestionably to the coli group. It is more motile in the hanging drop than the B. coli communis, although it possesses only one to five flagella. Like B. coli it ferments glucose and lactose, it curdles milk, produces acid and doubtful or slight indol(?). In broth culture it gives positive results in neutral red test. On potato it forms a colorless thin film. All the samples taken from different shops, but supplied by the same maker, proved to be of the same poisonous nature, and this character persisted until the maker abandoned the highly insanitary conditions prevailing on his premises, and complied with the suggestions and requirements of the medical officer. As soon as the change took place the ice cream became harmless.—*Medical Press and Circular.*

The Microbiology of the Normal Conjunctiva.—Felix Rymovitch examined the normal conjunctiva of one hundred persons with the following results: The pseudodiphtheritic bacillus was found in ninety-four, the pneumococcus in nine, the streptococcus pyogenes in five, the diplo-bacillus Morax-Axenfeld in six, the staphyloccus pyogenes aureus in six, the staphylococcus pyogenes albus in eight, and the staphylococcus albus non liquef. in seventy-nine. The relative frequence of pathogenic microbes on the normal conjunctiva renders the supposition probably that many of the sporadic cases of infectious conjunctivitis are the result of autoinfection.—*Russki Arkhiv Patologii*, etc.

The Basis for the Use of Alcohol in Therapeutics.—A. R. Cushing expresses the view that alcohol deserves a place in therapeutics as a narcotic, and to a less extent as a stomachic, and in certain conditions as a food. He would not disguise the fact that it has drawbacks, like every other drug, but would plead that we must not allow ourselves to be guided entirely by consideration of any one of its properties, but must estimate in each case whether the sum total of its effects, good and evil, will benefit the condition.—*Quarterly Journal of Inebriety.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending December 13, 1902:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Fresno	Nov. 1–30	2	..
Colorado, Denver	Nov. 22–29	1	..
Florida, Jacksonville	Nov. 22–Dec. 6	3	..
Pensacola	Nov. 22–Dec. 6	5	..
Georgia, Atlanta	Nov. 27–Dec. 3	1	..
Illinois, Chicago	Nov. 29–Dec. 6	1	.
Evanston	Oct. 1–31	25	..
"	Nov. 1–30	40	..
Indiana, Evansville	Nov. 29–Dec. 6	1	..
Hammond	Nov. 23–30	34	..
Indianapolis	Nov. 29–Dec. 6	8	1
Muncie	Nov. 1–30	2	..
Iowa, Ottumwa	Nov. 1–22	22	..
Kansas, Wichita	Nov. 15–29	2	..
Maine, Biddeford	Nov. 29–Dec. 6	11	
Massachusetts, Boston	Nov. 29–Dec. 6	23	7
Chicopee	Nov. 29–Dec. 6	1	.
Everett	Nov. 29–Dec. 6	2	..
Lawrence	Nov. 29–Dec. 6	1	..
Taunton	Nov. 29–Dec. 6	1	..
Michigan, Grand Rapids	Nov. 29–Dec 6	5	.
Missouri, St. Joseph	Nov. 29–Dec. 6	1	.
Nebraska, Omaha	Sept. 1–Dec. 6	9	..
New Hampshire, Nashua	Nov. 29–Dec. 6	21	.
New Jersey, Jersey City	Nov. 30–Dec. 7	1	
New York, Binghampton	Nov. 29–Dec. 6	1	.
Buffalo	Nov. 29–Dec. 6	2	.
New York	Nov. 29–Dec. 6	1	
North Carolina, Charlotte	Nov. 1–30	89	13
Ohio, Cincinnati	Nov. 28–Dec. 5	3	..
Cleveland	Nov. 29–Dec. 6	11	1
Toledo	Nov. 22–Dec. 6	0	..
Warren	Nov. 29–Dec. 6	1	..
Zanesville	Nov. 1–30	2	..
Pennsylvania, Altoona	Nov. 29–Dec. 6	3	..
Erie	Nov. 29–Dec. 6	2	..
McKeesport	Nov. 29–Dec. 6	1	1
Philadelphia	Nov. 29–Dec. 6	6	1
Pittsburg	Nov. 29–Dec. 6	36	6
South Carolina, Charleston	Nov. 29–Dec. 6	2	..
Tennessee, Chattanooga	Nov. 1–30	..	1
Texas, San Antonio	Nov. 1–30	1	.
Utah, Salt Lake City	Nov. 22–Dec 6	3	Imported.
Wisconsin, Green Bay	Nov. 30–Dec. 7	1	..
Milwaukee	Nov. 29–Dec. 6	4	..

SMALLPOX—FOREIGN.

Austria, Prague	Nov. 8–22	38	..
Belgium, Antwerp	Nov. 8–22	4	1
France, Marseilles	Oct. 1–31	..	25
Paris	Nov. 15–22	..	1
Rheims	Nov. 17–23	1	1
Gibraltar,	Nov. 2–16	3	..
Greece, Athens	Nov. 15–22	1	..
Great Britain, Bradford	Nov. 1–15	6	
Dundee	Nov. 15–22	3	.
Leeds	Nov. 15–22	17	1
Liverpool	Nov. 15–29	58	1
London	Nov. 8–22	8	..
India, Bombay	Nov. 4–11	4	4
Italy, Palermo	Nov. 8–15	3	..
Mexico, Nogales	Nov. 8–29	15	..
Russia, Moscow	Nov. 1–8	3	..
Odessa	Nov. 8–15	4	.
Rifa	Sept. 1–30	..	16
St. Petersburg	Nov. 1–15	10	2
Warsaw	Oct. 25 –Nov. 1	..	2

YELLOW FEVER.

Costa Rica, Port Limon	Nov. 22–29	2	1
Dutch West Indies, Buen Ayre	Nov. 15	..	1
	on Dutch schooner, trader.		
Ecuador, Guayaquil	Nov. 15-22	..	1
Mexico, Tampico	Nov. 22–29	..	25
Vera Cruz	Nov. 22–29	14	2

CHOLERA.

Dutch Indies, Java, Batavia	Oct. 4–25	83	76
India, Bombay	Oct. 29–Nov. 4	..	1
Calcutta	Oct. 25–Nov. 8	..	54
Japan, Nagasaki	Nov. 1–10	1	..

PLAGUE—UNITED STATES.

California, San Francisco	Nov. 27	1	1

PLAGUE—FOREIGN.

India, Bombay	Oct. 29–Nov. 11	..	238
Calcutta	Oct. 25–Nov. 8	..	18
Karachi	Oct. 26–Nov. 9	31	24
Japan, Yokohama	Nov. 1–8	..	1

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Original Articles.

ON SOME OF MY PRINCIPLES IN ORTHOPEDIC SURGERY.*

By PROF. ADOLF LORENZ,
VIENNA.

I consider it a great honor to be allowed to appear before you, and I know of no better way to show my gratitude than by asking your permission to explain to you some of my principles which hitherto have ruled my orthopedic work.

I hope to meet your approval at least regarding some of these principles; as to others, which may rouse your opposition for the moment, I hope you will find them worthy of your objective trial. Even if these principles do prove to be different from yours, certainly we, who are on both sides of the Atlantic, which divides the places of our work, completely agree on the same aim, that is, to help our patients in the best way. As to my methods, I can recommend them as both safe and successful to the patient. In saying this, I touch upon my leading principle, that is, curing my patients without any danger of loss of life. Luckily, deformities seldom offer what we call *indicatio vitalis*, therefore when we operate on deformities we should never arouse even the possibility of putting the life of our patient in danger. Following this principle, I generally prefer bloodless operations to the bloody ones. In many cases the results are the same, but usually those of the bloodless ones are better. As long as the bones are elastic enough, I prefer osteoclasis to osteotomy; this latter operation is exclusively reserved for adolescents and adults. In hip deformities I prefer bloodless corrections to osteotomy, as long as even the slightest motility of the joint is present; only in cases of complete bony ankylosis do I operate with the chisel.

All cases of knee contracture I correct by the intraarticular modelling redressement, as long as even the slightest motility can be found. Only cases of complete bony ankylosis of the knee-joint, which are rarer than is usually believed, are reserved for the bloody operation.

In all deformities of the foot, both paralytic and congenital, I rely exclusively upon my modelling redressement of the foot, and from a thousand-fold experience I can assure you that the results are generally beyond expectation. In my opinion the wedge-shaped excision of the bones of the foot, newly recommended by the French, is nothing more than a deplorable mutilation of the foot. The results of the modelling redressement of club-foot have been preferred by many others, and I am happy to say that at least in Germany this method is predominant

On the whole, I dare say that I prefer bloodless operations to the bloody ones as long as any possibility exists of securing the result in this way. According to this principle, I cannot sympathize with the total extirpation of the sternocleidomastoideus in wry-neck. After my experiences, the subcutaneous myotomy of this muscle in connection with the modelling redressement of the cervical skoliosis is perfectly sufficient to cure the caput obstipum thoroughly and without leaving a scar. In this realm I go even further, as the congenital caput obstipum in children can be cured even without tenotomy, only by myorrhexis of the sternocleidomastoid muscle, and the results obtained by this method are the most perfect ones, from a cosmetical standpoint. The ruptured muscle regains its normal length, as well as its normal elasticity to such a degree as to allow the head to move freely to the opposite side. Besides this, the ruptured muscle retains a normal prominence with its partner, restoring the normal configuration of the neck, in this way avoiding the known applanation of the operated side, which usually occurs after open or subcutaneous myotomy.

Following this principle, you will share many advantages with your patient. The latter readily consents to be operated upon, as he runs no risk to life, and as for yourself, you will feel quite easy about him.

Another principle which I have always followed is the so-called "central correction" of deformities, which means that every deformity should be corrected in the vertex of its angle. If you should prefer to correct a deformity in one of the sides of the angle, even near the vertex, the deformity itself would remain, and instead of a correction, you would have only a compensation for the deformity. This compensation implies some shortening of the side of the angle, that means of the leg, which shortening should be avoided under all circumstances. This principle is very important with regard to the contractures of the hip-joint. It is obvious that subtrochanteric osteotomy contradicts the above-mentioned principle. By correcting or compensating the deformity, you shorten the leg. Agreeing with the principle of central correction, I always do central, that is, pelvo-trochanteric, osteotomy. Having performed this operation, correction is very easy without causing any further shortening of the leg. I object even to oblique subtrochanteric osteotomy, although it avoids shortening by a complicated and difficult extension after treatment, by which the patient is confined for some weeks to his bed, instead of being able to get up a few days after the operation.

Following the principle of central correction, you will also object to supracondylic osteotomy or osteoclasis in correcting the contractures of the knee-joint. In preferring central, that is, intraarticular, correction, you will avoid shortening the limb. In correcting genu valgum the principle of central, that is to say, infraarticular, correction cannot be thoroughly attended to, because—except in cases of young children—a loose knee is to be feared, and, besides, the treatment takes too much time. In genu valgum supracondyloid osteotomy is still the predominant method, because of its general reliability, but, beyond doubt, epiphysiolysis on the lower end of the femur allows better correction of the deformity, being a more central method than the supracondylic osteotomy. Unfortunately, the method of epiphysiolysis is available only in children from five to sixteen years.

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*Address delivered before the Orthopedic Section of the New York Academy of Medicine, December 19, 1902.

Another important principle of modern orthopedic surgery is that of absolutely saving the bones by dividing the soft parts as far as circumstances may demand it. This conservatism toward the bones and this radicalism against the soft parts (just the inversion of a principle of former times) condemns all cuneiform osteotomies and resections *en bloc*, of the bones, and makes it a rule to correct deformities by simple linear osteotomy, sacrificing the soft parts as far as may be desirable. Indeed, it is very easy to correct every hip deformity of whatever degree by simple linear (pelvitrochanteric) or central osteotomy, after having thoroughly divided the adductors and the subspinal soft parts. It is of no importance whether you divide them in open wound or subcutaneously, you must only divide them thoroughly. The wedge-shaped excisions of bones in correcting knee contractures are likewise to be avoided, or, at least, to be reduced to a minimum by regardless radicalism against the soft parts in the fossa poplitea. As to the excisions of bones in the treatment of club-foot, I have mentioned above that I abhor them.

The principle to correct deformities only by simple linear osteotomy is even available in those most difficult cases of bow-legs with anterior convexity of the bones. In such cases I apply one or two linear osteotomies to the center of the deformity, then I add achillotenotomy and sharp screw extension above the ankles until correction is made.

Another principle of common interest refers to the treatment of tuberculous diseases of the joints in children, and to the treatment of deformed paralytic limbs. I must avoid discussing the question whether operative or conservative treatment should be carried on in these cases. My standpoint on this question is rather one of expectancy. But I do not hesitate to declare that up to now I have never made a resection of a tuberculous joint in children, and that the results of conservative treatment seem to me far better than those of operative treatment. Nevertheless I am far from denying the necessity of operating in some special cases, particularly in common hospital practice. However, the principle of which I will speak refers to the question whether or not mechanical treatment should be carried on in a way to exclude all functional work of the limb during the whole treatment. Observation of nature let alone seems to me to give the answer to this question. If we contemplate a case of hip disease never interfered with by any treatment at all, we learn, in many cases, that nature, unhelped by our mechanical means, needs no more time to cure the disease than we do. After some two or three years all may be over. During this time the sick child may have been confined to bed with great pains in the hip joint for some months only. During the rest of the time they walk about without the help of crutches as well as they can, using the limb according to the actual state of sensitiveness. After all the disease heals without any suppuration even, and, finally, we see these children come to us to get rid of their deformity. We find a contractured limb, but fit for function even under the unfavorable mechanical conditions of the deformity. We find the bones solid and the soft parts not so much wasted as we expected; and last, but not least, we find that the growth of the limb has not been much interfered with by the disease. These cases are the best objects for operative treatment because the good state of the legs very soon enables them to profit by the correction of the deformity. If we compare one of these cases of natural healing to the results of our mechanical treatment, which may have begun at the first sign of the disease, we will find that we have scarcely shortened the course of the disease. We accomplish a diminution or suppression of pain, and may keep the limb in a tolerably good position. But surely we shall find the leg in a wasted condition, the muscles being flabby, the bones lacking solidity, and quite unable to support the weight of the body, although pains have long since disappeared. Probably we shall find, besides, that the growth of the leg has been much interfered with by the disease. There can be no doubt that this deplorable condition of the limb is due to the fact that both by suspension and fixation by our mechanical means the leg has been totally excluded for many years from every function of movement and weight carrying. From this consideration is derived my principle to exclude the diseased limb no longer from a measured function if severe pains will not forbid it. I never allow any movement of the diseased joint, but I suspend the weight only as long as the pains demand it, always taking proper care to procure slight abduction of the leg. As soon as the pains allow it, I begin to attend to the muscles by massage. Of the movements, only active and passive abductions are made in the later after-treatment to prevent the tendency to abduction.

My final aim is to procure a solid ankylosis of the hip-joint, combined with good position of the leg, experience having taught me that great mobility and bad function with lack of any endurance are common allies. I would welcome, with greatest enthusiasm, a method which would procure a true bony ankylosis of the diseased hip-joint, bony ankylosis of the hip and good position of the leg being the condition for the best result from both a cosmetical and a functional point of view.

As you may have seen by what I have said, I make little of the permanent extension. I consider extension only a matter of fixation; direct and indirect fixation together naturally give a greater degree of surety. I have said that every articulation attacked by chronic disease should not be prevented from function any longer than is absolutely necessary. In saying so I turn against the method of treatment generally used in Germany, which makes the patients wear their pressure-relieving and fixing apparatus so long that they become slaves to them. This same principle I emphasize using in the treatment of paralytic deformities. I am convinced we render no great service to our patients by making them wholly dependent upon their apparatus; the limbs atrophy by exaggerated use of apparatus to such a degree that they become useless for any function. It is my practice to correct thoroughly the paralytic deformities by modelling redressement, in case of need combining the transplantations of the tendons, and to fortify the rest of the muscles by massage and exercises in order to secure the obtained correction. For the rest, the patients must be accustomed to make use of their legs as much as possible without apparatus, or by assistance of the simplest one. Generally, a flannel bandage or laced boot will give the necessary support. In any case I take care to secure the corrected position during the night by means of a simple apparatus. I think that enclosing the leg in a steel support is to be avoided, as by so doing the leg will be excluded from any function. On the contrary, I try to make the leg independent of mechanical appliances as far as possible. Only in the treatment of total paralysis, which fortunately occurs rather seldom, the permanent use of mechanical support is indispensable. In the treatment of skoliosis I am wholly against the exclusive application of mechanical supports, especially against those which are worn day and night. I restrict the use of corsets to special cases which evidently want a support. Besides I take special care of the muscles of the back by exercising them, and endorse the necessity of forcible antiskoliotic gymnastics.

I think it is unnecessary to follow these principles in detail, and I hope you will not object to my endeavoring to solve the problems of orthopedic surgery by operative treatment, and, if possible, by a bloodless one, and to restrain and simplify orthopedic appliances.

If the surgical task has been thoroughly solved, orthopedic appliances, if necessary, may be of very simple construction, so that special mechanical ateliers may be considered superfluous. If orthopedic surgery conceives and carries out its themes in such a way, then it will be possible to indulge in orthopedic surgery at every surgical station, even if great mechanical means may not be at hand. Then orthopedic surgery will not deny its democratic character, which it must have to be able to communicate its progress and improvements to even the poorest children who may be in want of relief.

WHAT CAN BE DONE TO PREVENT THE SPREAD OF SYPHILIS.

By E. HARRISON GRIFFIN, M.D.
NEW YORK.

LECTURER ON DISEASES OF THE NOSE AND THROAT IN THE NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING SURGEON TO THE THROAT AND NOSE CLASS OF THE OUTDOOR POOR DEPARTMENT OF BELLEVUE HOSPITAL.

It is not my intention in this article to enter upon the question of whether prostitution should be legalized or not, but to show how, when syphilitic cases come under our observation, tact exercised can, in part, curtail the spread of this disease and keep it within bounds.

In an active service of twenty years in the Dispensary of the Nose and Throat of the Outdoor Poor, I have seen syphilis, in all its forms, from the primary lesion in the home locality to the chancre situated upon the nose, the lip, the scalp, the tongue, the tonsil, the gums, the hand, the ear, and the finger. I have found it ensconced in the old man of threescore years and ten, and in the infant of nine months.

Some years ago, in looking over the throat and nose cases that had come under my care, I found that syphilis, in some form, as the initial lesion, the mucous patch, the deep ulcer, or the necrosed bone, made its appearance in every thirteenth case. The number had an ominous significance.

Syphilis is not a disease of class or of age. It is found unstinted among the rich and generous among the poor. Among children I do not think that it is a rare disease. I have seen the initial lesion in a number of children, when the diagnosis had been everything but the proper one. Syphilis is not confined to the recognized roué, but is again and again found inoculated in the system of the innocent who have accidentally come in contact with this virus.

I had a young lady of the most estimable character call. She applied for a sore on the under portion of her upper lip. The location was unique. This woman was inoculated from an orange. She was accustomed to buy one from an Italian every morning on her way to school. Later on she would suck the juice out at the end. The location of this chancre corresponded to where the lip would be used in this operation. At my request, she watched the Italian, who would expectorate on his oranges and then use a rag to give the fruit a polish.

I have treated men at the clinic whose mouths were filled with mucous patches, who sold toys on the street that had to be blown up by mouth. These they would sell to children.

I had one case in which a man sold a piece of rubber that made a noise like a bird. This man was afflicted with syphilis, was warned by me, and, in fact, threatened, still he plied his business in front of schools, sold his rubber whistles, after he had tried them himself to see that they worked properly.

These men should have their licenses countersigned by the Health Board before they are allowed to sell or disperse any goods where the mouth is used as a means of displaying them. This inspection should be done at certain intervals. It is a simple suggestion, but it is a most effective one.

The fruit vender caught expectorating on his fruit (it is a common occurrence, and the more expensive the fruit, the more this luster) should be fined at least equally with the transgressor who expectorates upon the floor of a car. Notwithstanding the fact that he uses his spittle to enhance the charm of his goods.

Cigarmakers have been under my care for syphilis of the throat. They have brought me cigars they made (which I did not smoke), showed me how they moistened their fingers by their spittle to give the cigar a certain twist. The majority of cigarmakers use water from a basin, still this manner of using the mouth is not obsolete.

Syphilis is not a venereal disease, properly speaking, nothing like so much so as gonorrhœa. Syphilis does not need contact with the opposite sex to have it ingrafted into one's constitution. I have seen cases of the initial lesion of the buccal cavity, or its vicinity, caught by drinking from a tin pail. One case inoculated three other children in the same family. The cases I saw I treated, but how many more were inoculated by these children, whom I did not see, I cannot say. I have had cases in which the contagion was caught from rouge applied to the lip, the former user having had syphilis.

I saw a case of chancre of the scalp in which the man contracted his contagion by being bitten by his opponent in a drunken fight. This was substantiated by a well-marked syphilitic eruption following the sore. A chancre of the wrist, I have also seen, caught by the patient being bitten by a syphilitic fighter.

These four illustrations will show how easily one can be inoculated innocently. These facts should be taught to the laity as thoroughly as the germ theory of consumption is taught.

This knowledge would help the laity to protect themselves and the children who are the innocent sufferers of a guilty father or mother.

It is interesting to stand near a drinking fountain in a hospital or dispensary. The drinking vessel that is used is invariably a tin cup with its edges twisted upon a wire—a hot-house bed for the collection of syphilitic virus.

Persons whose mouths are covered with syphilitic infection go to these cups and take a drink, and by so doing charge the cups with many syphilitic germs. The next comer may be the one to receive his inoculation.

This is no fancy picture; it is one that is enacted every day in New York—a city which boasts of its medical colleges and its excellent Board of Health. The question comes up, why does this exist? For the simple reason it is nobody's business to see that a glass cup with smooth edges is supplied, instead of the tin one—a greater breeder and disperser of germs was never manufactured.

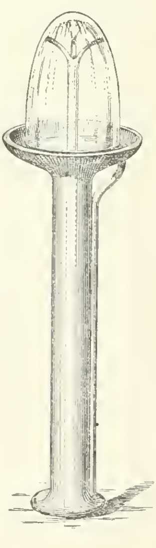
To understand how syphilis is spread, you must watch the syphilitic and the solution is easy.

A cup like the drawing below should be ordered by the Board of Health, to be used in all public places. It should be fashioned very much like the one used in the trains, with a cone bottom, so it can not be placed downward, and a round, smooth lip like the old-fashioned coffee cup without a handle. This round lip renders it easily cleaned and less liable to harbor germs.

If a water-attachment like the above cut were made, the glass could be placed on the raised pillar, and the small jet of water constantly running would bathe the vessel, so it would be invariably antiseptic the lower part rests in a trough so this part is also bathed.

Syphilis of the buccal cavity is a common disease. I have seen over seventy to eighty primary chancres of this region. The reason that these cases are thought uncommon is because the lesion is not recognized.

Syphilitics have a fondness for picking their lips and passing their fingers into their mouths on exploring expeditions. When their hands are well covered with their saliva, I have seen them open the dispensary door, depositing this moist saliva, reeking with syphilitic germs, upon the door-knob. The next comer with an abrasion becomes the innocent possessor of a lifelong affliction.



This I have seen so often that I never think of opening my dispensary door after I have washed my hands preparatory to leaving, unless I use some cloth to cover the knob.

The knob could be done away with entirely, and the door could be opened by means of a spring manipulated by the foot.

Remember, dispensaries are places for the sick of all classes and of all diseases, thus, when we strive to cure we should strive to prevent one patient inoculating another with a disease more fearful than the one he had at first.

In Central Park there is a number of urinals situated behind little iron screens. The urinal is patronized by the male of all ages, from the boy of six to the old man of eighty years.

No allowance is made for the small boy being shorter than his male companion. Thus the man urinates, and is able to flow his stream downward without touching the edge of the urinal. When the small boy comes along, I have seen him rest his part on the edge of the urinal, the place that only a few minutes before had received the shakings from a syphilitic penis. This can be easily remedied by having the trough on the floor, and doing away entirely with the elevation.

The urinal of the present pattern is a most excellent disperser of the syphilitic germ. All syphilitics should be taught to use a cloth that they can burn. If the syphilitic is in such circumstances that he can afford to burn his handkerchief and keep himself supplied with fresh linen, there is no objection to the handkerchief; but when this article of apparel is used it generally finds its way to the wash, where it becomes a means of spreading the contagion to whomsoever washes the linen.

A small piece of cheese-cloth of a fine texture and closely woven is inexpensive, easily bought, and easily destroyed, and does away with all means of infection. This has been urged in tuberculous cases. If it is necessary in these cases, it is imperative in syphilis. Syphilis caught while in the performance of their handicraft is common among washerwomen. I have had a number of cases in which the disease was caught in this manner. When the initial lesion is present the patient should be warned to keep a cloth attached to his shirt, so that the shirt will not become a means of dispersing the poison. If it becomes soiled it should be burnt, not washed.

If I had not seen so many cases and known of more infected after this manner, I would not dwell upon this manner of spreading syphilis among the innocent. If syphilis must be caught, let it be where two guilty ones are the transgressors, and not where a woman strives to earn a livelihood in a legitimate occupation.

The washing of spittoons that are used in public places should be done with care after their contents have been disinfected. I mention this, as I have often seen patients spit in a cuspidor in the hospital, and have seen a scrubwoman put her hand in the cuspidor directly afterward to clean it. I do not wonder that there is so much syphilis—I only wonder that there is so little—with the inadequate means that are used to prevent its spread.

To curtail the spread of this disease, the public must be educated, and educated thoroughly, the same as they are to-day in regard to tuberculosis. Then syphilis can be brought within bounds, and in coming generations the disease would be a rarity, and not one, like to-day, found grafted upon some of the best families of the city.

When a nurse is hired to perform her duties in a sick room, an inspection of her mouth, if she is seen picking it, would be serviceable.

I had a lady, a nurse, brought to my office for a sore throat. I watched her before I made an examination of her mouth, and was edified to see her pick her lips, run her fingers again and again into her mouth, and then wipe them upon her cheek. She was well-dressed, her lip was infected by a primary chancre, then in full bloom. Large buboes were on the side of her neck, and a syphilitic eruption covered her body. This lady had two hours before left a patient whom she was nursing, and had been nursing for two weeks, during which time, undoubtedly, she had picked her chancre the same as when I saw her. She was a nurse, but, I must add, not a professional nurse; but nursing was her occupation.

I had a midwife come to the hospital with a chancre of the tongue. This woman performed her duties, and was surprised to know that the disease was contagious.

In the International Conference for the Prophylaxis of Syphilis and Venereal Diseases, in Brussels, it was suggested that sanitary supervision should be exercised over all the subjects of venereal diseases who are notified by the doctors or the police as being dangerous to the public health. This supervision should be carried out in the following manner:

The gravity of venereal diseases and the necessity of continence should be impressed upon the patient, and, in the event of the instructions being disregarded, the police should make a legal complaint. This part would fit the above and the following:

A man, aged about twenty-six years, well dressed, and of some means, applied, some years ago, at my clinic complaining of a sore throat. His lips, his tongue, and his palate were a nest of mucous patches. This man was a heavy drinker; he was also addicted to chloral and morphine, a thorough degenerate. I warned him of the nature of his trouble, and explained to him the means he must employ to prevent its spread. He smiled. I then turned and accused him of kissing his female friends. He acknowledged, candidly, that he had kissed everybody—his sisters, his mother, and any lady he had a chance. Here is a case of a man not insane enough for a sanatorium, but not sane enough to be allowed at large. A syphilitic with the contagion at its height—a drunkard, a morphine habituate, and a chloral fiend—a weird combination.

All chancres and mucous patches when first found, and dignosed positively as such, should be destroyed by some caustic, as a sanitary measure, to prevent, in part, its dispersement.

I have had a case in which the husband contracted chancre of the lip; this was repeatedly cauterized. His wife was not infected until eight months afterward, when she became infected with a chancre of the lip, from a mucous patch brought out on her husband's lip by smoking a cigarette against my instructions. I believe, and I believe thoroughly, more syphilis is caught and dispersed by the mucous patch than from the primary chancre.

The eruption accompanying a chancre is nature's red flag, a signal of warning to beware, but the mucous patch, equally as contagious, is only a silent exponent, and seldom accompanied by a danger signal, except upon a close inspection.

The importance of the mucous patch and its ability to spread syphilis, should be taught to the unsophisticated, and they should know that this means of contagion is, as I have said before, more common.

A chancre will heal without any medication; the skin eruption will fade and pass away without any drugs, but the mucous patch of the buccal cavity, the vagina, or the penis, is a head-stone of a disease that may have passed partly away, but has not departed, and is ready to be born again.

Prostitution in New York City will never be legalized until politics can be changed. But prostitution and syphilis can be restricted. To raid one house and scatter its inmates into new surroundings is like detroying a house infected with the plague, and allowing its infected members to inoculate a new quarter. Prostitution should be confined, by an unwritten law, to one section of the city, and those found plying their trade outside of this quarter should be made amenable to the law. An infection of a prostitute by a male should render the latter also punishable. The scope of the subject is so wide that it cannot be digested in these few pages. Palpable suggestions can only be hinted at.

All women arrested on the streets as known prostitutes should be examined in the morning before they are brought to the court. If they are infected with syphilis they should be given a card, after their name and address have been taken, and they should be compelled to go to a physician, private or otherwise, and they should show a card from the same physician, showing that they are under medical care. This report can be made to the police surgeon. If they do not make this report they should be liable to a fine.

Years ago, in my early practice, I treated, at my office, a young woman who was in a house of prostitution. Her mouth and other parts were covered with mucous patches. I warned her to give up her business till the sores had healed, and to tell the madam of her condition. She said if she told the madam of her condition she would turn her out into the streets, and, as she was without means or a home to go to, this girl had to dispense syphilis to her male friends, for her breakfast, her dinner, and her lunch.

The law is establishing homes and hospitals for the consumptives, but allowing a disease more virulent, just as prevalent, but overlooked because it has the immodest name of a venereal disease. It is like cleaning a street at one end of a block and dumping the refuse at the other.

Why should we, as physicians, be compelled to report our cases of typhoid fever, smallpox, diphtheria, and kindred diseases, and to ignore reporting syphilis to the Board of Health? All cases of syphilis should be reported, especially when its possessor is liable to spread the contagion after he or she has been warned of the nature of the malady, and still persists in scattering its poison. These cases should be placed under surveillance the same as one infected with diphtheria.

The women of the town are not the only transgressors; if they had not met some man with this disease they would not be syphilitics. They have to receive the poison before they can transplant it.

It is a notion among some people that if they with a chancre have connection with one of the opposite sex, they can give the disease to the opposite party, and thus rid themselves of the poison. I have been asked again and again if this was true. Still we go on enlightening the public in regard to tuberculosis, but blind them in regard to a greater evil. Many patients are afraid to tell their family practitioner of their error, and fall into the hands of some advertising quack.

I treated a case years ago of a man who applied to me for a gonorrhœa which he had had for three weeks. This man had been under treatment daily, in the hands of a well-known newspaper advertiser who had seen him the day before I had seen him, and he had received a deep urethral injection from his hands. The diagnosis had been gonorrhœa, pure and simple. An examination of his penis showed a large chancre on its corona. This had been entirely overlooked by the quack. An eruption followed, with the usual throat lesion. Here is a case in which the patient might have married after his gonorrhœa had been cured and have inoculated a healthy woman with syphilis.

In this city we are not dealing, as in France, with a French population, or, as in England, with an English population, but our people, who apply to charities for help, are of a polyglot nationality.

We have the English, the Germans, the French, the Italians, the Russians, the Bohemians, and, in fact, every nationality under the sun, making up the great population of the city of New York. Some of these people are educated, some are grossly ignorant, and these are in the majority. These are the people who spread syphilis. These are the people who should be taught the importance of the contagious nature of syphilis. A practice of twenty years or more among this class in a dispensary gives a physician many valuable points in regard to their understanding.

Again and again I have treated a case at the hospital, warned the man not to marry under three years, and in the space of a few months I have had him bring his wife, to whom he had been married for only a few weeks, infected with syphilis. If these cases were taught thoroughly, and they can be taught, and be made to understand that syphilis is a contagious disease from the mucous patch if the instruction be done systematically.

I would suggest that each and every patient that applies to a hospital or dispensary be given a card, furnished by the Board of Health, in various languages, with the salient points in regard to how syphilis is spread: Something, as follows, might answer. It is a simple matter, but it would help, and help greatly, to curtail this rapidly-spreading disease, and to bring it within a circle where it could be scientifically dealt with:

You are affected with syphilis and will spread this disease if you do not follow out the following instructions:

1. You should use pieces of rags, not handkerchiefs, for your mouth (fine cheese-cloth, cut into squares, will answer the purpose); the cloths should be burnt, not washed.

2. You should use the cloth at the table, and not a table napkin, as the washerwoman is liable to infection in washing these napkins.

3. Under no circumstances should you kiss anyone, as the secretion from your sore mouth will spread the contagion.

4. This contagion is in your blood, and is liable to break out if you stop medicine, which must be persisted in for three years.

5. All alcoholic drinks are prohibited if you desire to be cured.

6. Smoking renders the lips liable to patches, which will convey the poison of syphilis.

7. Any sore on your mouth is dangerous; apply immediately for treatment.

8. Do not drink from any cup in a public place unless you wash it out afterward, as any virus from your mouth dispersed on the cup will spread the disease, and it may be to your own mother or father.

9. You must not marry for three years. All symptoms of your disease may have waned, but the disease is still in your blood. Marriage means that you will infect the woman you make your wife, and if she has any children they will inherit your disease. The disease in your children will be harder to cure than your own.

10. Apply regularly for treatment and your medicine once a week. The department furnishes enough medicine to every applicant for one week, but not longer, as it is imperative that you call, so the medicine can be changed if necessary.

I have made mention here in regard to medicine for one week, because medicine is not furnished in this class of cases for this time. These receive only enough for two or three days. Thus patients who are anxious to continue treatment are actually prohibited by law from being cured, because the dispensary will dispense only enough for a three days' treatment.

Many of the patients cannot call more than once a week for their medicine, and after the first four weeks of this disease it is not necessary that they be seen oftener, if the treatment has been conscientiously followed out. These people are too poor to buy medicine. Yet the law of the dispensaries demand that they leave their employment, and possibly lose their situations, because not enough medicine is given to carry them over the stated period.

Let us try to stamp out this disease by giving the patient enough ammunition to carry on the battle. Patients affected with syphilis should be examined regularly every one to two weeks. Their mouths should be examined carefully for a specific lesion. The buccal cavity will show signs of syphilis long after the skin lesions have disappeared.

These lesions are not painful, as in tuberculous affection. I have seen the entire larynx involved in syphilitic ulceration, and the patient did not know that he had a sore throat. The absence of pain when these lesions are present, whether they be the mucous patch, the superficial ulceration, or the deep ulceration, is the rule, not the exception.

This summer I met a patient of mine on Broadway. He had been West for a year, playing in one of the Western States. He had played juvenile parts, and his wife had been the leading lady of a company. The two I had known for years. They had a couple of children, and were as devoted as a couple could be. His wife contracted syphilis from kissing one of the company, the party playing the lover on the stage. This lady was treated for smallpox, and almost every disease except the right one. It was over six months before a correct diagnosis was made. Her husband contracted syphilis from her three months afterward. He told me this history on Broadway, and said that his throat had been sore, but was then splendid. He called at my office the next day. I found the throats of both husband and wife one mass of mucous patches, and in a most fertile condition to spread the contagion in all quarters. This couple did not know that their throats were sore, and were about leaving the city to play a summer engagement and most likely to spread the poison, in their turn, among some more actors and actresses.

This is not wilful inoculation—it is simply the lack of knowledge, or rather the lack of education of the masses. Take up the subject and teach it as tuberculosis is taught, and these cases would not occur.

Tact must often be used when the question comes up, whether we shall notify the parents, especially if the patient is a young girl.

A young girl, fourteen years of age, was brought to the clinic complaining of a sore throat. She had a follicular tonsillitis; but there were sores present on the tongue that suggested syphilis. The patient was accompanied by her mother. I sent her into a little room and asked her to remove her waist. When I entered the room the mother told me that her daughter would not remove her things till she, the mother, left the room. I demurred at first, but the girl was positive in her demands that the mother must leave the room. After the parent had left, the girl willingly removed her attire and showed her body covered from head to foot with a syphilitic eruption.

She asked me not to tell her mother. The girl was a Catholic, but had not been to confession for three years. I made her promise to go that afternoon, which she did.

The girl married three years afterward, and turned out a most excellent wife. If I had told her mother, the girl would have received a beating, to use the mother's expression, and been turned out into the streets, and in two weeks a full-fledged prostitute of fourteen would have been on the town, and one most capable of spreading the disease.

Diplomacy must often be exercised in questioning syphilitics. A young woman, aged nineteen, applied for treatment of a sore throat. An examination showed an extensive ulceration, involving the pharynx from one pillar of the fauces to the other. I placed her under treatment and asked to see her husband. He came down the following day. I asked him when he had had his chancre. He denied ever having one, never had a gonorrhœa, or even a skin eruption. I told him that it was no use denying that he had had syphilis, as his wife was infected. He told me that he had been married only two weeks; his wife was a widow at nineteen when he married her. I always ask now if my patients have been previously married.

I had a case of syphilis sent to the clinic in which the disease had been diagnosed as diphtheria, and the patient was about to be sent to the Willard Parker Hospital for treatment. This mistake was made by the physician of one of our large hospitals on the west side of New York City after the same diagnosis had been made in a large hospital on the East Side. The correct diagnosis was a deep tertiary syphilitic ulcer of the pharynx, which granulated rapidly under the iodides. The papers were made out for this patient to go to the Willard Parker Hospital, and I saw him only by accident.

I had another case sent to me by a prominent surgeon, with a note which stated that if I advised an operation he (the surgeon) would place the case under my hands for the knife. I sent this patient back in two weeks with the condition healed under the iodide. The case had been mistaken for one of cancer.

Another case of mucous patches was brought to my office by a well-known specialist on skin diseases, who makes a specialty of syphilis. He brought the case of mucous patches to me as one of mycosis.

If there is a difference between a rat and a rhinoceros, there is a difference between a mucous patch and a mycosis of the buccal cavity.

I heard one eminent dermatologist state: "Gentlemen, there is absolutely no mistaking the diagnosis in this case (the patient had an ulceration of the dorsum of the tongue). This is a plain case of epithelioma; the tongue should be operated upon immediately." Two weeks afterward, under large doses of iodide, the ulcer was almost completely healed.

A physician brought his niece to me this year. She had been under treatment for her throat for several months. Numerous physicians had been seen and various treatments had been prescribed. She grew worse. As a last resort she was sent to Florida, where she still continued to fail. She was brought North to consult me. I diagnosed syphilis, from a large ulceration that I found on the pharynx. Three weeks under the iodides healed the sore. This lady had contracted a chancre of the finger while washing one of her uncle's operating knives, which he had previously used upon a syphilitic. My diagnosis recalled the fact, although up to this date syphilis was not suspected. Are we blind, or can we not see facts when they are presented?

One of my old patients with tertiary syphilis applied to a large hospital that was near her residence. The physician examined her throat, referred the case to the chest room, where the physician reported the case to the Board of Health. The inspector called at her house and warned her that she had tuberculosis; she must be careful where she spat. The patient gained twenty pounds in six weeks under the iodide of potassium. It was a case of a deep tertiary ulceration, pure and simple, involving the epiglottis and ventricular bands. The cough and the loss of voice misled the physician.

Cases of primary chancre of the lip have been sent to me as cases of mumps. These mistakes lead a practitioner to only one conclusion, and that is that syphilis has not been taught thoroughly in our medical colleges.

A patient is brought before the class, wrapped up in a blanket, which he throws aside, and his skin is shown dotted or flushed with a syphilitic eruption. The eruption is commented upon. The head is shown to demonstrate the alopecia, but the throat symptoms are ignored or passed over so lightly that syphilis has been called a skin disease; a more mistaken name was never given.

If it can be classed, I use the word "can," because syphilis is, like Joseph's coat, of many colors; it belongs, more properly, under the diseases of the mucous membrane, and the part that becomes the alpha and omega of syphilis is the buccal cavity.

Here we should look for our mucous patches, our deep ulcerations, the open sesame of our diagnosis. Syphilis is taught more thoroughly to-day in our colleges. Section teaching has brought this about. A professor can describe the syphilitic lesions of the buccal cavity for over an hour, but ten minutes in a clinic, where the proper light can be used, will implant on the brain of the medical student more thoroughly, more concisely, and more vividly these lesions, when he can see them himself, than ten years of a didactic course.

Syphilis travels in a circle; man infects the prostitute, the prostitute infects the man. Thus syphilis, like the boomerang, comes back to its starting point.

The education of the masses in regard to syphilis, and a conscientious teaching of this disease to the laity, would, in part, prevent the spread of a disease that infects all classes of society, all professions, and all workers. If the disease would stop here and kill only those it first infected, less harm would be done. It goes traveling on, in the majorty of cases, to the children of the syphilitic who, if they, in turn, procreate, give birth to a child so fragile, so delicate, so frail, that a few years will suffice to wipe this offspring off the face of the globe, and the child will be buried as having died of inanition.

How much truer the diagnosis would be if signed, "Died because its grandparents had not been thoroughly enlightened as to the real character of the common and ever-increasing disease, syphilis."

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X-LIGHT IN THERAPEUTICS.*

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One of the happiest and most important events of modern medical history has been the discovery of the therapeutic value of the x-ray. As with many of the great therapeutical discoveries, the circumstances which gave birth to the event were largely accidental, and the extent of the outcome of the first x-ray treatment administered with therapeutical intent was entirely unpremeditated, almost unhoped for, and absolutely beyond the utmost limits of expectation. Empiricism has scored another victory against deductive science, but our patients afflicted with pathological processes amenable to x-ray therapy are revelling to-day in the results of an ability to cope with these conditions upon our part, which was absolutely beyond the range of human possibilities seven years ago, and which even one year ago was a consummation not even hoped for by ninety-nine one-hundredths of our colleagues.

Empiricism, which is but another name for the dictates of experience, governs the therapeutical use of the x-ray to-day. We know no more about the inherent nature of the agent to-day than we did four years ago, when its advent into the therapeutical world was heralded by the Selfridge case. We cannot, therefore, state by what specific actions or influences x-light accomplishes its beneficent work, but the grateful acclamations of the hundreds who have been lifted from the shades of pain and despair into the realm of comfort and continued usefulness are the outcome of a clinical experience which is ample enough and conclusive enough to warrant the assertion that a new era has been inaugurated in the history of the management of malignant disease, and which bids fair to revolutionize our methods of managing these cases.

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As the subject, in its details, is an unfamiliar one to most of you, and as the general practitioner's interest in the matter centers chiefly upon curative results and clinical possibilities, I shall have to treat it from a general rather than a specific standpoint, but if any one should desire any specific information it will give me great pleasure to answer his inquiries during the discussion.

X-light has been found to be of value in the treatment of acne, psoriasis, eczema, rheumatism, some forms of neuralgia, neuritis, anthrax, lupus, and cancer.

Its use in the five first-mentioned conditions is still in the experimental stage, but the work done by Beck, Pusey, Morton, Snow, Allen, Montgomery, Schmidt, and others is sufficient to demonstrate that the agent possesses active curative influences which, in some cases at least, have resulted in the recovery of the patient after every other known means of benefit had failed. At present, however, the x-ray appears to have but a doubtful chance of becoming an active competitor of other methods of treatment in the majority of cases of these diseases.

In neuritis, two or three very striking instances of happy curative effects have come under my observation, and investigations along this line are now under way. The indications are that x-light will soon have a place in the treatment of this affection.

Several cases of anthrax have been subjected to the influence of this agent, and in a few instances results have followed which equal in attractiveness those attained in any pathological field to which radiotherapy has been applied. I know of one case in particular in which the curative effect appeared so magical that the operator hesitated to publish it, from a fear that he would be accused of romancing. The steadily-increasing accumulation of clinical experience will bring the matter to light in the near future, however, and ample grounds are at present available for believing that the knife will retain its large prestige in the management of this disease but a short time longer.

That lupus, both vulgaris and erythematosus, is amenable to x-ray therapy in the majority of cases is now a matter of common knowledge among those who are using this agent extensively. The curative effects are usually greatly intensified in this disease, and also in some cases of epithelioma, by combining with it the static brush discharge, with the patient insulated negatively. This has been denied by some operators, and one gentleman has carried his antipathy toward the brush discharge so far as to state as his belief that it always aggravates the trouble and should never be used. This sentiment, however, is unquestionably an erroneous one, as the addition of the brush discharge to the x-ray treatment of these cases has been adopted repeatedly at the x-ray clinic of the institution in New York with which I am connected, with none but good results. Professors Snow and Geyser, who have charge of this clinic, have reported cures following the use of this therapeutical combination, have exhibited some of their cured patients, and have never seen any evil results attributable to the brush discharge when thus employed. Personally I have enjoyed the privilege of watching the progress of these cases, have used the brush discharge upon my own patients with beneficial results, have yet to see any evil influences justly traceable to this modality, and shall use it again in appropriate conditions.

The interest in x-ray therapy of the profession at large, however, is centered more particularly upon the place it occupies in the management of cancer, and the justification of this interest is found in the fact that in this field it has won most enduring laurels.

Probably no event since the discovery of the value of antisepsis has attracted so much attention from medical men and laymen as the discovery of the power of the x-ray to overcome this disease. The announcement of the fact was first met by derisive incredulity; next by unwilling admission that beneficial results had certainly been observed simultaneously with the administration of x-ray treatments to sores that seemed to be cancerous; and, finally, before an overwhelming mass of clinical demonstration, skepticism has given way to amazed conviction.

It is not difficult to appreciate the incredulous attitude of the medical mind in this connection. From time immemorial, cancer has ultimately destroyed 70 per cent. or more of the total number of its victims, in spite of any measure that could be applied for its relief, surgical or medicinal, and whatever the stage of the disease at which it came under treatment. Probably no other disease, with the possible exception of pulmonary tuberculosis, has been looked upon with so much hopeless dread and horror. Therefore, when the statement was made that x-light, which had not been previously known as a therapeutical measure at all, would not only entirely remove this hitherto intractable condition in many cases, but would accomplish the result without even producing discomfort on the part of the patient, it is not strange that the tidings should be looked upon as altogether too good to be true.

Four hypotheses have been advanced as explanatory of the remarkable influence which x-light exercises over malignant neoplasms.

The first is that the curative process is brought about through stimulation of the reparative functions, dependent upon the induction of inflammatory reaction, x-ray dermatitis—a cauterant action in short.

Now, although in some cases the curative process is unquestionably hastened by inducing some dermatitis, and in still others benefit is apparently not susceptible of induction until dermatitis has been provoked, yet that the *modus operandi* of the x-ray cure of cancer is not through a cauterant action is proven by the large proportion of cases which recover without any evidences of dermatitis having obtained throughout the entire course of recovery. One of the most remarkable, if not the most remarkable, of the x-ray cures of cancer so far recorded was of this class. A still further evidence against the cauterization view is that sloughs are observable in only a small minority of cases, which would not be true if cauterization explained the matter.

The second and most attractive of the theories which have been advanced as explanatory of the phenomenon assumes that it is produced by reason of direct destructive influence, exercised selectively upon tissues of aberrant development and low vitality. That destruction of diseased tissues does frequently take place, accompanied, especially in the deeply-seated malignant processes, by a systemic toxæmia of variable degree, is unquestionably true, but if this were the essential element in the induction of the beneficial influence, it would constitute a clinical phenomenon of uniform and constant occurrence, and in the majority of cases this does not hold good.

The third explanation involves the contentions that cancer is a disease of parasitic origin, and that *x*-light inhibits or destroys the parasite. The most prominent fact militating against this theory is that, if cancer is caused solely by a pathogenic organism of this nature, and if this organism is susceptible of inhibition or destruction by *x*-light, then all cases of cancer should be curable by the agent, and clinical experience does not show this to be true. It is conceivable, however, that *x*-light, while not inherently and directly fatal to a parasite, might be capable of so affecting the tissues forming its pabulum as to render them unsuitable for its development, and, up to the present time, there is nothing in the clinical history of *x*-ray therapy in cancer which would be totally incompatible with this modification of the parasitic theory.

The fourth hypothesis assumes that malignant degeneration is simply a departure from the normal of developmental protoplasmic activity—a reversion to a more primitive cell type—dependent upon deeply seated constitutional idiosyncrasy and local irritation; and that the character of the vibration period, wave length, and amplitude constituting *x*-light possesses the power so to influence molecular motion as to overcome the aberrant tendency of cell development and restore the normal characteristics of the formative function. That a factor involving some constitutional idiosyncrasy as regards the metabolic processes concerned in cell development demands consideration is evidenced by the fact that all cases do not respond to *x*-ray therapy in the same degree and manner, and that some do not respond at all, while the conditions surrounding these different patients, as far as the pathological phenomena and their management is concerned, are apparently identical in all demonstrable respects.

If this is the true solution of the problem, it would be expected that *x*-light would inhibit the malignant process from further inroads upon sound areas, that the foci of degeneration would become surrounded or encapsulated by normal tissue, and, as a large proportion of the erring cells, forming the original mass, would inevitably have become degenerated beyond the possibility of redemption, that the diseased area would thereafter remain as a quiescent tumor, slough *en mass*, or undergo a process of simple atrophy, terminating, at least sometimes, in complete disappearance; and these are precisely the variations which we encounter in the clinical conditions. More light upon the etiology of cancer must be secured before the question of the *modus operandi* of the results of *x*-ray therapy can be settled.

I will state in this connection that *x*-light has not been proven to be directly bactericidal. Upon some of the common pathogenic bacilli and cocci it has, on the contrary, been proven to possess absolutely no demonstrable lethal influence.

We are frequently confronted with the query "Will not cancers that have been cured by *x*-rays ultimately recur?" and we are obliged to answer that we do not know. Enough time has not yet elapsed to determine this point. Less than 5 per cent. have so far shown any tendency in this direction, and in the instances in which the accident has obtained, it has proven to be readily manageable by an additional course of *x*-ray applications. Recurrences, at present, appear to be due to premature discontinuance of the treatments, or to the use of a tube of too low a vacuum, whereby a sufficient degree of penetration has not been secured to influence the deeper portions of the growth. The parts of a malignant process which it is most necessary to influence are the peripheral regions where the degenerative tendency is involving additional tissue areas; hence the rays employed should exhibit sufficient penetrative power to pass clear through the affected tissues and reach the remote ramifications of the growth, thus limiting the spread of the disease.

Even if they do recur, however, it seems at present to mean merely that another course of treatments will be necessary, the patient having been maintained in a condition of at least seemingly perfect health in the meanwhile. Any victim of cancer would be more than happy to undergo a course of *x*-ray therapy every six months if necessary, if this result could be attained thereby, and when we compare the poor showing of other measures, in affording even temporary relief, with the results attributable to *x*-light, the question of recurrence appears hardly to be worth a discussion from a purely clinical standpoint. There is certainly nothing to warrant the reproach upon the fair fame of the agent which is sometimes implied by the query.

For the purposes of *x*-ray therapy it is desirable to divide cancerous processes into two classes: those affecting the superficial soft tissues, and those involving the deep tissues and bones.

For the management of cases belonging in the first category *x*-light has almost entirely superseded the knife and caustics with those of us who are clinically familiar with the agent. Hundreds of cases have been treated, and statistics at present available indicate that the proportion of cures effected will exceed 80 per cent.

But a short time since it was generally believed that only the superficial forms of cancer were amenable to the curative influence of *x*-light, and enough work has not yet been done upon deeply-situated malignant growths to produce conclusive evidence as to the extent of the beneficial influence obtainable here. Indeed, comparatively few men have treated this class of cancers at all, but enough evidence is at hand to prove that some benefit can be secured in the majority of cases, and that a certain proportion of them are susceptible, apparently, of entire restoration to health.

I was first led to believe that deeply seated cancers might be amenable to *x*-light, by my conviction that the beneficial influence which the agent undeniably exercised upon the superficial form was due to some inherent corrective power which the *x-ray* vibrations exerted upon the developmental processes of the aberrant cell elements constituting the malignant tissue. I have never considered the effect to be due to ozone formation, electrification, or electrolysis of the elements of the growth, the deposition of any acid upon the sore, or any other of the several explanations which have been advanced to the exclusion of a *specific influence of x-light*. We have used all these means before, but they did not cure cancer until this agent came upon the scene.

With a good high-vacuum tube, one that forces back a spark-gap of not less than 4 inches, rays can be produced that penetrate clear through the body; hence a malignant growth in their path could not fail to be influenced by them, if *x*-light is capable of exerting influence.

At the annual convention of the American Electro-Therapeutic Association in September, 1902, I reported in brief detail thirty-three cases of deeply-seated cancer which I had had under treatment during the preceding nine months. As these cases will be published in full with the transactions of the association, I will not repeat the histories here, but will summarize the clinical results obtained and the conclusions deducible therefrom. For convenience' sake these cases were considered in five groups. The first consisted of nine cases, in which various deeply-seated localities were involved, and which had reached a fatal termination; the second, of four cases in which bony tissue was affected; the third, of nine intraabdominal cases still under treatment; the fourth, a series of ten mammary cancers; and the fifth was constituted by one case of sarcoma of the neck. Since then one patient classed in the third group has died, so that the first group will now consist of ten cases, this figure representing the total number of deaths up to the present time. The clinical data are as follows:

Complete disappearance of the malignant process has apparently been secured in three cases; continuous reduction in the size of tumor up to the present time in thirteen; temporary reduction with subsequent increase in one; permanent arrest only of growth in two. There was no effect positively demonstrable upon the size of the lesions in fourteen.

Complete permanent relief of pain was secured in fourteen cases; complete temporary relief in two; partial relief in eight; no relief whatever in four, and in five there had been no pain.

The general condition of the patient was permanently improved in eleven; temporarily improved in eight; not influenced at all, apparently, in eight; and in six the general condition was not noticeably impaired when the patient came under treatment.

A gain in weight was evident in six; no influence in this direction apparent in twenty-seven.

Hemorrhage was lessened in eight; uninfluenced in one; and in twenty-four there had been no hemorrhage.

Evidences of systemic toxæmia at some time during the course of the treatment were noted in fourteen.

In five cases there were discernible no evidences of benefit whatever. As three of these patients discontinued treatment after two or three séances, however, this statement can be significantly applied to but two of them.

Out of thirty-three cases, then, we have up to the present time, three apparent cures; thirteen that have been permanently benefited and are still improving, with good prospects of ultimate cure; twelve that were temporarily benefited; two that experienced no benefit whatever; and in three the treatment was discontinued by the patient before enough applications had been made to indicate whether or not any results would have been produced.

In estimating the absolute value of these results we must bear in mind that every individual one of these cases was inoperable, because of the advanced stage of the disease, and offered a hopeless prognosis both as to arrest of the disease or the attainment of euthanasia, under any other method.

The conclusions justified by the foregoing are as follows:

First, the pain of deeply-seated cancer is removable by *x*-light to an extent ranging from slight amelioration to entire disappearance, in a large proportion of cases, whereby the victim is enabled to spend what remnant of life is left him in comfort, and free from the pernicious phenomena which result from the continuous use of morphine, the only other therapeutical agent capable of producing even an approach to euthanasia in any appreciable number of cases.

Second, in many cases *x*-light is capable of exercising an influence upon deeply-seated cancer of sufficient intensity to retard markedly the progress of the disease, whereby life may be prolonged even in cases in which it cannot ultimately be preserved.

Third, in a proportion of cases, the figure representing which has yet to be ascertained, *x*-light possesses the power entirely to overcome deeply-seated malignant processes, restoring the patient to apparently perfect health.

Fourth, a small number of deeply-seated malignant growths exhibit absolutely no indications that they are susceptible of influence by *x*-light, and continue their ravages apparently unimpeded, ultimately compassing the destruction of the victim.

Fifth, phenomena consisting of chills, rise of temperature, etc., indicating systemic toxæmia, not infrequently accompany the treatment of malignant disease by *x*-radiance. This condition is probably due to the development or liberation of a toxin, the formation of which is, also *probably*, dependent upon retrogressive metamorphosis occurring in masses of tissue which have become too deeply involved in the malignant change to be susceptible of regeneration. This autoinfection is capable of reaching a degree of profundity sufficient to overwhelm the nervous system and destroy the patient, hence it is wise to interrupt the treatment temporarily when systemic toxæmia first appears, and allow the organism time to rid itself of the noxious accumulation before a further influence is invoked.

These conclusions, considered in connection with the uniformly gratifying results reported by nearly everyone as following the application of this agent to the external and superficial forms of this disease, would logically lead up to an attitude toward the use of the *x*-rays in cancer, which may be expressed as follows:

First, *x*-light can be relied upon to effect a greater proportion of cures of external cancer than any other measure or combination of measures now known, with the possible exception of massive mercuric cataphoresis as conceived, developed, and recommended by Massey.

Second, in all cases of cancer in which it may be considered advisable to use the knife, the influence of *x*-light in antagonizing cancerous degeneration may be looked upon as indicating its application for a time immediately succeeding the operation in all cases, and in some cases for a time immediately preceding the operation as well.

Third, in all inoperable cases the *x*-ray is indicated, because in a few instances it has apparently effected a cure of processes the most deeply located; in a considerable proportion of cases it has removed pain effectually, and improved the victim's general condition markedly, thereby rendering the remnant of his life comfortable; and, lastly, because it is the only measure that offers the victims anything whatever in the line of hope for ultimate recovery or prolongation of life.

In my opinion the reciprocal therapeutic relation of the knife and the *x*-ray, as regards the management of cancer, will be found ultimately to be an important one. The relationship may be considered as presenting three aspects; one of election by the patient, another of election by the *x*-ray therapist, and a third of necessity, of the existence of which the *x*-ray therapist and the attending physician jointly must be the judges.

The first-mentioned aspect will come before us most frequently in connection with the superficial forms of the disease, in which, as I have already stated, x-ray therapists now feel justified in abandoning operative intervention almost entirely. We take this stand because what we now know of the powers of the x-ray in this situation, considered in connection with what we also know of the frequency of recurrence after removal by the knife, leads us to believe that the x-ray should be applied for a time after operation in every case anyway, in order to eliminate as far as possible the chances of recurrence, and under these conditions the x-ray might as well be exclusively employed from the first. The only advantage offered by the use of the knife in these cases is that the malignant process is thereby gotten rid of *en masse* and at once, and the total length of time during which the patient is under treatment is somewhat lessened. Ordinarily, however, patients prefer giving the extra time to submitting to operation, and as the proportion of cures by x-light is so much greater than that resulting from extirpation, there is no reason why their election should not be respected.

The second aspect confronts us in connection with the more deeply-seated malignant processes, and its bearing upon the management of all cases is well illustrated by considering it in its relation to cancer of the female breast. These tumors may be divided, for purposes of prognosis under operative procedures, into two groups: those in which the demonstrable malignant involvement is confined to the gland, and those in which it has also invaded distant structures, as the axillary lymphatics.

The first-mentioned class offers a fairly hopeful prognosis under operative management, but even here no tissue extirpation of less extent than that demanded by the awe-inspiring Halstead operation can give much assurance in the way of freedom from recurrence. I have under x-ray treatment at the present time a patient who developed a small scirrhous of this class two years ago. Total extirpation of the gland and axillary lymphatics was done at once by one of the best surgeons in the country, and under the most favorable conditions. That the operation was exceedingly well done is attested not only by the operator's name, but by the visible traces of his work. Nevertheless, nodules began to appear along the lower border of the pectoralis major muscle and under the clavicle six months ago, to demonstrate that the fallacy of total extirpation alone obtains under even the most favorable of circumstances.

With reference to cases belonging to the second class, it is pretty generally conceded that recurrence is so sure to follow removal, that the best surgeons advise against operation under ordinary circumstances.

A number of cancers belonging in the first category have already been cured by x-light, and a large number are improving under treatment. I have never seen nor heard of a case that grew any worse under its judicious, skilful, thorough use.

In a few cases of the second class, entire disappearance of the axillary enlargement and notable diminution in the size of the original tumor—have followed the application of the agent, and in a much larger number a stay in the spread of the process has apparently been secured without any demonstrable reduction in size. On the other hand, a few cases have exhibited little if any evidence of beneficial influence having been induced.

The storm of enthusiasm engendered by the first successes of the x-ray in this field, led some of its advocates to demand that the knife be relegated to an unresurrectible oblivion, but, as clinical experience accumulates, we are becoming more and more impressed by a conviction that x-light and operative interference will ultimately join hands in dealing with the majority of cases of deeply-seated cancer. The principal reasons leading to the growth of this conviction are as follows:

First, the beneficial power of x-light seems to be inversely proportional to the amount of resistance interposed between its source and the tissue which it is desired to influence; hence, removal of the mass of the growth would allow the rays to act with greater concentration upon the remote threatening peripheral areas where the malignant process is spreading. It is further desirable to carry deeply as intense a concentration of the rays as possible, because there is no way of telling to how great a distance the minute channels containing aberrant cells may have ramified.

Second, if, as now seems probable, x-light produces its happy effect upon cancerous degeneration, at least largely through a physiologically corrective influence exerted upon aberrant protoplasmic acactivity, the figure representing its power for good will be inversely proportional to the amount of aberration present. Hence, it would appear to be desirable to eliminate from the problem as much of the cancerous tissue as possible, thereby confining the field of intended influence as nearly as possible to tissues exhibiting normal developmental tendencies. It would appear to be easier to prevent normal cells from becoming involved in the degenerative tendency, or to reclaim those in which this aberrant tendency was but slightly developed, than to eradicate the vicious characteristic from tissue in which it had already become firmly seated.

Third, in many malignant masses thus far treated, although the progress appears to have been stayed, and the tumor has usually exhibited some shrinkage in size, yet a considerable portion of it has still remained, apparently encapsulated by healthy tissue and rendered harmless as far as malignancy is concerned. The question naturally arises, however, "May not this hard mass, even though it has been rendered innocuous as far as its present inherent characteristics are concerned, act, at some time in the future, as a source of irritation merely by reason of its presence, sufficient to again set up the malignant process in the tissues of an individual who has already once demonstrated his susceptibility?" Many of us are inclined to consider that the less cancerous tissue we have in either an active or an extinct condition, the better, and to recommend extirpation.

The facts available at present, then, would indicate that x-ray therapy to the exclusion of operative interference is a justifiable election in mammary cancers of the first-mentioned class, but that they should be closely watched while undergoing the treatment, and subjected to extirpation to be followed immediately by x-ray applications, if they fail to respond to the rays alone. In cases of the second class the election should ordinarily be total removal of the gland and axillary lymphatics, to be followed by a course of x-ray treatments. In some cases a course of x-rays should also precede the operation. The principles of management suggested here apply to malignant growths occurring anywhere in the body.

The third aspect, in which the support of operative interference becomes a necessity, obtains in those cases in which benefit does not follow upon the use of the x-ray alone; in which the malignant characteristics continue to be manifest, in spite of it. A case should ordinarily not be considered as having assumed this aspect until the rays have been thoroughly tried for at least six weeks, then followed by a cessation of treatment for three weeks more. The reason for this is that some cases do not exhibit responsive phenomena until after several weeks of *x*-ray therapy, and a few cases have been treated in which response was not manifest until the applications were interrupted, but they made rapid progress toward recovery in the interval. The curative influence does not always appear to be suspended when the applications are discontinued, but sometimes continues to be active for weeks afterward.

Cases presenting this aspect may be divided into two groups: those in which the malignant involvement is sufficiently limited to admit of complete removal by the knife, even though the conditions are such as to render recurrence a positive certainty under surgical measures alone; and those in which the involvement is so extensive that only a partial extirpation would be practicable.

The plan of procedure in cases belonging to the first group is obvious, and consists of total extirpation, followed immediately by a continuance of the *x*-ray applications.

With cases belonging in the second group two courses are open to us. The first is to continue the use of *x*-light, with its usual accompaniment, under these conditions, of intermittent attacks of a systemic toxæmia, which has so far usually ended in the death of the patient from exhaustion; or to excise as much as possible of the cancer and continue the rays immediately afterward, in the hope that, by the removal of the bulk of the pathological tissue, the *x*-rays will be enabled to exert a more efficient influence upon that which remains.

The first course is usually pretty effectual in relieving pain and securing euthanasia; and when this result is obtainable most patients will prefer to omit operation and die in peace and comparative comfort.

Nothing can yet be said as to the results procurable by the second course, but some of us are of the opinion that what is known of the effect of *x*-light justifies presenting the alternative to the patient and abiding by his decision. The condition without it is one of absolute hopelessness, and we believe that victims in this extremity should be given the benefit of any ray of light, however small, that can by any possibility be construed into a hope of securing a betterment of their condition. It goes without saying that the patient should be made fully acquainted with the meagerness of his chances before making his decision in reference to submitting to operation.

Apparatus and technique are subjects of the highest importance in *x*-ray therapy, and a general knowledge of the prominent features involved is of considerable importance to the general practitioner, who usually sees these cases first.

Previous to a year ago it was commonly held that coil currents and low-vacuum tubes constituted the most efficient apparatus, and that it was necessary to induce dermatitis in order to secure a curative result. Since then most brilliant results have been attained by employing high-vacuum tubes excited by the static machine, and without the induction of any dermatitis whatever. The coil and low tube, therefore, no longer enjoy an exclusive prestige. The disappearance of some cancers is hastened, as previously stated, by setting up a dermatitis, and in these cases the greater volume of rays obtainable from a coil is undeniably of advantage, inasmuch as a burn will result from shorter exposures; but the advantage is more apparent than real, as far as ultimate results are concerned, as the high-vacuum tube excited by the static machine will burn quite as thoroughly if the time of exposure is lengthened and the distance from the patient's skin decreased. I make this statement with a conviction born not only of clinical observation, but of an emphatic personal experience as well. Individually, I treat superficial cancers with static machine or coil indifferently, and have not been able, as yet, to convince myself that the ultimate results differed in the least.

In the treatment of internal cancers, however, the coil is at a distinct disadvantage, and the speaker has discarded it entirely in this class of cases in favor of the static machine. The reason for the coil's inferiority resides in the shorter period of time required for the production of a dermatitis, as compared with the conditions obtaining when a static machine is used. As a rule, an exposure of ten minutes to rays excited by a coil is equivalent to one of fifteen minutes to those excited by a static machine, as far as liability to dermatitis is concerned. At first thought it would appear that the greater volume of the rays from the coil-excited apparatus would make up for the required lessening of the length of the time exposure, but, up to the present time, experience indicates that this inference is not correct. The beneficial influence of the rays upon internal cancer appears to be pronounced in proportion as the exposure is prolonged, and not to bear so much relation to the volume of the light. Hence, an apparatus like the static machine, which enables us to maintain the application of the corrective impulses for a period of time one-third longer than when the coil is used, exhibits advantages which cannot fail to make themselves felt in the long run. There is reason to believe that it may even, in some cases, constitute the difference between success and failure in securing favorable clinical results.

The static machine used in the treatment of the cases just quoted was an apparatus of the pure Holtz type, with twelve revolving glass plates thirty-two inches in diameter; the so-called Morton-Wimshurst-Holtz influence machine. The results attained with this excellent apparatus have led me to hope that I may be able to do still better with still more powerful radiance, and I have just purchased a machine of the same type having sixteen revolving plates, with which I shall treat my deeply-seated cancers in the future.

The use of a shield during treatment to protect the sound tissues surrounding a malignant growth is usually advisable when treating small external cancers. It may be composed of any substance capable of absorbing the rays, but tin or lead foil, gauge about thirty, is most widely adopted at present. Rubber sheeting, about one-quarter of an inch thick, is recommended by Dr. Albert C. Geyser of New York, and, besides affording ample absorption of the rays, exhibits the additional advantage of not attracting any of the exciting current from the terminals of the tube. Under some conditions, when tin is used, enough current will be diverted from the tube terminal to render impossible the proper lighting of a high-vacuum apparatus. The shield should be large enough to cover all parts of the body exposed to the rays, and near enough to the anode to make the production of dermatitis at all probable, and a hole should be cut in it of a size and shape that will expose the growth and about an inch of the apparently sound tissue contiguous thereto. When treating internal cancer, a shield is, of course, uncalled for and useless.

In treating cancer of the uterus some operators use a speculum to distend the vagina, on the ground that it is thereby possible to bring the rays into direct contact with the growth and secure a greater curative influence. I have never adopted this plan, because a vagina susceptible of distension sufficient to bring the whole of the diseased tissue within the field of application is a rare phenomenon. The peripheral portion of the growth in which the process is spreading is that which it is most important to bring under the influence of the rays, and that is the very portion which the speculum fails to expose. Before reaching these parts the rays must pass through the perineal tissues the same with as without the speculum, hence, so far as securing material arrest of the malignant process is concerned, I fail to see in what way it offers any advantage, except when the growth is small enough to render adequate exposure possible. If the growth is small enough for this, it would probably be better not to depend upon *x*-rays exclusively, but to remove it with the knife first, and ray it afterward, or subject it to massive mercuric cataphoresis.

Unless he is unusually susceptible, the *x*-ray therapist will not require protection for himself, as the locating of the tube, placing of the shield, and all other procedures requiring him to remain in the field of threatening influence are accomplished before the tube is lighted. In some cases, however, a protection is necessary, especially for the hands, and I have used ordinary gloves, backed with rubber sheeting one-eighth of an inch in thickness, with entirely satisfactory results. As I have said previously, the rubber is efficient in absorbing *x*-light, and a glove so constructed is fairly flexible and easy to manage.

In conclusion, I wish to state most emphatically that the therapeutic application of the *x*-ray should be intrusted, at the present time, only to the hands of operators who are skilled and experienced in this particular line of work, when it is possible to secure such, as the difference between efficient and faulty technique will frequently constitute the difference between success and failure in clinical results, as well as between safety and danger to the patient.

TYPHOID GANGRENE.

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THE appalling complication of typhoid fever which forms the title of this paper is fortunately rare. Flint, whose observant eye missed very little at the bedside, never saw a case. Prior to the publication of Keen's excellent monograph,[1] a few contributions to the subject had been made, and are quoted by Keen, who brings the matter down to 1898. The term gangrene, as used in this article, excludes the familiar and frequent bed-sores. Its possibility, in mild as well as in severe cases, should always be borne in mind, especially at that period of typhoid when recovery seems to be a near event. Its commonest time of occurrence is the second and third weeks, during which time $39\frac{2}{10}$ per cent. of the 148 recorded cases occurred, the others ranging from the fourteenth day to the seventh week. The occurrence and date of onset are determined by a combination of factors, *i. e.* weak heart, sluggish circulation, general enfeeblement of mind and body, obstruction of the blood vessels, either as a result of arteritis or of autochthonous thrombosis, and the evil effects resulting from a diffusion of the bacilli and their toxic products throughout the tissues.

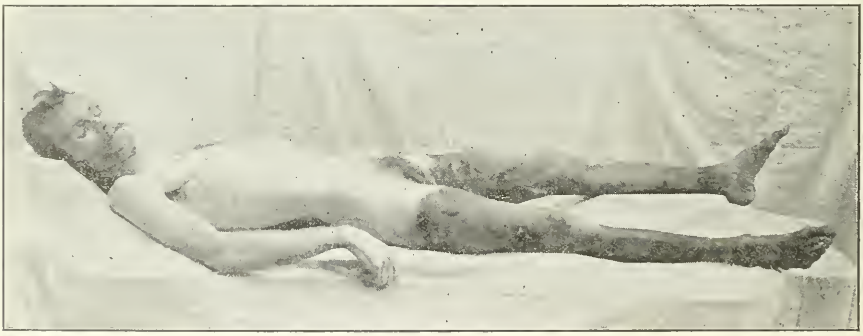
The operation of these causes results in the occlusion of a vessel by coagulation of its contents and thickening of its wall, which produces, sooner or later, a thrombus, with complete interruption of the circulation. It is probable that a diseased condition, both of the blood and of the blood-vessel wall, is necessary for the production of thrombosis The bacillus of typhoid circulates in the blood, and is capable of producing disease and death of the corpuscles, thus liberating the fibrin ferment which they contain, and the union of this ferment with the fibrinogenous ferment of the blood induces coagulation.[2] In grave infections the endothelium of vessels undergoes fatty degeneration and is desquamated. Every lesion of the wall of the vessel forms a halting point for the accumulation and subsequent dissolution of the corpuscles. Other changes are produced in the walls of the arteries by the presence in them of typhoid bacilli. These set up a specific infective typhoid arteritis, and this is believed, at the present time, to be the principal cause of gangrene of the extremities in the course of typhoid fever.[3] These changes more readily occur in individuals already the subjects of arteriosclerosis, amyloid degeneration, syphilitic infection, mechanical or chemical injury, or inflammatory process which injures the intima of the vessel. Several investigators have claimed to have cultivated the typhoid bacilli from the walls of the arteries, and two forms of arteritis have been described: first, an obliterating form, and, secondly, a parietal form. In the first, the lumen of the vessels and its branches is gradually obliterated and the gangrene is correspondingly slow and not sudden, as in embolism. As a rule, therefore, in arterial thrombosis the gangrene is dry, but occasionally the vein also becomes obstructed and moist gangrene develops. In the second, or parietal, form of arteritis, thrombosis does not usually occur, and these cases generally recover.

The cause of gangrene in typhoid fever, then, may be summed up in the single phrase—obstruction of the circulation. This depends upon four factors, the altered blood, the weakened heart, the mechanical difficulties of the circulation in distant parts, and, lastly, the local effects of the bacillus itself. Four different varieties of obstruction may exist and sometimes coexist: First, arterial thrombi of cardiac origin; secondly, autochthonous thrombi in the arteries; thirdly, autochthonous thrombi in the veins, and, fourthly, thrombi in the small peripheral vessels.

As a rule, typhoid gangrene affects the lower extremities either singly or consecutively. In the case about to be related, however, the process invaded both legs simultaneously, and the clinical diagnosis was arterial thrombosis of autochthonous origin, involving the aorta at its bifurcation, This gave us the clinical picture of dry gangrene, beginning in the distal parts and extending upward to the upper third of both thighs. Later probably, from the supervention of venous thrombosis as well, moist gangrene began to appear, at first in the proximal parts.

Patrick McG., twenty-nine years old, laborer, married, was admitted to Ward 17, Bellevue Hospital, October 30, 1902. His father died from consumption and hard drinking. One sister died from spinal meningitis. Three brothers and two sisters are alive and well. Patient drinks beer and whiskey occasionally, very rarely to excess. He denies any venereal disease or other serious illness.

On October 12 began to suffer from anorexia, headache loose bowels, with foul-smelling greenish stools, vomiting, cough, and expectoration. On October 26 a physician at his home found his temperature to be 103°, sent a Widal test to the Board of Health laboratory, which gave a positive reaction in dilution of 1 to 20, and ordered quinine in doses of twenty-four grains daily for three days. At the end of that time patient felt much better, and was allowed to get up and go out to the toilet. Next day he was much worse, and complained of numbness in, and coldness of, his feet. These symptoms being progressive, an ambulance was called. On admission there was no evidence of either valvular or myocardial disease. In addition to the ordinary signs of typhoid, there were noted coldness of feet, diminished sensibility in feet, slight pulsation in abdominal aorta, and a noticeably rapid clotting of blood drawn for examination by puncturing the ear. A small incision was made into the leg without producing any bleeding. A positive reaction to Widal's test was obtained, within a time limit of one hour, in dilutions up to 1 to 200. Next day, November 1, discoloration appeared in feet and legs. No pulsation could be felt in femorals or in leg vessels. Discoloration rapidly ascended to the upper fourth of each thigh, simultaneously and symmetrically, and did not involve penis, scrotum, perineum, or buttocks. The femoral arteries felt hard and cord-like. Rectal examination showed no pulsation in the internal pudic arteries. The purplish discoloration gradually deepened in color, but did not extend, and patient did not complain of pain until November 4, when severe shooting pains in ankles appeared and required use of morphine. On November 3, 10 c.c. of blood were taken from vein, for bacteriological examination. Cultures were reported as sterile. No pulsation in the abdominal aorta could now be felt. On November 7 blebs began to appear on both thighs near the lines of demarcation, and thenceforward progress was rapidly and steadily downward, moist gangrene having supplemented the arterial dry gangrene, until the patient died at 3 A.M. on November 14, 1902. There was no paralysis of either bladder or rectum up to the time of death.



All our powers of persuasion were unavailing to secure permission to hold an autopsy, without which our case lacks much scientific interest. It is merely offered for record to renew in our minds the necessity for caution in prognosis in typhoid fever until the time for failure of the circulation has been safely passed. Of course, it might have been impossible for autopsical research and bacteriological study to reveal the exact method of formation of the thrombosis,[4] yet their absence is regrettable. The accompanying illustration fairly represents the bedside picture. The rarity of the condition is attested by the fact that no case of arterial thrombosis was found in 2,000 autopsies in Munich on typhoid-fever cases, although the same series yielded fifty-nine cases of thrombosis of the femoral vein.

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THE ETIOLOGY OF RELAPSE IN TYPHOID FEVER.*

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By the term "relapse" in typhoid fever is meant a repetition of a part or the whole of the morbid process, after the temperature has reached the normal, and all the other symptoms of the primary attack have practically disappeared. Therefore, we must differentiate on the one hand from a simple recrudescence, or relighting of the primary attack, and on the other from a true recurrence, or subsequent infection from some extraneous cause, in spite of the immunity which is usually afforded by the one attack.

We are all familiar with the recrudescence, generally occurring during early convalescence, and characterized by a sudden, but usually brief, elevation of temperature, following excitement, fatigue, or error in diet. And, likewise, we occasionally see or hear reported a second or third attack of enteric fever, separated by intervals of five, ten, or fifteen years, as the case may be. According to general observation, these second attacks are milder in type than the primary one, and more common in men than in women—this last fact being due, no doubt, to the increased exposure to infection of the male sex.

But while these circumstances to which we have just referred are fairly common, and generally easily explained, the occurrence of a true relapse, after an absence of fever and other symptoms for a period varying from a few days to several weeks, although met with in from 7 to 20 per cent. of all cases, is always of particular interest to even a slightly inquiring mind, and often unexplainable to the most inquisitive.

As regards the etiology of the "primary" attack, there has always been more or less discussion. But it is now tolerably well established that the typhoid bacillus may gain entrance to the body not only through the alimentary canal, in our food and drink, but also occasionally through diseased tonsils or the lower respiratory tract when not thoroughly desiccated and air-borne. Concerning the latter belief, R. H. Quill[1] has recently reported an epidemic in a large military camp, among Boer prisoners, in which the surrounding guards were infected in spite of the fact that all the water avenues were efficiently guarded, making the water-borne origin impossible. He thinks the dust and wind served to carry the bacilli from the latrines and urinals. It is further conceded that no matter what the avenue of entrance may be, the disease is primarily a systemic infection.

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*Read before the Crawford County Medical Society.

The examination of the blood of typhoid-fever patients for the bacilli at first gave exceedingly variable results, and up to the present time very little dependence has been placed in the method, except by laboratory enthusiasts. But systematic investigations of late have definitely proven that the bacillus frequently exists in the general circulation in enteric fever, and make it very probable that in every case it is present in the blood some time during the course of the disease.

Courmont[2] has found the bacilli in pure culture in blood from a vein of the arm in several grave cases, from the first to the twenty-third day, and says the same is true in relapse. The fact that the organism has been found in the blood from the roseola; in the urine, meninges, middle ear, pelvis of the kidney, lungs, and in the aborted fœtus, both during and after maternal typhoid fever, can be explained only on the ground that it is deposited in these various seats by the blood. And this brings us quite naturally to the etiology of relapse, since the only plausible theory for this occurrence seems to be that it is a reinfection from some bacillary nidus within the patient's body, which during the well interval, whether of long or short duration, has remained localized and quiescent.

It is probable that this reinfection may take place (1) by inoculation of healthy intestinal glands with sloughs thrown off from those first infected; (2) by a deposit of bacilli in the gall-bladder, with or without a resulting cholecystitis, and later an expulsion of this colony with bile into the duodenum, and (3) by a colonization of bacilli in the spleen, as it has been noticed that occasionally in relapse the splenic enlargement does not subside with the fever of the primary attack.

Zenetz[3] several years ago expressed the belief that in the cases in which relapse occurs there is no tendency during convalescence to regain the weight lost during the primary attack, and argued from this point that relapse is not a reinfection, but that these patients have never really recovered from the disease. This view certainly does not hold good in many cases, as we frequently see the relapse after at least a portion of the weight has been regained, and sometimes when the usual standard of health has been reached. He very properly asserted, however, that a case of enteric fever is never free of danger of relapse until a time at least equal to that of the entire febrile period has been passed.

In a series of 1,626 cases, Berg[4] mentions a relapse after seventy-seven days of normal temperature, showing an interval double the time of the original febrile period.

The recent Johns Hopkins Hospital Report[5] is responsible for the statement that "high authorities consider the gall-bladder as one of the surest places to obtain a pure culture of the "Bacillus Typhosus," and in this connection it is well to mention Camac's[6] report in 1899, of forty-three cases of cholecystitis complicating and following enteric fever, in thirty-four of which the specific organism was isolated.

Schlier[7] has recorded a fatal case of enteric fever in a man of nineteen years in which the autopsy showed a purulent cholecystitis with rapture of the gall-bladder and peritonitis. Fluid taken from the gall-bladder wall contained a bacillus resembling that of Eberth.

Merkel[8] reports a similar case in a man who developed icterus during convalescence, with peritoneal symptoms and death. He found an abscess cavity in the gall-bladder and under surface of the liver, with a phlegmonous inflammation of the cyst wall. There were no calculi, but the typhoid bacilli and staphylococci were found.

Malvoz[9] had a similar experience, in which, besides the usual lesions, he found numerous small ulcers on the inner surface of the gall-bladder, while its peritoneal covering and the adjacent colon showed inflammatory changes. In these lesions streptococci only were found.

McDaniel[10] and others have reported carefully analyzed cases of primary typhoid cholecystitis, without apparent intestinal lesions.

Going back ten years, we find that Chantemesse[11] maintained that the anatomical changes in Peyer's patches should not be considered an infallible criterion because of the fact that the bacillus had been found in pure culture in the various organs of the body, both pre- and post-natal, without intestinal involvement, and that it may remain latent in one or more of these organs, retaining its viability and virulence for a long period after the disease has apparently terminated. As regards, further, the longevity of the bacillus, in the intestine and in these various niduses, the living germ has been found in the bodies of men dead from enteric fever, three months after death, and various sequelæ, due apparently to infection with the specific organism, have occurred many years after the attack of enteric fever.

Eugene Wasdin[12] thinks there must always be a colonial development of the organism other than in the intestinal canal, as shown (1) by the presence of the bacillus in the blood before it is found in the intestinal contents, now appearing in the stools until the end of the first week, and (2) by the more or less marked colonization in the lung, attended by bronchial irritation, with cough and expectoration of the bacilli. Indeed, this observer has gone so far as to say he believes this lung colony to be the primary one; while Carnac[13] has recently declared the liver to be the primary center of infection.

You may say "enough of this theorizing—give us practical typhoid-fever data," and my reply lies in the fact that, undeniably, this same spirit of curiosity and investigation has served to make the term "enteric fever" a misnomer—to take it from the class of intestinal diseases and place it properly among the systemic infections, with the knowledge that the enteric lesion is secondary, and but one of several. The main object of this review is to point out the probability that a large percentage of relapses in typhoid fever is due to the gall-bladder and liver colonization, and subsequent reinfection of the duodenum and lower bowel with the bacilli-laden bile. In support of this belief I wish to consider briefly the case of a man who had a mild primary attack of typhoid fever, a complicating cholecystitis, an apparently complete recovery, and a typical relapse after an interval of thirty-five days.

C. O., age thirty-four years, was a perfect specimen of manhood, having never before been sick. He was first seen on October 11, 1901, when he had been sick one week, and presented a fairly complete picture of a mild attack of typhoid fever. Rose spots were found on the twelfth day, and the course of his illness was, as usual, up to the fourteenth day, when he was seized with vomiting, and some pain and tenderness over the gall-bladder region. The liver dulness was increased and the overlying muscles somewhat rigid. These local signs increased in severity up to the seventeenth day, when the gall-bladder could be palpated as a mass the size of a small orange, giving dulness on percussion, but no apparent fluctuation.

The temperature which had been 102° on the evening of the fourteenth day reached 103$\frac{3}{5}$° by the nineteenth, when, under an expectant plan of treatment, these symptoms abated, and convalescence was otherwise without incident, the temperature reaching normal on the twenty-third day. He was out in a week, and had resumed his occupation and usual habits of living when, on November 30, or six weeks after having discharged him, I was again called and found the patient had been having a little fever and malaise for the past week, culminating in a chill on the evening before. I found him in bed with a temperature of 102°, and, suffice it to say, he had a repetition of all the symptoms of the original attack, with splenic enlargement, bowel signs and eruption appearing on the tenth day. His highest temperature was 103$\frac{1}{5}$°, on the fourteenth day, and normal on the eighteenth, with perfect convalescence.

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WOODWORTH BLOCK.

PASTEURIZED AND STERILIZED MILK AS A CAUSE OF RICKETS AND SCURVY.

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As COMPARATIVELY little has been written on this subject, it may be of interest to the profession to hear the results obtained from feeding infants on the heretofore much-lauded sterilized and pasteurized milk.

I have taken a hundred and seventy-nine consecutive cases which have been fed during a period of from three to eighteen months, pasteurized milk being given for nine months of the year, while during the three summer months sterilized milk was given.

These observations have been made in a large dispensary where there is a well-equipped milk laboratory and where, during nine months of the year, the milk has been pasteurized and, during the three summer months, sterilized. It is all carefully modified to suit the age and condition of each child, and every precaution has been taken to make the bottles absolutely clean and sterile before using.

These bottles with pasteurized milk are given out each day by competent nurses.

I have examined the children so fed with the utmost care and have found in 97 per cent. of the cases unmistakable signs of rickets or scurvy, most of the cases being rickets or a combination of rickets and scurvy, the one merging into the other. About forty of these children had from five to seven feedings of the sterilized or pasteurizd milk, according ing to the time of year, each day, supplemented by breast feedings. These all had signs and symptoms of rickets, although not so marked as in those who were fed exclusively on pasteurized or sterilized milk.

The changes which were most frequent were beading of the ribs, pot belly, sweating about the head, flabby muscles, craniotabes, and restlessness at night. The later changes were, in addition to those already enumerated, large, square head, enlarged epiphyses, delay in the eruption of the teeth, constipation or diarrhœa, malnutrition, bow legs, kyphoses, chicken-breast, horizontal ring, and open fontanelles.

An infant food must take the place of and simulate mother's milk to be an ideal food, and in order to do this it must be of animal origin, it must not be heated above blood heat, as a temperature much above that disorganizes the albuminoids and the mineral constituents; it must contain all the ingredients of mother's milk in the same proportions; it must contain no ingredients not found in mother's milk.

The aim of sterilization and pasteurization of milk has been to destroy disease germs, and preserve it,—that is, to keep it from turning sour.

Uncontaminated milk is necessary, we admit, for successful infant feeding, but contaminated milk, no matter how carefully modified and pasteurized, will cause disordered digestion and improper assimilation in the young child.

Sterilization or pasteurization of milk makes it a dead, preserved food. Mother's milk, on the contrary, is a live, fresh food.

Winters says: "I have seen scurvy where pasteurized, modified milk had been the only food. Recovery was rapid with the continued use of the same food raw." Again he says, "Fresh, pure milk is not improved by pasteurization; it is not more digestible, and it is in no way a better food for an infant."

Sterilized or pasteurized milk is to the infant what canned or salt food is to the sailor.

It is unnecessary to pasteurize milk to destroy disease germs when a pure milk supply is provided for, and this can be practically done, by having the herd frequently subjected to the tuberculin test to exclude tuberculous cows. The cows must be groomed, the teats and the udders and the milkman's hands thoroughly washed and dried before milking. The milkman should wear clean, washable clothes, and the milking should be done in a building away from the stables.

The milk should be received into sterilized quart bottles, which are then tightly sealed, labeled with the dairyman's name and the date, and cooled immediately to a temperature of 40° F.

Experiments which have been made at the Yale University Agricultural Experiment Station show that when milk is cooled to 40° F. all bacterial growth is at once arrested, and continues so long as the milk is kept at that temperature. Milk has been kept sweet in this way for several weeks.

In conclusion: I would say cow's milk is generally acknowledged to be the best substitute for mother's milk, when properly prepared, but cow's milk is not bettered by sterilization or pasteurization; on the contrary, this treatment undoubtedly makes it the direct cause of rickets and scurvy and kindred diseases in children.

The object of pasteurization can be safely accomplished, in the opinion of the writer, by the above-described care of the milk. It therefore appears that this subject warrants a more careful investigation by the profession, as it is a vital question in this city, since hundreds of infants are being fed on sterilized or pasteurized milk.

222 WEST FIFTY-NINTH STREET.

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THROMBOSIS IN CONNECTION WITH TYPHOID FEVER.

THE cause of thrombosis after typhoid fever is not definitely known, although the condition is usually ascribed to infection of the wall of the veins. A great deal of interest has been evinced with respect to the etiology of thrombosis or phlebitis, as a sequence of typhoid fever in England since the South African war, owing to the fact that it occurred far more frequently in South Africa than in England. Many observers attribute its prevalence to the consumption of canned foods, which served as the mainstay of the British Army when far from its base. Dr. H. D. Rolleston considered it was due to diminished resistance, brought about by the hardships incidental to guerilla warfare, and that the condition was one approaching scurvy.

Professor A. E. Wright, the discoverer of the antityphoid serum, and Dr. H. G. Knapp recently read a paper before the Royal Medical and Chirurgical Society, in which was recorded the result of observations with regard to the connection between thrombosis and typhoid fever. These observations dealt with the following details: The blood (*a*) in typhoid-fever patients in the acute stage of the disease, (*b*) in convalescents from typhoid fever, and (*c*) in normal persons. In each case the coagulation time of the blood, and its contents in lime salts were measured. The investigators then described the method of determining (1) the coagulation time of the blood, and (2) the amount of calcium salts present in the blood. The results of the blood examinations undertaken on normal men showed that there was between different individuals, as well as between the blood drawn off at different times from the same individual, a considerable difference, not only with respect to the blood coagulation time, but also with respect to the content in lime salts. It was found that the coagulation time might, in the normal male adult, vary between three and one-half minutes and fifteen minutes, and the minimum strength of oxalate of ammonium solution required to avert coagulation from 1 in 800 to 1 in 2,000.

Of importance in connection with the method of measuring the contents of the blood in lime salts was the fact that a blood which contained less calcium salts than a control blood was not always less coagulable; nor again, was a blood which contained more lime salts necessarily more coagulable than the control. The content of a blood in lime salts, as estimated by this method, was, in fact, far from being an index of its coagulation.

The results of the blood examinations undertaken upon typhoid-fever patients during the acute stage of the disease showed a general diminution of blood coagulability. The results of the blood examinations undertaken upon convalescents from typhoid fever showed a marked increase of blood coagulability. In eight cases, all of which were examined during the course of the pyrexia, and after the return of the temperature to the normal, it was found that the coagulation time of the blood was, on the average, four and one-half times shorter in the convalescent stage than during the course of the fever. In four of these cases blood coagulation was abnormally rapid, and in each of these femoral thrombosis had supervened, and these were the only cases among those examined in which it had occurred.

The results of the calcium salts estimations showed that the average content of the blood in lime salts, as estimated by the oxalate method, was in the case of convalescents from typhoid fever about twice that of the normal blood. It had been pointed out by Wooldridge that there supervened upon the "positive phase" of increased coagulability, which culminated in the thrombosis, a "negative phase" of diminished or abolished coagulability. By reason of the supervention of this "negative phase" the thrombus, when once formed did not receive any further accretions of fibrin from the circulating blood. Quite different were the circumstances when the blood maintained its original coagulability. Here, as soon as any blood flow was re-established past the clot, additional fibrin would be deposited, and the thrombus would grow larger and firmer until at last it was converted into a solid plug of "white blood-clot" which definitely blocked the vessel. Probably in this way were sown the seeds of the permanent trouble so often seen after thrombosis in typhoid fever. The treatment proposed by Professor Wright and Dr. Knapp was to place an obstacle in the way of this deposition of fibrin by diminishing the patient's blood coagulability, and with this view, a decalcifying agent—citric acid—was administered with the desired effects. The authors conclude that the increased coagulability during the convalescent stage of typhoid fever might be dependent upon an excess of lime salts. This excess was probably derived from the milk which, for the most part, constituted the exclusive dietary of the patient. Cow's milk contained 1 part in 600 of CaO as compared with 1 part in 800 contained in lime water. If the milk dietary of the typhoid-fever patient was the key to the problem of the frequency of thrombosis in the period of convalescence a clue had, perhaps, been obtained also to the resolution of certain other problems, in particular the problem of the frequently beneficial effect of a milk dietary on "serous hemorrhage" from the kidney, and the comparative rarity of thrombosis after acute fevers, such as Malta fever, in which a milk dietary was not imposed upon the patient. At the same time indications for the prophylaxis and after-treatment of thrombosis were obtained both when it occurred in connection with typhoid fever, and when it occurred in connection with other diseases. The remedial measure which would seem to be indicated was the exhibition of citric acid. The same treatment, initiated as soon as the danger of intestinal hemorrhage had been surmounted, would be appropriate for prophylaxis of thrombosis in typhoid fever, or, as an alternative, with a view to restrict the intake of lime salts, a partial decalcification of the milk might be undertaken. The partial decalcification in question could be readily effected by adding to the milk from 0.25 to 0.5 per cent. of citrate of soda—from 20 to 40 grains per pint.

If an excess of lime salts be the principal factor in the causation of thrombosis after typhoid fever, then it would seem as if the most rational treatment would be to diminish the blood coagulability by means of a decalcifying agent, of which agents citric acid is, according to Professor Wright, the most effective. Again, if the excess of lime salts be due to a milk dietary, it would certainly be advisable to partially decalcify the lactic fluid before the patient is permitted to take it. However, there are many diseases in which milk is the staple diet, and thrombosis seldom appears.

In the discussion which followed the reading of the paper by Professor Wright and Dr. Knapp, Dr. Ogle asked if the treatment by citric acid might not be attended by some danger of embolism, owing to the clot becoming dislodged from the wall of the vessel.

The paper is a somewhat noteworthy contribution to the medical literature of typhoid fever, and seems as reasonable an interpretation of the cause of typhoid thrombus as any yet given.

THE REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The report of Surgeon-General P. M. Rixey shows the operation of the Bureau of Medicine and Surgery for the past year, the medical needs of the service for that ending June 30, 1904, and the medical statistics of the Navy for 1901. During the past year thirty-three applicants were examined for admission to the Medical Corps, and sixteen were found qualified. The most urgent need exists for an increase in that corps. For, while between 1897 and 1901 the personnel of the Navy has increased 70 per cent., and the various medical duties from 75 per cent. to 174 per cent., the personnel of the Medical Corps has increased but 15 per cent. The Surgeon-General says: "Congress, by wise legislation in raising the age limit for entrance and increasing the rank of Assistant Surgeons, has made it possible to fill the corps, and there are no vacancies. The hope entertained by the young medical officer just entering the service for future distinction has been so little realized, however, that the resignations for the year 1901 numbered five, nearly one-fourth of the number taken into the service in the same period. The reasons leading up to these resignations could be traced to dissatisfaction with the opportunities for purely professional work and advancement offered by a service overworked and undermanned. Lately two promising candidates before the Board of Examiners, after passing exceptionally brilliant examinations, refused commissions in the Navy, but accepted those offered by another branch of the Government service."

Moreover, great injustice will be inflicted in the near future upon assistant surgeons, who, at the time of accepting commissions, were virtually promised examination for promotion at the expiration of three years' service; which promise it will, however, be impossible to carry out under present circumstances. Conservative estimates place the needed accession in strength at 150, and it is urgently recommended that Congress be now asked to authorize an increase of at least seventy-five in the lower, or sea-going, grades, and it is further recommended that twenty-five be made surgeons, making the total number eighty instead of fifty-five now authorized by law, and the remainder passed assistant surgeons and assistant surgeons, making a total in these grades of 160 instead of 110. The other additions to the Medical Corps recommended are twenty-five pharmacists, an unstated number of contract dentists, and a corps of female nurses for the larger naval hospitals. With a view to training the newly-appointed assistant surgeons for the specialized work demanded by the Government service (especially necessary in view of our widely-distributed possessions, and of the fact that the naval medical officer must be his own consultant and laboratory expert) it is expected that a class will be assembled at the "Naval Museum of Hygiene and Medical School" in Washington, D. C., in October, 1902. With an increase in the number of medical officers it will be possible to grant periodical leaves of absence for study at medical centers, to enable officers to keep in touch with medical progress.

Heretofore much trouble has resulted from nonattention to medical and hygienic questions when the construction of vessels has been under consideration. As a general rule, the medical officer has first come into contact with the problems of ventilation, drainage, housing, and berthing of the crew, storage of food and water, etc., when ordered to a ship ready for commission, and one of his first duties has been to report on her defects in these particulars; defects not infrequently involving great expense to remedy, and sometimes impossible of change. These considerations have, we are glad to note, led to the Bureau's being granted representation, in an advisory capacity, in relation to matters of construction.

Ambulance and hospital ships are strongly endorsed "as a necessary adjunct to a fleet or station (and by hospital ship is means one that is equipped for hospital purposes only, and has the right to fly the flag of the Geneva Conference). . . . The late efforts to secure a hospital ship for the winter maneuvers in the West Indies, show conclusively how difficult it is to secure action till the time of need arrives, and how easy it is then to take everything for other purposes and leave the medical officer to combat the emergencies as they arise with what may be at hand."

During 1901 23,678 applicants were examined for admission to the service, of which 38.45 per cent. were rejected for all causes, 2.47 per cent. being for color blindness. Seven insane were committed to the Government hospital. Out of a total service strength of 26,101 there occurred: Epidemic catarrh, 1,315 cases; malarial diseases, 1,112; rheumatic affections, 778; wounds, 717; diarrhœal affections, 695; gonorrhœa, 617; contusions, 581; syphilis, 546; sprains, 492; and dengue, 427. Of 166 deaths, twenty-three were from drowning; twenty-two from pneumonia; seventeen from heart diseases; fourteen from typhoid fever; thirteen from pulmonary tuberculosis, and ten from local injuries. For every 1,000 men the figures for 1901 and 1900 were, respectively: Admissions for disease, 652.96, 688.90; admissions for injury, 113.78, 135.22; discharges for disease, 32.56, 24.66; discharges for injury, 4.76, 4.58; deaths from disease, 4.28, 5.01; deaths from injury, 1.90, 3.87; daily average of patients, 33.99, 34.80; average number of days for each case under treatment, 11.18, 15.41.

A number of special papers terminate the report. Medical Inspector Manley H. Simons discusses the sanitary aspects of the Isthmus of Panama. In November, 1890, when the *Enterprise*, with a crew of about 140, reached Colon at the height of the rainy season, the waters of the Chagres and Minde rivers extended well into the bay, and the health afloat and ashore was good. Late in December the dry season set in, and heavy trade winds flooded the harbor with green sea water, and drove back or covered up the muddy water. Within two weeks Chagres, or pernicious remittent, fever attacked the crew, and was very prevalent ashore. By the end of January fully half the crew had had it. Ashore many (principally Jamaica negroes) had died. Most deaths occurred in hovels built over the edge of the swamp between Colon and the back bay out of débris of burned houses and of poles cut in the swamp. Through the cracks in the floor table refuse and other filth were thrown, and the hogs made wallows there in which water stood long after the dry season had set in, thus making a fine breeding-ground for mosquitos, which swarmed after dark. The disease was also very fatal in a row of old houses opposite French Colon, built below the level of the railroad track over the shallow back waters of the swamp. The railroad physician pronounced it pernicious intermittent, but the French physician thought many cases yellow fever. On the *Enterprise* most cases were remittent; a few intermittent. At Panama, in November, the *Iowa* landed 276 officers and men for ten days. Five officers and sixty-seven men slept in the railroad station, a quarter to a half mile back from the harbor; the officers on the second floor, with mosquito nets, the men in an open room on the first floor, without nets. The mosquitos were very troublesome. The other officers and men slept in an open shed on the wharf, without nets, but were not troubled by mosquitos. Of this party two had remittent fever, one of the cases having probably been contracted in the town at night. At the station, one officer had light, and twenty-six men severe, remittent fever. The fever recurred, if at all, on the seventh or fourteenth days. Though it was the rainy season, ten days without rain had dried the pools and exhausted some cisterns. Owing to local prejudices, it is difficult to get the facts as to the prevalence of, and the mortality from, yellow fever, but the author believes it is not very prevalent, though Indians from the mountains quartered in old barracks are said always to develop it. Certainly hundreds of workmen on the canal died, but the probabilities are that most of the deaths were from pernicious remittent fever and dysentery. The former is so severe, and the gastrointestinal symptoms so pronounced, that a clinical diagnosis of it from yellow fever is impossible. Diarrhœa, dysentery, and simple continued fever are common and severe. Typhoid fever is, it is claimed, practically unknown. Smallpox was prevalent, but malarial fever occurred only among unacclimated government troops. Many valuable suggestions are made as to the hygienic precautions necessary if the Panama route be chosen. We should control at least three miles on each side of the canal, and police it thoroughly. The writer believes the pernicious remittent fever can be prevented, but it takes more quinine than can be borne comfortably if other measures are neglected. Mosquitos certainly carry the contagion, but flies and other vermin may also carry both it and yellow fever. He treats it by a saline, 60 cgms. of acetanilid, repeating the latter cautiously, in 30 cgm. doses, with caffeine, and by sponging with alcohol and cold water; when 100° is reached, 1.6 grams of quinine is given, with, four hours later, 1 gram or more of quinine; but if, meanwhile, the temperature has risen, the acetanilid and sponging are repeated, and 2 or 2.3 grams of quinine given. The temperature is generally over 105°, and there is diarrhœa and sometimes vomiting. Generally there is a forenoon and an afternoon exacerbation, but one nocturnal and two daily remissions may occur.

Assistant Surgeon Edward M. Blackwell finds elephantiasis in 10 per cent. of adult Samoans, involving, in order of frequency, legs, scrotum, arms, and mammæ; the labiæ once, the anus never. Scrotal hydrocele is more common than scrotal elephantiasis.

Assistant Surgeon Charles S. Butler describes the leper settlement at Molokai, Hawaiian Islands. He thinks the disease upon the wane. The diagnosis is made bacteriologically; a small, wedge-shaped piece of skin, with the subcutaneous tissue, is excised and triturated, with five or six drops of salt solution, to a soupy consistency, and smears are stained by Gabbett's method. As but one physician is employed at the settlement, and his time is fully occupied with clinical work, no records are kept and no scientific work attempted. At a local medical meeting the theory of infection via the mosquito was propounded, based upon the location of the initial lesions where mosquitos bite, and upon the finding of the microorganism in mosquitos from infected houses.

Surgeon John F. Urie found albuminuria in every one of thirteen cases of influenza; in amount from a trace to 1-4 of 1 per cent. After convalescence a decided show remained in four cases, a slight trace in five, and none in four. He adds: "The mildness of the disease in all the cases under study, as evidenced by the temperature curve, as well as by the subjective symptoms, would hardly lead one to make a urinary analysis in the usual routine of practice. In fact, scarcely one of these cases would have sought professional aid in civil life. Does the evidence of the action of the disease on the kidneys shown by this study suggest an explanation for the gravity of these cases of influenza in older people, and in those afflicted with chronic disease?"

Surgeon Millard H. Crawford reports the finding of the estivo-autumnal parasite in ten cases out of forty-one of apparent influenza. These cases were clinically distinguishable by evidence of cerebral congestion, cyanosis, abortive chills, slight fever, and the disappearance of the bronchitis almost immediately upon the administration of quinine.

PURE UREA IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

Some months ago mention was made editorially in the Medical Record of a series of papers contributed by Dr. H. Harper to the *Lancet*, stating that "urea exerted a specific action on tuberculosis." Dr. Harper had given the treatment a lengthy trial with good results, and gave his reasons why urea should act beneficially on those suffering from tuberculosis. The publication of these articles aroused much attention, and several medical men have tried this treatment for consumption.

In the *Lancet*, November 22, Mr. S. Vere Pearson, medical registrar of St. George's Hospital, London, has published a paper in which he details the results gained from the treatment of seven cases of pulmonary tuberculosis by urea at the Brompton Hospital for Consumption These patients were given urea in quantities varying from five ounces to seventeen ounces during a period of from one month to fifty-eight days.

The conclusions arrived at from a study of the seven cases were based upon a comparison of the progress made by these patients with the average progress made by similar patients in the Brompton Hospital. There were taken for comparison the first 100 patients over twelve years of age with undoubted pulmonary tuberculosis, seventy-five males and twenty-five females. Of these, nine died, seventeen lost weight, seven remained stationary in weight, and the rest gained weight varying in amount from one and a half pounds to twenty-three pounds. The average alteration in weight was a gain of six and one-quarter pounds. Among those who gained weight, the majority showed improvement in physical signs as well as in general condition. Not only this, but, in the great majority, the temperature and pulse improved, and the expectoration diminished. The patients usually stayed about three months in hospital.

Of the seven patients given urea, one died. The average gain in weight was four and a half pounds, and the average length of stay was three months. Some of them improved in general condition, but in none did the physical signs show any appreciable improvement, and in several cases there was extension of disease as shown by physical signs. Urea appeared to exert no special influence upon either the pulse or temperature, and in no case was there any marked diminution in the quantity. or any appreciable improvement in the quality of the expectoration.

The amount of urea given these patients was not quite so large as the quantity sometimes employed by Dr. Harper, but Mr. Pearson is of the opinion that if urea exerts a specific action on tuberculosis, that action should make itself evident within two months when fairly large doses are being taken regularly. The conclusions arrived at from a study of these cases do not, of course, exclude the possibility that urea acts beneficially in cases of tuberculosis other than pulmonary, such, for example, as glandular tuberculosis and lupus, two varieties specified by previous users of this drug. But, so far as it is possible to judge from the results obtained in the above cases, the conclusion is that, in chronic pulmonary tuberculosis, there is no special action exerted by pure urea. It appears to exert no influence either in arresting the ravages of the disease in the lung, or in counteracting the deleterious effect upon the constitution.

Mr. Pearson summarizes the therapeutic action of urea as a result of his experience in testing the drug on persons suffering from tuberculosis as follows: (1) Urea given by the mouth in patients with chronic pulmonary tuberculosis increases the output of urea, but the total increase in this output does not, as a rule, equal the total quantity administered. (2) Urea acts only to a slight extent as a diurectic; this action is variable, and, on the whole, untrustworthy. (3) In both the output of urea and in the output of urine the effect produced by the administration of urea is more marked at first. After a time the body seems to accustom itself to the intake of urea and tends to return to its normal output. (4) Urea does not act as a cardiac stimulant.

The experiments of Mr. Pearson with urea in pulmonary tuberculosis disprove the conclusions reached by Dr. Harper. With the exception that the doses of the remedy given by the former were not so large as those administered by the latter, the investigations carried out at Brompton Hospital would seem to have been conducted in a thorough manner. Perhaps the number of patients to whom urea was given was too small to warrant the passing of any authoritative opinion on the matter, yet at the same time the experiments were conducted on a sufficiently exhaustive scale, both as regards the quantity of urea given and the number of sufferers to whom it was administered, at least to lead to the view that urea exerts no decided specific action upon pulmonary tuberculosis. Nevertheless, it must be said that the question is still an open one, and that the last word on the subject has yet to be said.

Suicide in the Russian Army.

Statistics and information concerning suicide always possess a peculiar interest for mankind at large. The subject appeals to the morbid tendency which is latent in every human being, even in the most healthy and well-balanced. and which in those of neurotic strain flourishes like the green bay tree. The fact would appear to be undoubted that suicide everywhere is on the increase. and although statistics are often untrustworthy, yet in the case of suicide they are based upon the solid foundation of truth.

In the *Voyenno Meditsinski Jurnal*, August B. Makarow writes on suicide in the Russian Army, and a part of his article is quoted in the *Lancet* of November 22.

In the period between the beginning of 1895 and the end of 1899, 238 officers of the Russian Army committed suicide or attempted to do so, the average rate per annum per 1,000 of strength having been 0.96; 214 cases occurred in the combatant branch and twenty-four among non-combatants, including seventeen members of the medical department. Among the combatants there were one general, seven senior officers, and 206 subalterns. In the Cossack regiments the suicide rate was very high, averaging 2.31 per 1,000 per annum during the five years. Contrary to what might have been expected, the rates in Siberia were comparatively low, especially in the Omsk command; while in that of Irkutsk not a single case of suicide among officers was reported during the quinquennium, 87.4 per cent. of the suicidal officers put an end to themselves with firearms, 4.6 per cent. with poison, 3.4 per cent. cut their throats, 2.1 per cent.

hanged themselves, 1.7 per cent. threw themselves from windows, and 0.8 per cent. were crushed to death by trains. Apparently drowning was not responsible for any of the fatalities.

According to the author of the article, the means selected by the suicides were those with which they were specially familiar. Thus the combatants used firearms or cold steel, the medical men poison, while the engineers, who were, for the most part, members of the railway corps, threw themselves before engines.

Among the men the cases of self-destruction were, comparatively speaking, far less numerous than among their commanders, the total number of suicides, or attempted suicides in the non-commissioned grades during the five years having been 737, which gives a rate of 0.14 per 1,000 per annum, or less than one-seventh of officers' rate. A considerable amount of space is devoted by the writer to a minute analysis of the motives which induced the suicides, officers and men, to take their lives. In many instances it was impossible to assign a plausible reason, but in the officers' category the etiology of 125 cases is said to be well established. In a table referring to these, the causes that induced the fatal act are grouped as follows: Mental disease due to syphilis or alcohol, 32 per cent.; the abuse of alcoholic beverages, 28 per cent.; love, 12.8 per cent.; family affairs, 8 per cent.; professional disappointment, 8 per cent., and gambling, 4.8 per cent.

In France, Belgium, and Russia, according to the author, suicide occurs three times as frequently in the army as in civil life. In Germany, Austria and Italy, however, the ratio is as seven or eight to one. In all armies suicide is relatively far more frequent among officers than among the rank and file. In the Austrian army the suicide rate among non-commissioned officers and men is 1.49 per 1,000 per annum, in Germany the corresponding ratio is 0.65, in France, 0.26, and in Russia, 0.14.

There are some points in the foregoing figures worthy of notice. The first of which is that the rate of suicide in the Russian army is less than in any of the other large European armies. One would be inclined to imagine that, on the whole, the lot of the Russian soldier is so much worse than that of his European compatriots, that he would be more often inclined to seek relief in death. Perhaps, his ignorance saves him from the suicidal tendency, for it is almost invariably to be observed that the majority of cases of self-destruction occur among those who are educated and frequently well endowed with brain power.

Another noteworthy point to be gathered from the statistics given above, is that the suicidal impulse is much more strongly developed in officers than in the ordinary soldiers. This, however, may be explained by the fact that the officers are better educated and, as a rule, of a more sensitive emotional type than the rank and file, in addition to which the former have more opportunities of indulging in dissipation, a potent cause of suicide.

THE ROMANCE AND HUMOR OF MEDICINE.

An article on this subject appears in the English weekly, *Public Opinion* of October 24. The romantic undoubtedly enters more intimately into the professional life of a physician than into that of any other profession. The doctor is probably the recipient of more secrets, and obtains, by virtue of his calling, more intimate insight into human character than does any other class of men. His experience is world-wide, and the tragic and the pathetic are constantly being brought to his notice. But although the busy medical practitioner is frequently confronted with grave and serious matters, the humorous side of life not uncommonly presents itself. Some few years ago, according to *Public Opinion*, a writer declared that he knew a medical man whose duty it was to take luncheon every day at a great castle belonging to a noble lord. "The household is immense," said the writer, "and there is just the chance that there may be some case of indisposition demanding attention. He gets some of the best company and best lunches in England, and duly charges a guinea ($5) for each attendance." Quite the oddest arrangement surely ever entered into was the following cited by another writer: "A medical man had been attending a patient several years, and yet has never seen the patient. The gentleman in question firmly believes he has an œsophagus of peculiar construction and that he is, accordingly, liable at any moment to be choked. That help may be at hand whenever any sudden emergency may occur, he has a physician in the house night and day. The physician, being human, must take his walks abroad, and it becomes necessary to provide a substitute for him for two hours a day. Accordingly, a doctor attends daily from twelve to two, fills up his time by disposing of an admirable lunch, and finds his fee, placed by the side of his plate, neatly wrapped in tissue paper. Up to the present date he has never had the pleasure of exchanging words with his interesting patient." Amusing in another way, and suggestive of the effect which the mind has on bodily ills, is a story related half a century or more ago of Dr. Beddoes, who, believing that nitrous oxide was a specific for paralysis, arranged to make an experiment. "Previous to the administration of the gas," we are told, "he inserted a small pocket thermometer under the tongue of the patient, to ascertain the temperature. The paralytic man, wholly ignorant of the nature of the process to which he was to submit, but deeply impressed, from the representation of Dr. Beddoes, with the certainty of success, no sooner felt the thermometer under his tongue than he concluded the talisman was in full operation, and in a burst of enthusiasm declared that he already experienced the effect of its benign influence throughout his whole body." The worthy doctor saw what had happened, abandoned his experiment, so far as this particular patient was concerned, refrained from disillusioning him, and told him to come the next day, when the thermometer was again placed under his tongue. In two weeks' time the man went away perfectly well, the cure having been effected entirely as the result of faith.

WITH REGARD TO CONSTIPATION.

There are certain people—and their number is by no means small—who if they do not have a relief from the bowels every day, at about the same time, promptly fly to an aperient to produce the desired action. With some this dependence upon aperients becomes so much a matter of routine that they may be said to have acquired the aperient habit, and they are unable—or imagine that they are unable—to retain their health without using these means of assisting nature. It is unnecessary here to inveigh against this custom in all civilized countries of the world, and especially in America.

Dr. J. F. Goodhart, in the *Lancet*, November 8, makes some excellent clinical remarks on constipation. Concerning its treatment he says that while pills undoubtedly do fill a place in the scheme of treatment, he questions whether some, at any rate, of the advantages claimed for purges do not rest upon insufficient evidence. For example, the subject of a bilious attack or migraine takes a pill and obtains relief. The pill may be said to have cured the headache, but with equal probability it can be maintained that it has only relieved a symptom and not cured the disease.

Dr. Goodhart further remarks, "When any one tells me that he can cure his headache by a dose of calomel and says that it is all stomach and only wants more care in diet and a good clear out, I say: 'You have illustrated upon the corpus vile a widely acting and important physiological principle; you have robbed Peter to pay Paul, or, rather, you have so scourged your bowels that your head forgot its own affliction in its concern for the brutal treatment that had been meted out to its minister. You draw the nervous energy from the head to the stomach and intestine and thus the headache collapses.'"

Dr. Goodhart sums up thus: "My idea, therefore, as regards aperients is that they are not harmless, as many seem to imagine, that they are much too frequently resorted to and with far too little attempt at discrimination between cases, and that there is no widely-spread recognition of the fact, notwithstanding that we are constantly administering nutrient enemata, that the colon is a great feeding organ worthy of respect and of gentle dealing."

There are certain cases in which aperients assuredly are necessary, but, in perhaps the majority of instances, the person would in the long run enjoy far better health if he foreswore such drugs, and instead would regulate his diet, take more exercise and generally lead a life less calculated to place the strain on the digestive organs which does not permit them to fulfil their functions in a proper manner.

TYPHOID FEVER AND SEWAGE DISPOSAL IN INDIA.

In the *Journal of Hygiene*, July, 1902, Major A. R. Aldridge, R.A.M.C., Sanitary Officer, Bengal Army, writes on the above subject. He commences his article by saying that although many epidemics of typhoid fever have been caused by contamination of central water supplies, it is difficult to attribute its widespread prevalence in endemic form in India and elsewhere to this cause. It is necessary, however, to guard against assuming that therefore the disease is not water borne. There are in India innumerable chances of water when stored for domestic use being contaminated, and, when it is claimed that dust or flies play an important rôle in its dissemination, it is not necessary to assume that the bacillus is taken into the mouth or respiratory passages directly, but rather that it is conveyed to water by means of dust or flies.

In India, according to Major Aldridge, most of the cases of typhoid fever among soldiers occur in stations situated in the dry, dusty alluvial plains of upper India, where the climate is generally dry and the rainfall slight throughout the year. The dry earth system of latrines and the trench system afford an excellent opportunity for the urine and fæces of those who have suffered from typhoid to contaminate the soil, and consequently the means are at hand for dust and flies to disseminate the disease indirectly by conveying its germs to stored water and food. Nearly all recent campaigns have been in dusty countries, and in these typhoid fever has been very prevalent.

The following precautionary measures are recommended by Major Aldridge: 1. Avoidance as far as possible of storage of water near habitations where, from the proximity of dry earth latrines and the filth trenches, it may be polluted. 2. Latrines and urinals should be situated as far as praticable from kitchens and stored water. They should have impervious floors. 3. All food, feeding utensils, etc., should be protected from dust and flies. 4. It is recommended that a trial be made in some cantonment which has suffered much from enteric fever of any form of water carriage of sewage. 5. For sewage disposal Major Aldridge recommends one of the bacterial methods, with application of the effluent to the land.

THE PHYSIOLOGY OF THE VIOLET LIGHT.

Light has of late years come prominently to the front as a remedial curative agent. Of course, it has been known from time immemorial that light was conducive to health, but it is only recently that the full force of this truth has been definitely recognized. Light is the most potent factor in the successful treatment of tuberculosis, and it is beneficial to a greater or less extent in almost all diseases. The discovery that the *x*-rays and the Finsen light have a remarkable healing effect upon certain skin diseases and even upon cancer has opened so vast a field of investigation that its scope may almost be said to be boundless. Research in this respect is but in its infancy, and he would be a bold man to assert that the limits of the light treatment can be defined.

Dr. James Weir, Jr., writing in the *Scientific American*, November 22, says the following concerning the violet rays:

"The violet rays are absolutely necessary in the upbuilding of the normal healthy man. Their action must be, I take it, primarily through stimulation of the vasomotor nerves. The first effect is dynamic in character; there is dilation of the blood vessels with a consequent increased flow of blood. The second effect is chemical in nature; the increased flow of blood incites the blood-producing organs to manufacture new blood cells. Consequently the plasma of these cells differs chemically from the plasma of the old cells. There is also increased oxidation and oxygenation through the lungs. The third effect is purely physiological. Owing to the increased flow of new blood cells to the tissues, cell growth is excited and new tissue is formed. Of course, waste is going on all the time; the violet rays merely act as a tonic in stimulating the organs of the animal economy toward repairment of waste by removing and building up tissue. These beneficial rays are present in diffused daylight, hence the direct rays of the sun are not absolutely necessary in order to produce their good effects on the animal organism. Direct sunlight is, however, an exceedingly efficacious tonic when used moderately and understandingly; there can be intemperance, however, in the use of every good thing that nature has given us."

Fresh Denials from San Francisco.—A press correspondent in San Francisco is responsible for the story that Dr. Glennon of the Public Health and Marine Hospital Service is preparing a report to Surgeon-General Wyman to the effect that there had never been bubonic plague in California. Dr. Glennon will, it is asserted, declare positively that, after a thorough and exhaustive investigation, he has decided that the bacillus supposed to be that of plague is that of chicken cholera. His conclusions, if correctly stated, bear out the diagnosis made by the newspaper editors and politicians of San Francisco, who have consistently and persistently declared that the Marine-Hospital experts and others are all wrong in asserting that any cases of plague have occurred in that city.

News of the Week.

Dr. Bulkley's Lectures on Diseases of the Skin.—The governors of the New York Skin and Cancer Hospital, Second Avenue, corner of Nineteenth Street, announce that Dr. L. Duncan Bulkley will give his fifth series of clinical lectures on "Diseases of the Skin" in the out-patient hall of the hospital on Wednesday afternoons, commencing January 7, 1903, at 4.15 o'clock. The course will be free to the medical profession. This interesting and popular course of lectures begins later this year than heretofore, the opening clinic in former years having always been held on the first Wednesday in November.

Cholera in the Philippines.—It is reported that cholera has broken out afresh at Manila, some thirty cases of the disease being reported daily. In the southern provinces it is present in epidemic form, and at Iloilo the death rate is very heavy, the authorities seeming to be powerless to check the spread of the disease.

The Eastern Medical Society of New York.—At a meeting of the Eastern Medical Society, held on Friday evening, December 12, 1902, the following officers were elected: *President*, Louis J. Ladinski; *First Vice-President*, E. K. Brown; *Second Vice-President*, A. Hymanson; *Secretary*, Albert Miller; *Treasurer*, Bernard Gordon; *Chairman Committee on Ways and Means*, David Robinsohn; *Chairman Committee on Ethics*, Simon Marx; *Trustee*, A. E. Isaacs; *Committee on Admission*, Charles Goodman, *Chairman*; M. Wolper, M. Rabinovitz, J. Heller, M. Frankel.

Dr. William M. Leszynsky has been appointed neurologist to the Lebanon Hospital of this city.

Plague on Swinburne Island.—Three men suffering from plague arrived in this port on December 15, from South Africa, and were taken to the quarantine hospital on Swinburne Island. The steamer which brought the men was fumigated and disinfected.

Charter for a Tuberculosis Congress.—A petition was filed in the Superior Court of Georgia at Atlanta on December 17, asking for a charter for the incorporation of the "American Congress on Tuberculosis." The purpose of the corporation is stated to be to promote discussion and devise means of bettering the condition of patients suffering with tuberculosis. Another object is to assist in organizing the world's congress on tuberculosis.

Extinction by Disease of a Once-Powerful Indian Tribe.—Dr. Wyman, Government physician at the Sac and Fox Indian Agency, in Oklahoma, announces that a large majority of the tribe are afflicted with tuberculosis, scrofula, and other incurable diseases, and adds that the tribe will be extinct within a few years. The latest census gives the number of members of the tribe as only 479.

Centenary of the New Haven Medical Association.—The New Haven Medical Association of New Haven, Conn., will celebrate the one hundredth anniversary of its organization on Monday and Tuesday, January 5 and 6, 1903. Commemorative addresses will be delivered on Tuesday afternoon by Dr. William Osler of Baltimore and Dr. Francis Bacon of New Haven in the auditorium of the New Haven Colony Historical Society. A reception in honor of Dr. Osler and Dr. Bacon will be given on Monday evening at the Yale School of the Fine Arts. The annual dinner of the association will be held on Tuesday evening. The committee in charge of the arrangements consists of Dr. Gustavus Eliot, Dr. Henry Lawrence Swain, and Dr. Ralph Schuyler Goodwin, Jr.

Unauthorized Use of a Physician's Name.—Dr. Egbert H. Grandin of this city writes to protest against the use, by the manufacturer of a proprietary preparation, of a general therapeutic statement attributed to him and seeming to imply an endorsement of the special preparation. Dr. Grandin writes: "Since I have uniformly declined to vouch for anything of a patent or proprietary nature during the many years I have practised my profession, will you oblige me by publishing this—an emphatic protest—against what may be mildly termed illegitimate, unbusinesslike methods."

Dangers of the Lorenz Method.—That "bloodless surgery" is not without its accidents has been abundantly demonstrated during the visit of the Vienna orthopedist to this country. In an editorial article in the *Journal of the American Medical Association* it is stated that even in the few cases operated on by Lorenz during his stay in Chicago—and they were cases carefully selected from a large amount of material—there was one case of fracture of the femur, one of extensive hæmatoma, and one of complete laceration of the perineum extending from the vagina into the rectum.

Licensed Optometry.—The opticians of this State propose to make another effort to induce the Legislature to create a board of examiners in optometry, without a license from which it shall be illegal to practise optometry. This is defined as "the employment of subjective and objective mechanical means to determine the accommodative and refractive states of the eye, and the scope of its functions in general, or the act of adapting glasses to the eye by using such skilled means as will determine their choice." Physicians duly licensed to practise medicine in the State are to be exempt from the provisions of the proposed act. Others who practise optometry without a license will be adjudged guilty of a misdemeanor.

An International Quarantine League.—As a result of the recent meeting of the American Public Health Association at New Orleans, the International Quarantine League has been formed with Dr. J. M. Lindsay as president, and a membership of 150 medical men of the United States, Cuba, Mexico, and South America. The league accepts the doctrine that the mosquito is the only means by which yellow fever is transmitted, and that the proper protection against an epidemic of yellow fever is the destruction of mosquitos or preventing them from gaining access to persons ill with the fever. The object of the league is to secure a modification of quarantine against yellow fever, in conformity with the resolutions adopted by the International Sanitary Congress at Havana last February.

War against Tuberculosis in Paris.—The *Figaro* of Paris recently opened a subscription for the establishment of a sanatorium for consumption at Bligny and of a system of dispensaries in Paris, and has already raised by this means about 350,000 francs.

The X-Ray as a Thief Catcher.—It is said that many employees of the Japanese mint are in the habit of increasing their wages by swallowing occasionally one of the newly-minted coins and recovering the same later in the privacy of their homes. In order to circumvent this practice the officials of the mint have set up an *x*-ray detective, and the employees will be occasionally skiagraphed before leaving the mint.

A Physician and His Bill.—During the trial of a suit for damages brought by a woman against the Brooklyn Rapid Transit Company, about ten days ago, a physician, who had treated the injured plaintiff, was called as a witness for the defense. According to the testimony he gave, he visited the woman three times a day for three weeks, although he did not think there was much the matter with her.

On being asked why, then, he visited her so often he admitted that he did so in order to increase the size of his bill, and said that for his unnecessary services he sent in a bill of $120. The plaintiff, in spite of her medical attendant's testimony, was awarded $7,750 by a jury.

Naval Dentists.—A hearing on dentistry was given at Washington on December 13 by the House Committee on Naval Affairs, and many leading dentists were present to urge that a bill be passed raising the grade of naval dentists. At present they are rated as yeomen, but the National Dental Association wants a "Dental Corps" created so that the dentists may have proper rank and pay.

The Late Dr. Daniel P. Pease.—At a meeting of the City (Charity) Hospital Alumni Society, held December 10, 1902, a committee appointed by the President drew up the following resolutions, which were passed:

Whereas, In the death of Dr. Daniel P. Pease, this Society has lost an old and valued member, who served it long and well,

Be it Resolved, That this Society express its regrets at his untimely death; and further be it

Resolved, That the following obituary, together with these resolutions, be recorded in the Society's minutes, and sent to the Medical Press.

Dr. Daniel Pearson Pease was born forty-five years ago in Chicopee, Mass., He was graduated from Bellevue Hospital Medical College in 1882. He was interne at Charity Hospital, leaving in 1883. For many years he was with the Board of Health at Riverside and North Brothers Island Hospitals, and later as expert diagnostician. He was one of the early members of the City (Charity) Hospital Alumni Society, and always active in its interests. He was a member of the County Society, Academy of Medicine and Physicians' Mutual Aid Society. Of late years he had been especially identified with the practice of the Hoffman House, Albemarle, and Fifth Avenue Hotels. His genial ways made for him many friends at home and abroad, for he was fond of travel. While in Holland last summer he became ill, and hastened to Paris. There he went to a private hospital, where he suffered eight weeks with typhoid fever and its complications. An intestinal perforation caused his death, December 7, 1902. He was a man of sterling qualities, firm in his convictions, true to his friends, and faithful to his duty. He was a man always to be relied upon, tireless, energetic, and with all the qualifications which go to make up the successful and able physician and the broad-minded and kindly gentleman. Dr. Pease was a bachelor. While he leaves no family, he does leave a host of friends, both in and out of the profession, who will ever keep him in pleasant memory.

Joseph B. Bissell, *Chairman*,
W. L. Stowell,
W. L. Baner.

Mother Eddy on Vaccination.—Mother Mary Baker Eddy of Christian Science notoriety, having been asked by certain disciples what should be done when the ungodly insist upon vaccinating them and their children, returned the wise and canny answer herewith: "Rather than quarrel over vaccination I recommend that if the law demands an individual to submit to this process he obey the law and then appeal to the gospel to save him from any bad result. When Jesus was questioned about obeying the human law, he declared, 'Render unto Cæsar the things that are Cæsar's even while you render unto God the things that are God's.'"

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—THROMBOSIS IN TYPHOID FEVER—RUPTURED CRUCIAL LIGAMENTS—HEPATIC ABSCESS—DANGERS OF THE TAXIS IN HERNIA—ASYLUMS BOARD—BACTERIAL TREATMENT OF SEWAGE—PUNISHMENT FOR ENURESIS.

London, December 5, 1902

The remainder of the proceedings of the General Medical Council will have very little interest for you. New rules were adopted for the prevention of personation. The credit of bringing this matter to a satisfactory conclusion was accorded by the president to Sir Victor Horsley, who is one of the most active councillors. He called the English colleges to account by a question as to why they had sent no reply to the report of the inspection of their primary examination. The representatives of these colleges made excuses to the effect that they required more time to do so—a rather unreasonable answer, considering that hundreds of copies have been circulated.

The report on financial relations was once more discussed at length, and eventually, once more postponed. A draft bill, to be brought before Parliament, with a view of effecting such changes as would prevent a financial catastrophy, gave rise to many differences of opinion. Some thought severe economies would arrest the progress toward bankruptcy; others held that they could not save by them the £1,500 a year required, and that the fee for registration must be increased, and a fee exacted from students, with compulsory registration. Another proposal, called a "major economy," was that the fees of councillors should be reduced from five guineas per day's attendance to three, or two, or even to *nil*.

If the council is to consist of eminent specialists and leaders of the profession, five guineas is only an *honorarium*, and attendance to many involves loss. On the other hand, most of these eminent gentlemen are not authorities on the state of the profession—its wants, its struggles, and the need of reforms. Their services are really rendered to their several corporations, rather than to the profession. Then let the corporations pay them, until we can accomplish a drastic reform of the constitution of the council. It is a very unwieldy body, ill-adapted to discharge judicial functions. It manages to perform its penal duties with impartiality, though at an enormous cost. It seems a *reductio ad absurdum* to bring distinguished physicians and surgeons from all parts of the Kingdom to decide if some men have acted in a manner "infamous in a professional respect." So, too, the keeping of the register is a work which could be done better by a small body. These and other considerations point distinctly to the necessity of reducing the numbers of the councillors sufficiently to make it a body capable of transacting its business at a moderate expense, and in a business-like manner.

Thrombosis occurring in typhoid fever was the subject of an interesting paper submitted to the Medico-Chirurgical Society by Professor Wright and Dr. H. H. G. Knapp. Their research had special reference to the influence of lime salts in the blood. They found that the coagulation time varied in the normal adult, male, between three and one-half and fifteen minutes. In the acute stage of typhoid fever they found diminished coagulability, in convalescents the reverse. The average calcium salts in convalescents was about double that in normal blood. To prevent deposit of fibrin, the blood coagulability could be diminished by a decalcifying drug, *e.g.* citric acid. The thrombosis which so often occurs in connection with typhoid fever might be due to excess of calcium salts in the blood of convalescents, and it was suggested that this excess was derived from the milk of the diet. Cow's milk contains one part of CaO in 600, while lime water only contains 1 in 800. If the generally almost exclusive milk diet, adopted in typhoid fever, accounted for the frequency of thrombosis during convalescence, a clue was furnished to other problems, such as the benefit of milk diet in "serous hemorrhage" from the kidneys, and the comparative rarity of thrombosis after other acute fevers in which a milk diet was not usually employed. So citric acid might be given as a preventive as soon as the danger of intestinal hemorrhage was passed. Or, as an alternative, the milk might be decalcified by adding to it 0.25 to 0.5 per cent. of sodium citrate.

Dr. Wm. Hunter congratulated the authors of this paper, and said he had been in the habit of giving citrate of soda in febrile conditions with benefit, and their research gave the practice a scientific explanation.

Dr. Rolleston referred to the excessive frequency of thrombosis observed in South Africa, and thought it due to decreased resistance caused by the over-exertion of the lower limbs in constant marching, though the late Dr. Washbourn attributed it to tinned food diet, while the usual opinion referred it to infection of the vein walls by the typhoid bacilli. He admitted the possibility of the tinned milk being the cause of increased coagulability.

Dr. Newton Pitt said organisms had been found in the thrombi, and remarked that infants fed on milk did not suffer from thrombosis.

Dr. Ogle suggested that citric acid might possibly loosen the clot and cause embolism.

Dr. Wright, in reply, had met no sign of this, admitted bacteria might be one factor, and only claimed that lime salts were also one. It was not known if children absorbed the lime, and it was known that their coagulability was low. The amount of lime in milk diet was more than enough to account for the excess in the blood, and condensed milk was presumably richer in lime.

The Clinical Society had a surgical evening on Friday. Mr. Mayo Robson read an account of a case of ruptured crucial ligaments, the result of a mining accident causing this and numerous other injuries by a fall of earth, which almost buried the patient. He opened the joint and found both crucial ligaments had been torn from their upper attachments, the ends being in a shreddy state. He stitched them in position with catgut ligatures—the anterior to the synovial membrane and tissues on the inner side of the external condyle, the posterior to the membrane and cartilage on the outer side of the inner condyle; the latter, being too short, was split to lengthen it. The wound was stitched up by buried catgut sutures, and closed superficially by interrupted silk-worm sutures. The case was very successful, complete restoration of the joint movements being obtained.

Mr. Marsh (president) said that strong non-vascular tissues had been ruptured in such a way. He would avoid opening a joint when inflamed. He had seen a case in which the knee was in a flail-like condition, but six months later had become fairly serviceable.

Mr. Spencer doubted if the attachment by scar tissue would be strong enough if the ligaments were completely ruptured. Sometimes a plate of bone was torn away.

Mr. Robson, in reply, agreed with the general view to avoid operating on inflamed joints. In his case the limb was quite useless nine months after the accident, and the only alternative was amputation.

Lieutenant-Colonel W. K. Hatch, I.M.S., then read a paper on hepatic abscess, of which he had seen upward of 1,000 cases in India. It was very common among the natives. Alcohol was one cause, but the majority had had dysentery. He insisted on a strong hepatic odor from the patient as a diagnostic point, and described the other signs. The main object of the paper, however, was to call attention to the danger of aspiration, which ought only to be resorted to when the diagnosis was established to fix the exact locality of the abscess. There was great danger in puncturing an enlarged, highly congested liver, as there must also be of wounding a large hepatic vessel. The vena cava might even be touched with fatal result. His practice was to open the abdomen by a two-inch incision, and expose the liver. Then a cannula could be introduced more safely. He deprecated excision of ribs. He never irrigated an abscess unless it became septic.

Mr. Marsh did not attach much importance to cutting into the abscess through the peritoneum, although it was usually thought risky. He preferred to expose the abscess, pack gauze all around the presenting part, so that adhesions might form in a day or two, and shut off the peritoneal cavity.

Mr. Bowlby thought it best; when hepatic abscesses were attacked through the pleura to shut off that cavity; although it was said the pus was sterile it would not if remain so long.

Mr. Robeson agreed with Colonel Hatch as to the risks of the indiscriminate blind exploration, so widely practised. He hoped exploration of suspected distended gall-bladder was a thing of the past. In hepatic abscess it was safer to open the abdomen, see what one was doing, and arrest hemorrhage, if it occurred.

After some further discussion on this subject, Mr. Lawrie McGavin read notes of a case of strangulated hernia with *réduction en masse*, and proceeded to insist on the dangers of the taxis. He held that, in view of the disasters which have occurred, it is time to abandon taxis as an empirical measure, unworthy of the name of surgery, which exposes the patient to risks of which he knows nothing, and from which the surgeon ought to safeguard him. He reviewed these several risks, and expressed his wonder that any surgeon would be willing to face them, for all were serious, many cases are by taxis rendered nearly hopeless, and the mortality is always high. In the discussion which followed this paper the surgeons recognized the risks of taxis, and one said he had forbidden it in his hospital for twenty years. Others held that, in certain cases strictly limited, it was useful, and one said, if altogether abandoned, some lives might be lost.

The Asylums Board has made inquiries among the local authorities as to their views on a proposal that the treatment of consumption should be undertaken by the board. Out of twenty-six borough councils, ten approved, five favored the open-air plan, but were not agreed as to what authority should undertake it, the other eleven had either given no opinion or were adverse to the proposal. In consequence of the differences of opinion, the further consideration of the subject has been adjourned for twelve months.

The experiments on the bacterial treatment of crude sewage at the county councils' outfalls have been discontinued for the present, and a further report to the council by Professor Clowes has been issued. This report gives a brief statement of the nature and results of the experiments, and the conclusions toward which they point. It says that the bacterial effluent of settled sewage from the coke-beds undergoes no offensive putrifaction, even in summer heat; it cannot become offensive; it supports the respiration of fish. When this treatment is applied the use of chemicals is never necessary. To apply it to the London sewage the necessary works will take time to construct, but if done without delay the increasing deterioration of the lower Thames will be checked and ultimately prevented. The gradual development of the treatment will cause the considerable cost be spread over several years.

We have had a sensation trial of a well-to-do mother, wife of a magistrate, for cruelty to her daughter, a child between six and seven years of age. The defence was that the acts of cruelty alleged, some of which were of an astonishing character, were all chastisements administered to cure the child of "a bad habit," nocturnal enuresis. The society for preventing cruelty to children prosecuted at the instigation of servants, who had been dismissed, or had left, some before and others, it was said, after giving the information. Some of the "punishments" or "cruelties" really amounted to torture, and it is amazing that an educated woman and her husband should have believed it possible to cure the child thus. Pity for the poor little girl produced indignation throughout the neighborhood, and the trial was removed to London. The verdict was guilty, and a fine of £50 imposed, whereupon sensation papers raised the cry that there is one law for the rich, another for the poor, ignoring the fact that the judge took that course because he said he believed the excess in the punishments was due to temper rather than intentional cruelty.

The papers in question are certainly unjust in omitting or obscuring the "infirmity" put forth as a defence, for it is a fact that a widely-diffused opinion prevails that enuresis is amenable to punishment, which is accordingly too often administered by ignorant persons instead of consulting a doctor.

Many a child has suffered for years from this cause, the malady being really aggravated by the treatment, the moral effect of which is most deplorable. It may be hoped that the publicity given to this case will go far to explode the belief that has caused great suffering, and is so general that it was confidently put forward by eminent counsel as a sufficient excuse for almost incredible acts.

If the newspapers had used the occasion to enforce the folly of the superstition instead of criticising the judge they might have done much good.

A DECLARATION AGAINST ALCOHOL.

To the Editor of the Medical Record:

Sir: Will you be kind enough to publish in your excellent journal the following statements and appeal to the medical profession of the country? During the last half century the medical profession in Europe and this country have made three distinct declarations concerning the nature and effects of alcohol on the body. The first appeared in 1839, and was signed by only seventy-eight physicians. It was a public statement affirming that alcohol as a food and beverage was injurious, and should not be used in this way. The second declaration appeared in 1847, and declared, among other things, that alcohol was not needed in health, and that total abstinence gave the strongest promise of longevity. This declaration was signed by 2,000 physicians in Great Britain, on the continent, and in this country. The third declaration appeared in 1871, and while reaffirming the statements of the former manifestos, declared alcohol to be a poison and powerful drug that should only be used by physicians with care and caution. This was signed by over 4,000 physicians, including many of the leading physicians in every part of the world. A fourth manifesto or declaration of opinions has been projected, and is now being circulated for signatures among leading physicians in every civilized country. The following is the text of this declaration:

"The purpose of this is to have a general agreement of opinions of all prominent physicians in civilized countries concerning the dangers from alcohol, and in this way give support to the efforts made to check and prevent the evils from this source. In view of the terrible evils which have resulted from the consumption of alcohols, evils which in many parts of the world are rapidly increasing, we, members of the medical profession, feel it to be our duty, as being in some sense the guardians of the public health, to speak plainly of the nature of alcohol, and of the injury to the individual and the danger to the community which arise from the prevalent use of intoxicating liquors as beverages. We think it ought to be known by all that: (1) Experiments have demonstrated that even a small quantity of alcoholic liquor, either immediately or after a short time, prevents perfect mental action, and interferes with the functions of the cells and tissues of the body, impairing self control by producing progressive paralysis of the judgment and of the will; and having other markedly injurious effects. Hence, alcohol must be regarded as a poison, and ought not to be classed among foods (2) Observation establishes the fact that a moderate use of alcoholic liquors, continued over a number of years, produces a gradual deterioration of the tissues of the body, and hastens the changes which old age brings, thus increasing the average liability to disease (especially to infectious disease), and shortening the duration of life. (3) Total abstainers, other conditions being similar, can perform more work, possess greater powers of endurance, have on the average less sickness, and recover more quickly than non-abstainers, especially from infectious diseases, while they altogether escape diseases specially caused by alcohol. (4) All the bodily functions of a man, as of every other animal, are best performed in the absence of alcohol, and any supposed experience to the contrary is founded on delusion, a result of the action of alcohol on the nerve centers. (5) Further, alcohol tends to produce in the offspring of drinkers an unstable nervous system, lowering them mentally, morally, and physically. Thus, deterioration of the race threatens us, and this is likely to be greatly accelerated by the alarming increase of drinking among women, who have hitherto been little addicted to this vice. Since the mothers of the coming generation are thus involved, the importance and danger of this increase cannot be exaggerated. Seeing, then, that the common use of alcoholic beverages is always and everywhere followed, sooner or later, by moral, physical, and social results of a most serious and threatening character, and that it is the cause, direct or indirect, of a very large proportion of the poverty, suffering, vice, crime, lunacy disease, and death, not only in the case of those who take such beverages, but in the case of others who are unavoidably associated with them, we feel warranted, nay, compelled to urge the general adoption of total abstinence from all intoxicating liquors as beverages as the surest, simplest, and quickest method of removing the evils which necessarily result from their use. Such a course is not only universally safe, but is also natural. We believe that such an era of health, happiness, and prosperity would be inaugurated thereby that many of the social problems of the present age would be solved."

This declaration has been signed by over a 1,000 physicians in Great Britain and on the continent, and promises to be one of the most authoritative statements of the judgment of leading physicians which has been made. The matter is purely a scientific one, and has grown up from a realization of the danger from the indiscriminate use of alcohol, and is given as indicating the general medical interests on this subject, and for the purpose of assisting public sentiment in the correction of one of the impending evils of the day. I have been appointed to solicit signatures from leading physicians in all sections of the country. This declaration with its signatures will be made public some time in the coming year, and its value and influence cannot be over-estimated. I should be pleased to receive the names, titles, and addresses of any physicians who are willing to assist in making this a distinct movement to correct and educate public sentiment in the right direction. American physicians should be equally enthusiastic and prompt to give their signatures to this declaration, as physicians, in the wine-drinking countries of Europe. A postal card or letter, giving the address and titles, is earnestly solicited from every physician who would like to help on this last great movement to show that the medical profession is interested in controlling one of the greatest evils of the age.

T. D. CROTHERS, M.D.

HARTFORD, CONN., December 11, 1902.

THE AMERICAN SCHOOL OF MEDICINE AT BEYROOT, SYRIA.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In your letter from Constantinople, dated October 15, 1902, I find a paragraph about the American School of Medicine at Beyroot, Syria, which is so misleading that it needs at least a word of correction. The medical department of the Syrian Protestant College has been in existence continually since 1867, and, like the collegiate department, is under the jurisdiction of the Regents of the State of New York. The course, approved by them, is a four-years-graded one, modeled on that of the College of Physicians and Surgeons of New York. The clinical instruction is obligatory, and is given daily to all the members of the two upper classes in the wards and out-patient department of the St. John's Hospital, an institution sustained by the German order of Knights of St. John, under the direction of the Kaiserswerth Sisters, and officered by the American physicians of the Medical School. No more thorough clinical instruction is given in any undergraduate medical school in Europe or America. The students see and handle over 500 cases in the wards and between 15,000 and 18,000 cases in the out-patient department annually.

The final examinations of the Medical School equal those of any first-class American medical school, and are supplemented by the New York State Regents' examinations, conducted in Beyroot by the United States Consul. In addition to this, all graduates, before practising in the Turkish Empire, are required to pass the full examination of the Imperial Ottoman Medical School at Constantinople, which they do successfully.

As in the case of so many other Orientals, some students prefer to come away from their own country, for the sake of greater freedom, and finish their studies in Europe or America, and there are numerous cases on record in which men plucked at the second or third-year examinations, have come to the United States and received an M.D. at medical schools here before their classmates in Beyroot had graduated.

The members of the Beyroot medical faculty stand second to none in prominence in their profession, and all of them are men well known and highly esteemed throughout the whole Turkish Empire, as well as in Europe and America. No better endorsement is needed of the repute in which the graduates of the American Medical School at Beyroot are held than the fact that the Turkish Government seeks them out for its most important medical positions in Asia Minor, Syria, Palestine, and Egypt.

WILLIAM GRAY SCHAUFFLER, M.D.,

Formerly for six years Professor of Physiology and Diseases of Women at the Syrian Protestant College, Beyroot, Syria.

LAKEWOOD, N. J.

TYPHOID INFECTION; A SUGGESTION.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In August, 1901, I treated a case of typhoid fever that suggested to me a source of infection that, so far as I know, has never been suspected. The patient was a strong, healthy young women of eighteen years, who served as a clerk in a large insurance office in New York City. The disease ran a typical course, the highest temperature being 104 F°. On the carbolated-camphor treatment, she was out walking at the end of the fifth week. The case was an isolated one, and for a long time I searched in vain for the source of infection. The water she drank in the city came from a tank at the top of the building, and finally she told me that Croton bugs, or cockroaches came from the faucet rather frequently. This suggested to me that the roaches might become infected from the waste pipes, crawl into the tank, and thus infect the drinking water. I offer this as a suggestion simply, to those situated so that they are able to study the Croton bug as a carrier of typhoid infection.

D. E. ENGLISH, M.D.

MILLBURN N. J.

ALLEGED TYPHOID FEVER IN BERMUDA.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Thinking that maybe rumors of an outbreak of so-called typhoid fever may have reached your city, and, peradventure, it might have a deterring effect on prospective tourists this comingwinter, I write a few lines to state that in my opinion the disease is not typhoid fever, although I admit that doctors in the city of Hamilton have made returns to the Medical Officer of Health of upward of one hundred cases of typhoid. I have not been engaged in active practice this past summer, owing to ill health, hence I have seen but few cases of this fever. About a fortnight ago I had a case, in a boy, aged eight years. He had considerable fever, temperature, 101; pain in head, vertigo, and aching pains in limbs, and complained of tightness across the abdomen. The tongue was coated with a not very marked strawberry appearance. The patient was kept in bed for a week, and was out of doors on the tenth day. I am inclined to believe this fever came from the Boer prison islands in the great sound, as frequent communication was kept up with the camps. The disease got on shore, and has prevailed throughout the western parishes quite extensively. My friend, Dr. T. A. Outerbridge, saw and treated a case, in the person of the chaplain employed to look after the prisoners. He recovered in a fortnight's time, and returned to the islands. I do not consider this fever to be dangerous; it is, I believe, dengue, or broken-bone fever. There have been no fatal cases to my knowledge. I see no grounds for alarm. Our islands are as healthy as ever, but now and then "a small fever," as Dr. O. W. Holmes once wittily remarked, "is by our medico's thankfully received."

A. Outerbridge, M.D.

Flatts Village, Bermuda, November 27, 1902.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Dec. 18, 1902.

Cases of Typhoid Fever Simulating Puerperal Sepsis.—H. T. Swain reports three cases of typhoid fever developed immediately after labor and simulating a virulent sepsis. The sudden rise of temperature without prodromata, the sudden rise of pulse and its rapid loss of character were like sepsis; general abdominal tenderness might have been present in either disease. The diagnostic points of typhoid were the low count of leucocytes and some rose spots. The patients made a good recovery.

Eleven Acute and Eighteen Chronic Cases of Influenza.—Frederick T. Lord reports these cases (proved by bacteriological examination) and reaches the following conclusions: (1) Infection with influenza bacilli is prevalent apart from an epidemic of influenza. Influenza-bacilli have been found in the sputa of sixty of one hundred unselected cases with cough. In about one-half of these sixty cases the influenza bacilli were in practically pure culture. (2) There is nothing distinctive in the clinical manifestations of influenza apart from epidemics, and the diagnosis can with certainty be made only by the examination of the sputum for influenza bacilli. (3) The duration of the cough and expectoration after an attack of acute influenza does not usually exceed six weeks, but in some cases the duration is for months or years. (4) Many of the cases formerly classed as chronic bronchitis are chronic influenza. (5) Cases of chronic influenza with paroxysm dyspnœa may closely resemble asthma; (6) Chronic influenza is not infrequently mistaken for pulmonary tuberculosis.

Journal of the American Medical Association, Dec. 20, 1902.

Dermatitis Hiemalis.—Under this heading W. T. Corlett describes a recurrent inflammation of the skin associated with cold weather. Twelve new clinical histories are given (in addition to fourteen previously reported), and several excellent illustrations accompany the paper. The disease generally localizes itself on the backs of the hands. The author has been convinced that the affection is more closely allied to the erythemata than was at first supposed. Not only is the color suggestive of some forms of erythema, being of a dark-bluish tint, but, like erythema, it more frequently attacks the distal extremities or parts farthest removed from the center of circulation. Again, like the erythematous group, it is more frequently met in the months in which there is the greatest variability in temperature, which prevails most frequently during the early winter and the early spring months. The histologic findings show nothing distinctive, and the extent of changes in the skin seems to be wholly dependent on the amount of circulatory disturbance. That cold may be regarded as a causative factor in the affection seems to me to be well established; that the same influences are causative in the erythematous group is likewise generally accepted. He would, therefore, regard the disease as one allied to eczema, while characterized by some of the clinical features of erythema, presenting a clinical picture quite distinct, which further observation may show is to be looked upon as a disease *sui generis*. Treatment depends on the fact as to whether or not we have an excoriated area or a thick and hypertrophied condition of the skin to contend with. In the former condition some slightly astringent soothing application, such as the glycerid of tannin, diluted with distilled hamamelis (1 to 3), lead wash, or the evaporating lotion of Hutchinson (liquor plumbi ʒii, spts. rectificati ℥iii to aquæ q. s. ℥viii). When the disease has become chronic with hypertrophy, salicylic acid grs. xx, ung. diachyli ʒii. In place of the diachylon ointment, mercury or tar may be used in ointment form. In all cases the hands should be protected by wearing leather gloves, and, when practicable, a change of climate affords the most certain means of immediate relief, although it does not eradicate the tendency to the disease.

Medical News, December 20, 1902.

Rubella Scarlatinosa.—Frederick C. Curtis and Henry L. K. Shaw report an epidemic of this disease. The endemic character of the disease was striking. A majority of the patients were adults. The period of incubation averaged about nineteen days. The onset was generally sudden, and in the severe attacks was attended by feelings of malaise, headache, sore throat, slight fever, and enlargement of the lymph nodes in the region of the neck, groin, and axilla. In the milder form the rash and the enlarged glands were the only symptoms observed. There was no sneezing or redness of the conjunctiva in any of the cases. Sore throat was universally present, and was often very severe. The pulse was not rapid. No albumin in the urine was detected in any of the cases. There was some variety of cutaneous lesions. In the majority the color was bright red. There was not the punctate redness so marked in scarlet fever, and there was uniform but transient blanching on pressure instead of the prolonged blanching with red punctæ or deeply-congested papillæ characteristic of the scarlatinal rash. This is an important point. The duration of the active skin lesion was, as a rule, about a week. Not one death was attributable to this disease, with the possible exception of one, a female past seventy years, who died from possible secondary complications due to the disease. The complications and sequelæ were: rheumatism, bronchitis, pneumonia, erysipelas, erythema nodolum, acute otorrhœa, quinsy, pleurisy, cystitis, and myocarditis. Involvement of the lymphatic system was a constant manifestation of the disease, and was an important feature of the epidemic. One of the diagnostic signs of rubella is the enlargement of the lymph glands, especially those in the region of the neck.

Acute Pancreatitis, with the Report of Three Cases.—George Woolsey declares that acute inflammation of the pancreas as a condition amenable to surgical operation is not of frequent occurrence, and is rather obscure. Acute pancreatitis is one of the causes of sudden death, and, in most cases, the patient is in a more or less profound collapse at the onset of inflammation. The gland is more or less infiltrated with small hemorrhages, and more extensive ones may be found in the root of the mesentery, the retroperitoneal tissue, or the lesser peritoneal sac. It is not settled whether this hemorrhage is primary, or is secondary to the inflammation and results from it. Besides the hemorrhages, a hemorrhagic tendency, similar to that sometimes observed in cholæmia, is sometimes present in pancreatitis. Another feature of some cases of acute pancreatitis is the occurrence of fat necrosis in the subperitoneal fat. This condition is rarely met with apart from affections of the pancreas. It is not found in all acute diseases of the pancreas. Another kind of acute pancreatitis is characterized by the occurrence of necrosis of the pancreatic tissue in whole or in part. Still another variety is suppurative or purulent pancreatitis, an advanced stage of acute pancreatitis. Alcoholism is an important etiological factor, probably by causing a gastroduodenal catarrh. The inflammation of this tract predisposes to bacterial infection. As to the symptoms, there is sudden onset with more or less collapse, severe, cramp-like epigastric pain, not relieved by vomiting, distention of the abdomen, and an irregular temperature. The diagnosis is generally difficult and uncertain, on account of the number of inconstant and contradictory symptoms. As to operation, it is generally admitted that it should be avoided in the acute early stages, when the symptoms are indefinite and the patient is in collapse. The prognosis is grave in acute pancreatitis. It varies with the severity and form of the acute inflammation.

New York Medical Journal, December 20, 1902.

Laryngectomy for Malignant Disease.—The paper of F. Hartley, begun in the previous issue of the *Journal* and concluded in the present issue, reviews the various steps in the development of the present status of the operation, and is a most valuable contribution. He narrates his personal experience with five patients. Case I was a man of forty-nine years—well four years after operation. Case II, man of sixty years, well four and one-half years after operation. Case III, man of fifty years, well five years after operation. Case IV, a man of thirty-six years, recurrence in deep cervical glands fourteen months after operation, considered inoperable; death three months later. Case V, a woman of forty-one years; no recurrence ten months after operation. The author believes that statistics are much more favorable now than formerly, and calls attention to the remarkable development of a voice in some patients after a total excision of the larynx has been done. He lays special stress on the necessity of the most careful after-treatment in these cases.

American Medicine, December 20, 1902.

Failures in the Irrigation Treatment of Gonorrhœa.—Ferd. C. Valentine states that although the irrigation treatment is not an invariable panacea for gonorrhœa, still it is the most effective method known to combat this disease. In some instances irrigations fail. Some of the failures are due to the physician, some to the patient. Some men are entirely unfitted for genitourinary work. Some object to the time required for the practice of this method. But the time devoted to it is fully warranted. The failures due to the patient are far more numerous than those laid at the physician's door. There is the rebellious patient who will not heed his physician's orders, and the patient who cannot visit his physician at the necessary times. There are various defects, both congenital and acquired, as well as complications which cannot only interfere with effective irrigations, but may also prevent obtaining the results as promptly as is desirable. Among these are: A very tight preputial orifice; stenotic meatus; very large meatus; intraurethral abnormalities; epispadias and hypospadias; periurethral and paraurethral fistulas; balanitis and balanoposthitis; chancre and chancroid; cicatrices at the meatus; condylomas; fistulas; herpes progenitalis; infiltrations of the urethral crypts, glands, follicles and of the mucosa itself; paraphimosis; phimosis; prostatitis and spermatocystitis; stricture; and urinary abnormalities.

A Report on Tuberculin as a Means of Diagnosis.—J. D. Madison concludes that: (1) Patients may react to tuberculin and no evidence of tuberculosis be found at autopsy. (2) A number of cases reviewed seem to demonstrate that completely-healed tuberculosis may react. (3) Cases of proved tuberculosis may not react to the maximum doses. (4) The evidence is not conclusive that other diseases than tuberculosis may react to tuberculin. (5) The margin of error of the tuberculin test is considerable, and probably not less than 10 per cent. (6) The maximum dose should be higher than 4 mg., and not more than 10 mg. Small increasing doses are not advisable, as the reaction is not so likely to be distinct on account of the tolerance which may be produced. An initial dose of 3 to 5 mg. followed by the maximum dose is better. (7) The temperature should usually be normal before injections are given. When the temperature is distinctly above normal, a negative result is of no value, as these patients will frequently not respond at all, even to large doses. (8) It seems quite certain that the glycerin extract of tuberculin deteriorates, and a fresh bottle should frequently be opened, care being taken to keep it in a cool, dark place. The 5-per-cent. carbolic-acid solution should be made up on the day it is used, if possible. The writer believes that deterioration of tuberculin is the principal factor in producing delayed reactions. (9) It cannot be said that tuberculin injections are entirely without ill effects, but their use among suitable patients is no more dangerous than the use of chloroform and ether for diagnostic purposes, and is quite as justifiable as an early diagnosis of tuberculosis is of the greatest importance. (10) About 40 per cent. of all female patients admitted to the hospital (Danvers Insane Hospital) react to tuberculin.

Philadelphia Medical Journal, December 20, 1902.

Bronchitis and Bronchopneumonia from Inhalation of Irritants.—J. N. Hall states that in the past few years he has seen one or more instances of these conditions arise from six different kinds of irritants: Chlorine gas, sulphurous acid gas, formaldehyde, kerosene, smoke, and smoke containing some unknown acid fumes. He has sepaarted these cases from the ordinary inhalation pneumonias, and from suffocation by deadly gases. He gives the history of a case, illustrating each variety. Many cases of bronchitis originate from chemical irritants. They are generally far more painful in the beginning than those of the ordinary form. Bronchopneumonia may easily develop. Death may occur before the lungs are involved, presumably from œdema and spasm of the larynx. Death may ensue very quickly. Oxygen, theoretically, should be especially serviceable. The possibility of relief of laryngeal symptoms by intubation should be borne in mind. In many cases the mechanical impediment in the bronchi from swelling is an insuperable obstacle to recovery.

A Case of Adiposis Dolorosa, with Involvement of the Joints.—F. X. Dercum reports this case. The patient was a woman, aged sixty-one years. She had always suffered much from backache, but had no other illness previous to the onset of the present disease, which began about ten years ago. The first symptom was weakness of the legs, then of the back. After that, painful lumps of fat made their appearance at various points. The examination of the joints in this case, the author states, justifies the conclusion that there was present a marked thickening of the synovial membranes, and possibly of other structures in the neighborhood of the joints. There was a marked tendency to the formation of fringes and rice bodies. That this thickening is due, in part at least, to fatty infiltration, and that this fat is painful, just as is the fat in the lipomata on the surface of the body, affords the most reasonable explanation of the condition observed. It is probable also that an actual chronic synovitis is present. Rheumatism does not afford an adequate explanation of the conditions found, while rheumatoid arthritis is excluded by the absence of changes in the bones and cartilages.

The Lancet, December 13, 1902.

Ablation of the Crystalline Lens to Rectify High Myopia.—W. J. Collins reports nine cases, referring to previous papers on the subject. A perusal of the clinical histories shows that in all there was improvement of vision, which, in some instances, was very marked. This improvement without resort to glasses was a great practical benefit to the patients, as some were able to do work from which they had, on account of their infirmity, been previously excluded. In no case did any untoward symptoms follow the operation. Collins has never operated on both eyes, though several of the patients requested him so to do after appreciating the improvement of vision in the first eye from the operation. He thinks that the operation, in suitable cases, a limited class, is so reasonably safe, and attended often with such brilliant results, that it should be regarded as a recognized procedure in the treatment of high or advancing myopia in young persons.

Notes on Sleeping Sickness.—C. A. Wiggins details his experience with the disease, stating that the most striking sign of the disease is the expression. At the end of the first month the sufferer has simply a vacant expression, with a characteristic drooping of the lower lip downward and forward, so that all the lower teeth are seen; the lip is slightly swollen, and very dry and cracked. At the end of the second month the manner, like the expression, becomes listless and vacant, the face gets puffy, the upper eyelids begin to droop, and the lip hangs lower and is more cracked and dry. If the patient puts out his tongue, it is tremulous, and occasionally the hands, also, if they are held out. At the end of the third month everything is intensified. Saliva drips over the hanging lip unnoticed and unchecked, and the whole body is filthily dirty. There are marked tremors in all the limbs, especially in the arms, and the sufferer has to support himself with a long stick, to which he clings, as his limbs are very liable to give way suddenly, when he falls in a heap on the ground without attempting to put out his hands to save himself. The tremors are often choreic in character, and are always more exaggerated on the left side than on the right. At the end of the fourth month the sufferer cannot get about at all, but he lies on the ground in his hut without moving his position. He generally lies in one of three positions: (1) flat on the ground with the face downwards, the legs out straight, and the head resting on the hands and turned to one side; (2) doubled up on the left side, with all the limbs curled up; or (3) kneeling down and leaning forward with the forehead resting either on the ground or on the side of the hut. This last position looks most uncomfortable. During this last month the most horrible sores develop, and the patients are most unpleasant to see as they pass their motions as they lie, and a heap of saliva accumulates by the head and dried secretion and filth collect round the nostrils and eye. The eyes are closed, and the patients seem unable to open them; they are also unable to speak at this stage, which lasts from two to four weeks, when they die.

Infective Arthritis.—In the Bradshaw Lecture for the current year, Howard Marsh discusses arthritic inflammations seen in connection with pneumonia, typhoid fever, scarlatina, influenza, erysipelas, and rheumatism. He then considers the unclassified infections localizing themselves in the joints, and devotes a special heading to the acute arthritis of infants. Finally he gives the clinical histories of six clinical cases. Concerning the lesions found, Marsh notes that they vary considerably in different cases. In some they are slight and transient, and result from synovitis, attended with infiltration of the sub-synovial tissue, and with some, but only a limited amount, of serous effusion into the cavity of the joint. This is the case, *e.g.* in the arthritis which occurs in the early stage of scarlet fever and typhoid fever. In a second group, one, two, or more of the joints are painful, and swollen from effusion of fluid into the synovial cavity. These are the cases which have been so misleading in consequence of the close similarity of the appearances observed on clinical examination to those of acute rheumatism. Although at first merely turbid, the fluid in the joint, in some cases, soon becomes purulent. In the third group, the inflammatory process chiefly involves the periarticular tissues, and leads to considerable brawny or boggy swelling and to reddening of the skin, which is at the same time so stretched and shiny as to suggest the presence, or near approach, of suppuration. This is one of the most clearly-marked types of infective arthritis, and one with which we have long been familiar in some of the cases of gonococcal infection. In this form there is frequently no effusion into the cavity of the joint, and, though it seems imminent, suppuration very rarely occurs. Clinically, these cases run a very prolonged and tedious course; they may extend over several weeks, and some have lasted two or three months. Many are attended with pain, not only persistent but very severe, and they show a strong tendency to result in firm fibrous ankylosis, which, apparently, in some instances, gradually passes on by ossification of the new fibrous tissue to complete synostosis. In these respects they furnish a close parallel to one of the forms of arthritis which is met with in the course of the septicæmia which follows acute infective periostitis or osteomyelitis. A fourth group of cases includes those in which the arthritis is from the first acute and destructive. Suppuration takes place early and goes rapidly on to complete disorganization of the joint and often to the wide burrowing of pus, which has escaped from the synovial cavity along the intermuscular spaces of the limb. This fourth variety is met with in its most marked phase in pneumococcic arthritis. The various plans of treatment are then summarized. With a limited effusion, a splint and warm fomentation suffice; in the variety with fluid in the joint, the latter must be emptied and irrigated, the joint opened, if necessary, and adhesions broken down with the finger; in the plastic form, the prognosis is unfavorable, as there is a strong tendency to ankylosis. Warm boric or opium fomentations are required during the first stage; small blisters will promote absorption, and later massage to remove the brawny œdema of the soft parts.

Deutsche medicinische Wochenschrift, November 27, 1902.

Benign Adenoma of the Stomach Developing from a Gastric Ulcer.—Albu reports an interesting case. The tumor was first diagnosed five years subsequent to the initial appearance of the gastric ulcer. It was thought, on account of the clinical symptoms, to be carcinomatous in nature, and operative measures were undertaken. Upon opening the stomach the tumor was found to be about the size of a fist, and to have developed from the margin of the partially cicatrized gastric ulcer. Microscopical examination showed that it was typically adenomatous in structure. Since it must have been present for a long time, it is evident that it was benign in nature. Following the removal of the tumor, complete recovery ensued.

Early Diagnosis of Icterus.—Jac. Bouma agrees with Hamel concerning the importance in the early diagnosis of icterus of the detection of the bile pigments and salts in the serum previous to their appearance in the urine or the development of cutaneous discoloration. While Hamel relies upon the color of the clear serum as a guide to the excessive presence of bile salts in the same, Bouma thinks that a chemical examination is much more delicate and satisfactory. He also gives a modification of Hammarsten's method for the detection of these salts in the urine by means of which the urobilin is more easily differentiated from the bile pigments. To 8 c.c. of fresh acid urine 2 c.c. of a 10-per-cent. solution of calcium chloride is added. A weak ammonia solution is now slowly added, until the neutral point is reached, when a precipitation, which includes the bile salts, takes place, the urobilin remaining in solution. This precipitatum is dissolved in a mixture of 1 c.c. of Obermayer's reagent (29 $Fe_2 Cl_6$ in 1 liter of HCl) and 4 c.c. of absolute alcohol. If bile pigments are present, a greenish color is produced, which changes gradually to a bluish green. In testing serum one adds to 2 c.c. of the same 6 c.c. of distilled water, 1 c.c. of a normal solution of neutral sodium phosphate (NO_2 HPO_4) and 1 c.c. of a normal solution of barium chloride. This is then centrifuged, and the precipitum washed in water and again centrifuged, the final precipitum being dissolved in 1 c.c. of Obermayer's reagent and 4 c.c. of absolute alcohol. If there was the least trace of bile pigments present in the serum, the upper portion of this last solution will be of a bluish-green color. This test has frequently demonstrated the presence of bile pigments in the serum when the color of the latter was not in the least altered from the normal.

Berliner klinische Wochenschrift, December 1, 1902.

Antistreptococcus Serum.—Piorkowski believes that he has demonstrated the multiplicity of the various species of streptococci, in that he has prepared a powerful specific anti-serum from one of these species, which was isolated from the nasal secretion of a horse suffering from a contagious, purulent affection of the mucous membranes of the nose and throat peculiar to these animals. This serum, in doses of 10 c.c., is nearly always able to bring about the speedy cure of this disease, but is totally inefficient against diseases produced by other varieties of streptococci. Furthermore, in dilutions of 1-100 and above, it agglutinates the variety of streptococci by the means of which it has been produced, while upon other varieties of this organism it has no such action, or only produces their agglutination in dilutions of 1-25 and below.

Acute Circumscribed Œdema.—F. Mendel reports the instance of a family of twelve persons, running through four generations, nine of whom suffered from this disease. In six an acute circumscribed œdema of the glottis sooner or later developed, and produced instantaneous death. All suffered with intermittent attacks of the œdema for many years, but the glottis was never involved except in the fatal cases. Usually the œdema suddenly appeared in distinct and discrete spots upon various regions of the body, most frequently upon the backs of the hands and arms. In the particular member of this family who came under the observation of the author, the attacks were frequent—every two or three weeks—and the appearance of the eruption was very similar to an urticaria. It could be easily differentiated therefrom, however, by the fact that no itching was present. In the treatment diaphoretic measures were tried at first, without avail; later aspirin (3 gr. t.i.d.) was added, with good result, in that there soon occurred a disappearance of the œdema. Subsequent attacks were quickly cured by the aspirin alone. Indeed, so magical was the effect of this drug that it seems as though it should be regarded as a specific for this condition.

Münchener medicinische Wochenschrift, December 2, 1902.

Extent of Albumin Digestion in the Human Stomach with the Simultaneous Ingestion of Carbohydrates.—Ernst Heinrich finds, as the result of experimental observation, that during the first hour following the ingestion of finely-chopped cooked beef about one-third of the albumin contained therein is digested in the stomach. This takes place without the appearance of free HCl. If carbohydrates, such as rice, are ingested simultaneously with the meat, the proteolytic gastric action is increased about 10 per cent.

French and Italian Journals.

Osteomata.—Etienne Henrard reports three cases of osteomata caused by traumatism and diagnosed by radiography alone. In the first patient a fall on the shoulder caused three osteomata on the clavicle; in the second patient, radiography demonstrated an osteoma of the head of the humerus, and in the third, an osteoma of the olecranon. A fourth case, the most interesting perhaps, is that of a child, in which a fall on the elbow caused a hyperproduction of bone in the carpus.—*La Tribune Médicale*, November 26, 1902.

The Pathogenic Power of the Bacterium Coli on the Dog.—Giuseppe Loy-Peluffo, from his experimentation, concludes that there are very few varieties of the bacterium coli taken from the atmosphere which are capable of exercising pathogenic powers when inoculated into the circulating blood of a dog. Moreover, none of the pathogenic varieties of the bacterium isolated from the atmosphere and inoculated into the veins of dogs are capable of producing the lesions caused in the same animal by a pure culture of the icteroid bacillus isolated by Sanarelli.—*La Riforma Medica*, November 18, 1902.

Lumbar Hernia.—Jeannel declares that the etiology of lumbar hernia is absolutely unknown. It is probable that at least the majority of congenital lumbar hernias are provided with a peritoneal sac. The contents vary as in all hernias. As to the pathogeny, without daring to generalize, it appears, nevertheless, legitimate to distinguish two varieties of hernia: Hernia consecutive to a malformation; and hernia not apparently consecutive to a malformation. Immediately, or soon after birth, the small tumor is discovered. It is soft, and often increases in size when the child cries. It can not be cured spontaneously. The treatment varies with different writers. Some apply a bandage. Others perform a radical cure. The acquired lumbar hernia is one that develops a long time after birth, perhaps from a congenital malformation of the muscles of the region, at first insufficient to allow the passage of a hernia, but constituting a weak point, which strain or traumatism will weaken and cause to open for the hernia; or the muscles may be torn apart by injury; or a cold abscess of lumbar origin or an osteitis may open the way for a hernia; or muscular atrophy of vertebral origin, following paresis, may be the cause.—*Archives Provinciales de Chirurgie*, November 1, 1902.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held December 4, 1902.

ROBERT F. WEIR, M.D., PRESIDENT.

Medical Supervision of the Isthmian Canal.—The following resolutions were adopted:

Whereas, It is well known that the previous excavations for an isthmian canal have been attended by a large amount of illness and a heavy mortality, due mainly to malaria and yellow fever, and

Whereas, Recent medical discoveries have enabled the medical profession to control them to a marked degree,

Resolved, By the New York Academy of Medicine, that in their judgment the amplest powers should be given to the medical officer in charge of the sanitation of the canal, and to attain this end the medical officer should be a member of the Commission which the President of the United States is authorized to appoint to conduct the affairs of the canal; it is further

Resolved, That the Secretary of the Academy is authorized to forward this preamble and resolution to the President of the United States.

In Memoriam, Major Walter Reed.—On motion of Dr. E. G. JANEWAY the following resolution was also adopted:

Whereas, In the recent death of Major Walter Reed, U. S. A., the science of medicine has lost the one whose brilliant research led first to the demonstration of the transmission of yellow fever by the mosquito, and later to the practical removal of the disease from a large part of Cuba, and the prevention of its transmission to the shores of this country; be it

Resolved, That the New York Academy of Medicine records the greatness of the loss to science and mankind and its sympathy to the friends and'relatives of the deceased.

On the Need of a Radical Reform in the Teaching of Medicine to Senior Students.—Dr. WILLIAM OSLER, Professor of Medicine in the Johns Hopkins University, Baltimore, delivered an address on the subject. He opened his discourse by the statement that he had taken for his text the rather widely-circulated statement found in a recent report of the Surgeon-General, viz.: "Eighty-seven candidates, graduates of our medical schools, presented themselves before the medical board; eighteen were accepted." A further analysis showed that twenty-one were physically disqualified and that forty-eight withdrew or were rejected. This, the speaker thought, justified the rather sweeping title that he had chosen, for it should be remembered that this was the only competent and impartial board to sit in judgment upon the work of medical teachers. The special development of the medical school in the past twenty-five years had been in the direction of teaching practical science. Instead of a single laboratory devoted to anatomy, as in former years, numerous laboratories were now devoted to the many branches of medicine. The student of to-day no longer had a lecture-room knowledge, but a first-hand acquaintance with the things themselves. The work of the student in the first and second year had become exceedingly practical, and the question arose as to how the work of the third and fourth years could be made as practical. It was not in the systematic lecture, amphitheater, the clinic, or even the ward clinic, but in the whole relationship of the senior student to the hospital, that certain reforms were necessary. First, there should be a change in the conception of how medicine should be taught. The senior student should be started at once on his road of life. The graduate of a quarter of a century ago went out with only a little practical knowledge, and the latter increased in after year, only as his practice increased. In the ideal course the student started in fact as a practitioner; as an observer of disordered machines, with the structure and orderly functions of which he was already perfectly familiar. He should be taught how to observe and be given plenty of facts to observe, and the lessons would come out of the facts. It was a safe rule not to have any teaching except with a patient as a text. To educate the eye to see, the ear to hear and the finger to feel took time, and all that could be done was to start the student on the right path. The mistake was constantly made of trying to teach the student too much. He should be given good methods and a proper point of view, and all other needful things should be gradually added thereto.

Reform in the Hospital.—A second important reform needed was in the hospital itself. In the interest of the medical student, the profession and the public, the hospital authorities should be asked for much greater facilities than were at present enjoyed by the students of the majority of the medical schools. The work of the third and fourth years should be taken entirely out of the medical schools and be put into the hospitals. But an extraordinary difficulty would present itself. While there were institutions where students had all the privileges desired, there were others to which they were admitted by the side entrance, and quietly, to the amphitheater—by the back street if possible; and there were others which barred the student entirely. The work in a hospital in which there was no teaching was rarely first-class, and the hospital physician was apt to become slovenly unless he taught and was himself taught by his house physicians and students. The objection often raised that the patients did not like to have students in the wards was entirely fanciful, and in his experience it had been exactly the reverse, and he could claim to speak with some authority, as he had served as a hospital physician for twenty-five years, and had taught chiefly in the ward. With the exercise of ordinary discretion, and if one were actuated by kindly feelings toward his patients, there was not the slightest difficulty. In the present state of medicine it was difficult to carry on a modern hospital without the help of students, for the house staff has too much to do to attend to all of the routine work.

The Reform Needed.—How could these reforms be carried into effect? The speaker here narrated an experiment—the story of how he had been personally engaged in teaching medicine. The third-year student came to the out-patient department, and in it learned his medicine, and there only. He learned it in the amphitheater only on stated occasions. He or his associates met the class in the dispensary on three mornings in the week. An arrangement had been made by which a class of thirty or forty could be accommodated in a room built next to the out-patient department. This, of course, was a difficulty in an ordinary general dispensary, because of the lack of room and of proper accommodations. The patients were taken into this classroom in a less formal way than in the regular clinic. At the end of each month a "clinical round-up" was given, and at the end of the eight months the men who had held these "round-ups" made up a summary, which was then duplicated for the entire class. The students were encouraged to keep track of their cases, and report upon them, and if the patient went to the hospital the students were allowed to go into the wards to determine what progress the patient was making, and report upon the same. The students were systematically taught in groups physical diagnosis and history-taking up to Christmas, and then they were assigned in groups of three or four to the dispensary and worked up the cases under the supervision of the out-patient staff. This constituted the main portion of the clinical instruction in medicine obtained by these third-year students. Each student thus spent two or three hours, three times a week, in practical dispensary work, doing everything but prescribing for the patient. Three afternoons a week the student was instructed in practical microscopy in the laboratory, and one day in the week a general hospital clinic was given. There was no systematic lectures on theory. There was no talking on anything without a patient at hand as a text. The other three days in the week the students received practical instruction in surgery.

Line upon Line; Precept upon Precept.—The speaker said that he had a hospital service of from 105 to 125 beds. He had a group of men—seventeen at present—acting as clinical clerks in the hospital wards. Three mornings in the week he gave these students simple ward instruction, and on the alternate mornings his assistant did the same thing with these same students, carrying out what should be the motto of all medical teaching: "Precept must be upon precept, precept upon precept; line upon line, line upon line; here a little and there a little." On Saturday the groups from the medical, surgical, and obstetrical teaching met in the ampitheater, and then there was presented the experience of the week. For instance, the records of all the cases of pneumonia were presented upon the blackboard, and the morbid anatomy specimens for the week were shown. This was the "clearing-house" for the week.

Systematic Lectures.—Dr. Osler said he was not theoretically opposed to systematic lectures upon certain subjects. This was a point which every teacher should settle for himself. It would be a great mistake, he thought, ever to abolish all theoretical lectures in medicine. Occasionally a Trousseau appeared, who was worth hearing, but, ordinarily, systematic lectures on medicine were, in his opinion, no longer necessary. There were, of course, certain diseases which could not be demonstrated. The teacher, or one of his trusted assistants, gave a set lesson from time to time, and the students were systematically quizzed. This could be made an exceedingly attractive and valuable method of instruction, particularly if the teacher would take the trouble to announce the topics in advance. Thus, the students of the fourth year did work in the wards and in the ampitheater, and, in addition, Dr. Osler meets them one evening a week and discusses with them personally the clinical events of the week, more particularly the accidents and the mistakes, and the failures, their own and his. This quiet talk served to lessen the distance between the students and the teacher, which was, after all, a very important matter. This plan had been tried for five years, and from his own and the students' standpoint it appeared to work very satisfactorily. He would like to ask how many of the medical students in New York City, Philadelphia, Chicago, and other large medical centers had their rights, and were permitted to observe and study by hourly contact the numerous cases of such important diseases as pneumonia and typhoid fever. It was that which he called teaching medicine, and it was for that he was pleading.

Harvard's Reforms.—Prof. H. L. Burrell of Harvard University opened the discussion. He said that educational reform, during these past twenty years, had been gradually increasing in vigor, but the preparatory schools of this and other countries were at present really experimental stations. An important principle was, as had been said by President Eliot, to "train men for power;" another principle was to allow the student to acquire knowledge rather than to merely receive information. The whole country had watched with the keenest interest the development of education at the Johns Hopkins Medical School, where the distinguished faculty were singularly fortunate in having small classes, and, while listening and seeking for the truth, had yet recognized that the environment of each school, hospital, and city must, of necessity, be considered in adopting improved methods of instruction. There were three ways in which the teaching of medicine to senior students could be improved. The first was to have a curriculum which should consist of minimum required work and maximum elective opportunity. The minimum required work should consist of the absolutely essential knowledge of all fundamental studies necessary to make a well-informed physician, whether the student was to be a practitioner of medicine or was to devote himself to the science of medicine. The maximum elective should afford to students, after they had mastered the fundamental studies, the opportunity to acquire knowledge in any direction they might elect. In his opinion, the course of study in a medical school should cover a period of four years, three years to be devoted to the required, and one year to the elective, studies. The plan which had been adopted at the Harvard Medical School last June was as follows: (1) The fourth year to be elective without any restrictions; (2) the total number of hours required of each student to be one thousand; (3) certain courses to be recommended as fitting a student to become a general practitioner, or a specialist in, or teacher of, any department of medicine; (4) an advisory committee to be appointed with whom the students might consult concerning the selection of studies; (5) in general the forenoon hours to be devoted to practical work in hospitals and laboratories, and the afternoon hours to the lecture room and laboratories. The first year and a half was to be devoted to the study of anatomy, histology, physiology, physiological and pathological chemistry, pathology and bacteriology. The second year and a half, completing the three years, to be devoted to medicine, surgery, obstetrics, hygiene, pharmacology, dermatology, gynecology, pediatrics, neurology, syphilis, ophthalmology, otology, laryngology, legal medicine, and psychiatry. During these three years the student was to devote himself to these studies at their minimum. During the fourth year he might devote his one thousand hours of time to such electives as he might select.

The second method, which he hoped would be adopted by the Harvard Medical School, required all students, during the fourth year, to serve as clinical clerks and surgical dressers in the wards and out-patient departments of a hospital. The service should consist of four months as clinical clerk in the medical out-patient department, two months as clinical clerk in a medical ward, two months as a dresser in the surgical out-patient department, two months as surgical dresser in the surgical wards, and two-months' work as assistant in some elected special out-patient department. This plan would take six months of the student's whole time, and six months of his mornings or afternoons. It would necessitate the abolishment of the third-year vacation for a certain number of students, and although this might at first sight seem a hardship to the students, when it was considered that they were in a technical school acquiring the knowledge that was going to fit them to gain a livelihood, it was not too much to expect that some of the students should be willing to work during one summer of their four-years' course. This plan would be simple to carry into effect if the school had a hospital and could be made practical, even if the school did not have a hospital.

To make this plan effective it would be necessary that the three parties concerned, the student, the hospital, and the school, should each find it advantageous. It would be of advantage to the student, for he would gain that practical experience that he so keenly desired. It would be of advantage to the board of government of a hospital, for assistants would come to them from a responsible body, with regularity, having been trained for their duties. From the school's standpoint, the advantages were manifest. It would in an organized manner provide opportunity for students to acquire practical knowledge. The mornings or afternoons of the fourth year could be devoted to this practical work. The students should be under medical and surgical tutors, whose duty it should be to see that the agreement on the part of the school to furnish assistants to the hospital is fulfilled. An important function of the tutor would be to encourage the student to carry out a line of research work in clinical subjects, not so much for the value that would come from this research work to the science of medicine, as the habit acquired by the student to pursue an individual subject until completed. The remainder of the time in the fourth year should be devoted to laboratories and lectures. This plan was practical; the three parties concerned, student, hospital, and school, would all be benefited. The length of service of house officers, under this plan, might be readily shortened to a year, for the house officer would come to the hospital with greater experience.

The third way to improve teaching was to recognize clearly the scope and character of lectures and section work. The professors in a medical school should direct the work done in their departments, and the section work should be given to small classes. The more nearly personal the instruction was, the better. It should not be a clinical lecture, nor a clinical demonstration, but should be the drill of the individual student in the fundamental studies, *e. g.* drill in taking histories, in making physical diagnoses, in establishing the treatment of patients. The lecture, on the other hand, should be given to large classes; it should (1) present in a concentrated form the experience of mature teachers, and (2) it should present the advanced knowledge on selected special subjects. The lecture's great value, if properly given, was to serve as an inspiration to students to do better work.

In conclusion, the speaker said that reform in medical education was in the air; progress was to be made. The great metropolis of New York, with its wealth of clinical material, its skilled practitioners and its broad humanities, could readily become, by the concerted action of its schools and hospitals, the medical center of the world.

The Problem in Canada.—Professor ALEXANDER MCPHEDRAN of the University of Toronto was invited to take part in the discussion. He said that one feature of this subject had always been prominent in his mind, though it was often lost sight of on this continent, *i. e.* that the functions of the hospital are three-fold, viz.: (1) To care for the patients under its charge; (2) To train nurses for the care of the people outside who cannot go to a hospital, and (3) To train medical students to care for the poor in various parts of the country who cannot avail themselves of the advantages of the hospital. A hospital which failed to perform this three-fold function should not be looked upon as a thoroughly-equipped hospital. His insistence upon this point had borne fruit in Toronto, and had resulted in the opening of the hospitals to medical students. The plan followed by Dr. Osler was more easily carried out with small classes. When he had had about fifty or sixty students in the graduating class he had not found much difficulty in supplying them with the practical instruction, but now that the number was one hundred or more this difficulty had become far greater—indeed, he had come here for the purpose of finding out how he was to meet this difficulty. He found that there was a feeling in New York City that hospital patients objected to students in the wards, but he had found that very few patients, indeed, objected to students taking histories and examining the blood, and perhaps the contents of the stomach. It was largely a matter of custom, and patients acted largely according as they found they were expected to do, and he had noticed that where it was the custom for students to be in the hospital little objection was made, and that the patients even thought they were neglected if they did not receive as much attention from the students as some others. Again, in Toronto it was the custom to charge a small fee to the students, which was paid into the hospital fund, and under this system it seemed to him that the medical student had the right to receive practical instruction in the hospital. It was not a question of choice whether or not systematic lectures should be given in Toronto, for the law required that the students should receive certain lectures in order to secure a license to practise medicine. He was of the opinion that it would be better if fewer lectures were given, but he was not prepared to admit that they should be entirely abolished. He could not see how a student could get the practical instruction needed along with the theoretical knowledge in the course of four years. One case well and exhaustively studied was infinitely more valuable than the superficial study of a large number of clinical cases.

The Situation in New York.—Dr. E. G. JANEWAY said that the question of assimilating the method of instruction of the Johns Hopkins University with our own teaching here involved the consideration of the differences in the conditions under which the teaching was done. It should not be forgotten that the students in the Johns Hopkins University were specially selected. With regard to didactic lectures he was of the opinion that this was a question which should be left very largely to the judgment and discretion of the individual professor. It was not practicable in this city to turn such a large number of students into the hospital wards, and hence it became necessary to bring the patients and the students into the amphitheater. He believed that the instruction should be made, as far as possible, practical, but the conditions were such that, especially in some departments, they were compelled to give didactic lectures as an outline and guide to the systematization of the knowledge in the students' minds. This was really essential with students who were not specially selected, as in the Johns Hopkins University. He hoped he would soon see the hospitals of this city opened to students far more than they had been in the past. Even some of our public hospitals were not utilized for clinical instruction.

Opposed to Didactic Lectures and Electives.—Dr. W. B. JAMES said that even the needs of medical education should not be allowed to interfere with the primary and most important function of the hospital, the caring for the sick; nevertheless the hospitals should open their doors to the medical students and offer every facility for instruction, and the enormous mass of material for the study of disease should be utilized to the fullest. He confidently expected that in the near future there would be far fewer restrictions placed upon medical instruction in hospitals. He was quite sure there was enough unused clinical material in the dispensaries of New York City to equip fully for clinical instruction several first-rate medical schools. Every teacher must be a law unto himself in the matter of lectures. One well-known teacher had very pointedly observed, that the teacher who did not believe in the didactic lecture should most certainly avoid giving them. Much good practical instruction could be given to students in small sections. He believed the amphitheater clinic still occupied a most important position in medical education. It had very largely superseded, and he believed quite properly, the old instruction by didactic lectures. He had noticed that medical students, acting as substitutes on the house staffs of the hospitals, were very apt to waste a good deal of time, because their efforts were usually ill-directed by reason of their lack of medical knowledge. He was not at all a believer in electives in a four-year course. The tendency to specialism came all too soon, and it would probably result in turning out a more one-sided set of men than at present. The whole four years should be devoted to giving a symmetrical view of the entire field of medicine, with all its specialties.

Limitations of Bedside Instruction and Restrictions Imposed by State Examining Boards.—Dr. W. GILMAN THOMPSON thought that Dr. Osler had shown an inconsistency because he had inveighed against the didactic lecture as a means of instructing a large number, and yet he had at the same time shown his own ability to instruct a large audience by this same despised didactic lecture. With regard to the large proportion of candidates rejected at the army and navy examinations, he would say that these examinations include history and languages in addition to medicine, and, moreover, the conditions of the service were such as not always to attract the best men. These examinations could hardly be said to be more representative than the examinations of many State licensing boards. One should be careful to avoid giving the medical student a mere catalogue of medical topics. The laboratory instruction could be very much overdone, and it might prove as useless to the student who intended to enter the general practice of medicine as to teach him the bookbinders' art because some of his books might in time need binding. He would begin the practical instruction of medical students to a slight extent in the second year. It was quite a task at the present time for the student simply to learn the nomenclature. For example, in Professor Welch's recent Huxley lecture Dr. Thompson said he had counted twenty-five words about which he knew almost nothing. The aim should be to turn out well-balanced practitioners of medicine, so far as this could be done in a reasonable time. A great deal depended upon whether or not the students had received previous college training; also upon the size of the class, the relation of the school to the hospital and the things which the State Examiners insisted upon the student's knowing if he would obtain a license to practise medicine. Surely anyone who had looked over the questions asked at many of the State Board examinations must see that practical instruction is not enough. He was not one of those who favored the extensive use of the didactic lecture; still, such lectures were useful for the inculcation of certain general principles. There was danger of giving too much bedside instruction and making such teaching more like a picture book. It was impossible to demonstrate, for example, all the symptoms and signs of a disease in a particular case. There were many limitations to such instruction. Again, it was impossible in any ordinary hospital service to command the clinical material so fully as to give the instruction according to a system or preconceived order. The instruction needed for passing examinations by the State boards and competitive examinations for positions on hospital house staffs demanded systematic didactic instruction.

Practical Instruction in Obstetrics.—Dr. E. B. Cragin said that the department of obstetrics of the College of Physicians and Surgeons of this city had been struggling for five years with the problem of how best to give bedside instruction in this branch. The conditions would, at first sight, appear to be peculiarly favorable at this college, because the Sloane Maternity Hospital might be looked upon as the laboratory of the Chair of Obstetrics. Again, it should be remembered that the problem was how to bring 200 students before the patient in the hospital each year. About the only way was to divide the class into small sections of six. Each section of the fourth-year class lives in the hospital for two weeks, and while this method was far from ideal, it seemed to him far better than a year of theoretical lectures. He was heartily in accord with those who favored the recitation plan, for, a good groundwork in theory should be given in the first part of the year, and later on this should be supplemented by clinical instruction.

Dr. Ellsworth Eliot said that the didactic lecture in surgery had an important function in teaching. Surgery was changing so constantly that the students became confused unless guided by the authority of the instructor or lecturer. Recitations were useful by fixing the theoretical part of the subject in the mind. He would like to know how much the students in surgery were allowed to examine patients in the wards of the Johns Hopkins Hospital.

Dr. Osler closed the discussion. His knowledge of the army examining boards, he said, had impressed him so deeply that he felt that the title of his paper had been justified. The State examining boards could not be looked upon as a standard; some of them were the most senilely antique things in this country, and gave only theoretical examinations. What he pleaded for, and pleaded for earnestly, was that the medical student should have better facilities in his third and fourth year for utilizing the colossal material which now goes to waste in our dispensaries and hospital wards. He pleaded for the closer affiliation between the patient and the medical student. The ordinary ward class was not much better than the ordinary amphitheater lecture or didactic lecture. What was wanted was an intimate contact of the student and teacher. Such a system of instruction would almost do away with medicine from a theoretical standpoint. It was not the teacher, the textbook, or the lecture that was going to teach the student, but the patient, and he must see patients and patients and patients. The hungry sheep look up and are not fed upon the proper food, and they will not be until there is a closer affiliation between the out-patient department and the hospital wards with the students. Any young man could make a good reputation in an out-patient department, provided he had students to spur him on to do his best work.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held December 18, 1902.

Robert F. Weir, M.D., President.

Symposium on Gallstone Surgery.—This subject was considered in the following papers:

Some Practical Points in the Anatomy of the Gall-bladder Region.—Dr. George E. Brewer presented this, the opening paper He said that the important points in the anatomy of this region were: (1) A knowledge of the chief nerve trunks of the abdominal wall; (2) the normal position, size and shape of the gall-bladder and ducts, and of certain constant lymph nodes; (3) certain variations from the normal in these structures; (4) variations in the blood supply of the liver and gall-bladder; (5) the relation of the duodenal orifice at the common bile duct. The incision, when in the median line, should be so planned as to avoid dividing the intercostal nerves. Any incision which exposed the gall-bladder and ducts sufficiently must necessarily divide one or more of these nerve trunks. If, however, an incision through the rectus muscle were employed, extending from a point 1 cm. below the eighth costal cartilage to 1 cm. above the umbilicus, only the ninth intercostal nerve would be divided. In the lower portion of the gall-bladder was a large semilunal fold attached to two-thirds of the circumference of the wall. There was also another, though smaller, valvular fold, and between the two was what had been called "the pelvis of the gall-bladder." This "basin" was sometimes the seat of a stone, and the latter might very easily be overlooked during operation, being hidden by one of these folds. From one hundred measurements of the gall-bladder that he had made, the average was found to be 10 cm. The mucous membrane of the cystic duct contained a series of folds or valves, varying in number from four to twenty. These valves generally prevented the passage of a probe in either direction. The average length of the common duct was found to be 7.5 cm., and its diameter 20 mm., while the diameter of the common hepatic duct was 16 mm. According to Quain, the gall-bladder was occasionally absent. Occasionally a fully developed gall-bladder was found embedded in liver tissue. Cases of double gall-bladder had been reported, and also cases of left-sided gall-bladder without transposition of the viscera Membranous partitions had been found in the gall-bladder, generally longitudinal in direction. The gall-bladder was also occasionally shaped like a horseshoe. Most of these abnormalities were so rare as to be looked upon only as anatomical curiosities. In the one hundred subjects studied by Dr. Brewer there were no very important anatomical variations, though there were considerable variations in the length of the mesentery of the gall-bladder, thus affecting the mobility of this organ The cystic duct, owing to the presence of numerous folds of mucous membrane, rarely permitted the passage of a probe. A degree of patency of the cystic duct sufficient to allow of the passage of a probe should be looked upon as a pathological condition. The author said that he had made fifty dissections with a view to studying the arterial supply, and had found that in only three did this supply correspond with the description usually given in the text-books. The rights or free extremity of the gastrohepatic omentum frequently contains branches of the artery derived from other sources than the hepatic artery, and this should be remembered in tearing away the gastrohepatic omentum.

The Causes of Gallstones.—Dr. A. J. Lartigau read this paper.i He said that it had been shown that the phenomena of cholelithiasis were closely related with bacterial nvasion of the gall-bladder. The first direct experimental demonstration was in 1897, and consisted in the production of a number of stones experimentally by the direct inoculation of guinea-pigs with various bacteria. It was found also that the introduction of sterile foreign bodies, even when associated with bile stagnation, did not result in gallstone formation. His own studies showed that the growth of microorganisms, such as the colon and typhoid bacilli, was but slightly inhibited by bile. Other experiments were successful in causing the artificial production of gallstones, the shortest period being six weeks. The microorganisms originally used were always recovered. The effect of mixed infection was also studied in a few instances, and with negative result. It had been claimed that bacteria, especially at the height of digestion, pass through the normal intestinal mucosa into the portal circulation, thus reaching the liver where they might be destroyed or eliminated into the body at large, or into the bile. This seemed to be the case under normal conditions, and was still more marked when inflammatory changes were present. It was probable that the portal route from the intestine was a common channel of infection of the gall-bladder in cases of cholelithiasis. Certain experiments also showed that in cases of systemic infection the gall-bladder might become infected and cholelithiasis result. The speaker laid great stress upon the stagnation of the bile as an important factor in the production of cholelithiasis.

The Diagnosis of Gallstones.—Dr. J. B. Murphy of Chicago discussed this subject. He said that statistics showed that from 6.94 to 12.2 per cent. of all autopsies showed the presence of gallstones, and yet in only a small proportion of these cases had the symptoms of cholelithiasis been noted during life. The previous speaker had shown that there were several channels of infection, and that the bile was frequently infected. He believed the chief cause of the disturbance of gallstones after their formation was a secondary infection. The effect of that secondary infection depended (1) upon its virulence; (2) upon the products of the infection, and (3) upon the retention of these products under pressure in the various portions of the biliary tract. For instance, the secondary infection caused an increased secretion, and this secretion carried with it the stones into the pelvis of the gall-bladder. If the infection were mild and the calculus large, the stone would be forced into the neck or close to the neck in the pelvis of the gall-bladder. With this, the patient would experience a sense of distress, usually terminating in vomiting. This manifestation was even more common than an attack characterized by pain, nausea, vomiting, jaundice, and the disappearance of the symptoms. It was just in this class that the greatest number of errors arose. In these cases there was no elevation of temperature—simply pain, nausea, and vomiting. Many of these patients would say that if they could only vomit, they would be relieved of their "gastralgia." He believed that the calculus became impacted at the neck of the gall-bladder, and, the mucus passing into the duct, the attack ceased. In a second class of cases there was a moderately virulent type of infection. Here the onset was characterized by pain, nausea, and vomiting, marked sensitiveness on deep pressure in the right hypochondriac region, inability to take a deep inspiration when the fingers were dug under the margin of the ribs. The temperature rarely rose above 101° F., and was usually between 99.5° and 100.5° F. The patients so affected were usually elderly persons. The attack terminated by the forcing of the calculus into the gall-bladder or into the cystic duct. The tenderness would be relieved in a week or ten days. In the virulent infections of the gall-bladder there was often a rapid and complete necrosis of the gall-bladder. The attack was characterized by pain, chill, nausea, and vomiting, and an elevation of the temperature to 102.5° or even 104° F It rarely exceeded this last point. The fundus of the gall-bladder was poorly supplied with lymphatics as compared with the neck, and hence infection of the fundus caused less elevation of temperature than infection of the neck of the gall-bladder. When the stone passed into the duct and there was no colic, it was either because the stone was too large or too small. Gallstone colic was not due to the obstruction of the duct, but to the passage of a foreign body through a canal. If the stone were sufficiently large to overcome muscular contraction of the canal completely, then there was an absence of muscular spasm or colic. Sometimes the stone was retained in the pelvis of the gall-bladder for a long time. The temperature in these cases was not of the remittent type seen so frequently in general sepsis, but was of a distinctly intermittent and irregular type. The temperature would rise quickly to 103° or 105° F. The temperature would remain at this height for a few hours or days, and would then drop as suddenly to normal, and, after an interval, the same sudden rise, sustained temperature, and sudden fall would be repeated. This peculiar range of temperature was exceedingly characteristic of cholangeitis. When the stone was located in the common duct, there would be chill and fever, and the intermission was just as classic as in the cases already referred to. When the gall-bladder was infected, it became contracted; when obstructed without infection, the gall-bladder became enlarged. This was a point in the differential diagnosis between gallstone obstruction and malignant disease which had been pointed out by Courvoisier, and it was entirely in consonance with his own clinical experience. It was frequently stated that there was a complete intermission of the jaundice in cases in which the gallstone was in the common duct, but this had not been his experience, for, although the marked jaundice of the skin disappeared, he had always found a persistence of the jaundice of the sclerotic. It might be laid down as a general rule that a jaundice not preceded by a colic was not of gallstone origin, and that a jaundice preceded by a colic was of gallstone origin.

The Present Status of Surgery of the Gall-bladder and Bile Tracts.—Dr. W. S. Mayo of Rochester, Minn., presented this paper. He said that we had grown so accustomed to look upon the colic as the chief symptom of gallstones that the more chronic symptoms were commonly overlooked. Both infection and lack of drainage were factors in the production of cholelithiasis. The resulting disturbance depended upon the acuteness of the infection and the distensibility of the gall-bladder. In this respect the gall-bladder possessed a marked advantage over the appendix. Normally, bile had been shown to be free from microorganisms, and to be a poor culture medium, but thick or stagnant bile was a much better culture medium. All cases of slumbering gallstones probably contain bacteria, and need only some interference with drainage or a reinfection from the intestine to bring them into activity. In view of the probability of further extension of the trouble, it seemed wise to remove gallstones early. In over 2,000 operations of this kind, in the hands of six surgeons, there was not a single instance of re-formation of the stones. Repeated infections with bad drainage cause the walls of the bladder to become infiltrated with inflammatory products, and causes greater tension and more urgent symptoms. The changes found in the bladder reminded one of those found in appendicitis. In 454 operative cases he had found cancer of the gall-bladder or bile passages in about 5 per cent., and a distinct history of previous colic was elicited in these cases. He had never operated upon a patient who had passed a stone in the fæces without finding one or more other stones in the gall-bladder. The infection of the liver ducts introduced an element of uncertainty in the prognosis. Out of the 454 cases there were twenty-three examples of chronic cholecystitis without the formation of stones, and these were cured by opening and draining the gall-bladder. He had recently heard from nineteen of these patients, fifteen reporting themselves as well, two as improved, and two as unimproved. Cholecystostomy and drainage was the operation of choice. Drainage should be continued until the bile became normal. The operation was very safe, as the gall-bladder was fastened to the abdominal incision, and the position was such as to secure good drainage. Kehr said that the hepatic duct required drainage in 37 per cent. of the cases. In cases of stones in the common duct drainage of the hepatic duct was a necessity.

Dr. W. W. Keen of Philadelphia opened the discussion. He said he had been especially interested in the paper of Dr. Lartigau with reference to the causes of gallstones, for the reason that five years ago, when writing his little book on the surgical complications of typhoid fever, on coming to the subject of gall-bladder infection he found there had been a few instances in which gallstones had been examined bacteriologically and typhoid bacilli discovered in them, and presumably the nucleus and cause of the gallstones. Up to that time he believed there had been no experimental proof whatever save one isolated case. Since then much admirable work had been done in connection with the experimental production of gallstones, so that there could be no possible doubt regarding their etiological relation to the typhoid bacilli. This was especially interesting when it was remembered that in the bone marrow, the spleen, and the gall-bladder the typhoid bacilli were the most persistent. The very commonly-known fact, that gallstones are so much more frequent in women than in men, showed that there must be some other relation than that simply of infection. Perhaps this was explained by what had been said about the necessity for a free circulation of the bile. He believed that the costume of women and the constriction around the waist constituted an important factor in the production of gallstones in addition to bacteriological infection. He thought Dr. Mayo was right in his selection of cholecystostomy and drainage as *the* operation of choice. It gave much better results than cholecystectomy and cholecystenterostomy. On the other hand, there were occasional cases in which the operation of choice was not cholecystostomy. Gallstones sometimes played very curious tricks. He remembered a very stout woman upon whom he had done another operation some years ago. At that time it had not occurred to him to investigate the condition of the gall-bladder. Immediately after the operation she began to have severe diffused pain in the abdomen. He was greatly worried, fearing the beginning of an infection of the peritoneum, but suddenly, on the third day, a torrent of gallstones was discharged from the rectum. There were collected as trophies of that attack 101 gallstones. The question of performing a gallstone operation depended largely upon the condition of the blood. In no case of any considerable, and especially of deep or long-continued, jaundice should one neglect to study the coagulation time of the blood. If the coagulation time were not sufficiently short, it was well to put the patient upon chloride of calcium, in doses of five grains, three times a day, until the coagulation time had been reduced to, say, five minutes.

Dr. Munro of Boston reported the following fatal case: The patient was a woman of twenty years, who gave a history of having suffered from abdominal pain. Three days before operation she had an attack of acute abdominal pain, localized in the region of the appendix. The latter was found at operation to be normal, but almost at this level was an inflamed gall bladder. No gallstones were found. The pulse was rapid during the operation, and for some reason, not clear at the time, she seemed too weak for a cholecystectomy. She did not respond well to stimulants and died fifteen hours after operation. A careful autopsy was made. The bacteriological examination was practically negative. The anatomical diagnosis was suppurative cholecystitis, beginning peritonitis, and status lymphaticus. The thymus was 10 cm. long and was soft and succulent.

Officers Elected.—Dr. Andrew H Smith, *President;* Dr. M Allen Starr, *Vice-President;* Dr. Herman L. Collyer, *Treasurer; Member of Committee on Admission*, Dr. J. Milton Mabbott; *Member of Committee on Library*, Dr. Joseph Collins.

SECTION ON ORTHOPEDIC SURGERY.

Meeting of December 19, 1902.

Reception Given to Prof. Adolf Lorenz of Vienna

Dr. Robt. F. Weir, President of the Academy, opened the meeting, and then placed it in the hands of Dr. George R. Elliott, Chairman of the Orthopedic Section.

Dr. Weir remarked that an introduction of Professor Lorenz was almost superfluous, as he was well known, not only in his own department, but in advanced science generally; that his demonstrations of his methods in this country were of educational value to the American physician, as well as of great benefit to the special department of orthopedic surgery. The opportunity of actually seeing Dr. Lorenz at work offered a chance of learning altogether different from and in advance of simply reading about his methods, as object teaching is a superior educational method. His special peculiarities were observed in a way not revealed from his writings.

Dr. Elliott said, as Chairman of the Section of Orthopedic Surgery, it was a great pleasure to give expression to the honor the section felt in having Professor Lorenz present. It was also a great personal satisfaction to know that his work had received some of the recognition it deserved.

From medical men much had been said about the great force he used. It was true that Professor Lorenz was a very strong man, but those who had seen him operate must have observed that the essential element in his operations was the intelligent direction of that force, graduating it to overcome the existing resistance of the contracted tissues, so that they were reduced to a state of flaccidity. Dr. Elliott further said that six years ago when he reported his first case of congenital dislocation of the hip, successfully treated by this method (Medical Record, May 29, 1897), he made the following statement. "The operation we have just considered is a real advance in surgery, and, throwing all enthusiasm aside, I feel convinced that it will soon be performed with strikingly good results in all civilized parts of the world." It was unnecessary to say how that predication had been fulfilled. Dr. Elliott expressed pleasure in calling upon Professor Lorenz to address the meeting.

Dr. Lorenz's Address.—(See p. 1001.)

Dr. V. P. Gibney said that he would like to tell the Fellows of the Academy of Medicine just how much he had learned from Professor Lorenz. All the information given us about bearing weight on the joints, about correcting deformities, about destruction of muscles which produce deformity, especially adductors, was something of a revelation.

At first Dr. Lorenz's views about the management of hip-disease, club-foot, and wry-neck seemed antiquated, but when he began to elaborate them he felt that he was in the presence of a master. Lorenz tells us that the pain in hip-disease comes in exacerbations, and does not agree with me regarding the use of traction. He says we employ traction for too long a period, causing atrophy of muscle and destroying functional activity; that it should be used only for short periods; he does not allow deformity to occur at all. When Lorenz was asked if he aimed to get functional restoration, he replied "yes, five or ten times in 100."

Dr. Gibney thought all orthopedic surgeons should aim to get perfect restoration of function. There was great reason for reflection, and whether or not we were all wrong about traction remained to be seen. Those of you present at one of the clinics this week saw his ability to take a virgin club-foot, an extreme case, and within half an hour he and his able assistant, Dr. Mueller, had "pulpified the foot, so to speak, had rendered it like a "wet rag." Lorenz regarded age as no deterrent in the bloodless correction of club-foot. When the bones could not be managed by manual force he used instruments.

Dr. Royal Whitman said that he felt pleased to find that Dr. Lorenz considered good reposition with increased functional ability a satisfactory result; this gave him great encouragement in some of his own cases in which he had been inclined to consider the results as disappointing.

He further remarked that he had gained valuable information from Dr. Lorenz in the treatment of the disability following fracture of the femur. Lorenz attempted to get the limb into an anterior position and hold it abducted and extended, enabling the patient to walk. This was done under an anæsthetic; he considered it an important advance in the treatment of such disabled cases.

Dr. R. H. Sayre said he had learned much from Dr. Lorenz's visit. After having seen him operate, he realized exactly what he did in a way he had not acquired from reading about his work and methods. In his early practice, as he looked back, he now saw where he had not used sufficient force nor sufficiently long retention of the parts in position.

Dr. Shaffer said he thought Dr. Lorenz had done a great deal for orthopedic surgery. Remembering the days of the elder Sayre, Taylor, and Knight, and that America might be called the birthplace of orthopedic surgery, yet there had come to us from abroad a great teacher and one who had taught us. He remarked that many had seen him operate and do what was considered almost impossible. He had, at his clinic, presented to Dr. Lorenz a stubborn, resistant case of congenital club-foot, expecting to see the doctor refuse to operate; nothing of the kind occurred, Dr. Lorenz corrected the deformity, as a matter of course. He said that the Lorenz clinic in Vienna had become the Mecca for orthopedists, and that yearly Americans were flocking there.

Dr. Weir, President of the Academy of Medicine, proposed a resolution that a vote of thanks be offered Dr. Lorenz, which was unanimously adopted.

The meeting then adjourned and was followed by a reception to Professor Lorenz.

SECTION ON SURGERY.

Stated Meeting, Held December 8, 1902.

Robert T. Morris, M.D., Chairman pro tem.

Cases of Fracture of the Scapula.—Dr. B. Tilton presented a man who, four months ago, had fallen about twelve feet, striking on the shoulder. He sustained a fracture of the clavicle, which was treated, but the physician in attendance did not notice a fracture of the scapula, and it remained undetected until the man came to the New York Hospital. Examination then showed a pseudoarthrosis of the body of the scapula. The man had been treated for four weeks by a spica bandage on the shoulder, and while there was no pain, false motion still existed. Dr. Tilton also presented another case of fracture of the scapula, occurring in a man who had fallen from a scaffold. This fracture involved the spine of the scapula, a rather unusual situation. There was now no pain, crepitus, or false motion, but the cállus was perfectly evident.

Cases of Ununited Fracture.—Dr. Tilton showed an ununited fracture of the arm, four weeks after the injury. The fragments had been rubbed together from time to time, but without stimulating the formation of callus, and an open operation was now advised. The next patient was a man, who had broken his tibia on February 4, 1902. It had been treated in the usual way by plaster casts, but union had not taken place. Last summer Dr. Tilton drilled into the callus in various directions, and, although this resulted in some improvement, it was not satisfactory. For the last two months the man had been allowed to walk around with a short splint, so that he walked on the fragments. Since then, and particularly during the past month, the improvement had been very noticeable. During this time he had been on thyroid extract, but whether or not this had had anything to do with the improvement could not be said. The speaker had found this treatment very satisfactory.

Fracture of the Ulna.—Dr. Tilton also presented a little girl, who had fallen three weeks ago, sustaining a fracture of the ulna. She had been treated by light anterior and posterior plaster splints.

Dislocation and Fracture of the Shoulder.—Dr. J. A. Hartwell said that a man had come into the Lincoln Hospital last June with a dislocation of the shoulder. He had cut down upon it, and by cutting the subscapularis muscle had succeeded in reducing the dislocation. In the latter part of August the function of the joint was perfectly restored, but shortly afterward, in a fit of melancholy, the man committed suicide.

Musculospiral Paralysis.—Dr. Hartwell also presented a man who had been injured in some machinery. When seen by the speaker the next day there was complete musculospiral paralysis. There was also a fracture of the clavicle, with severe contusions, and consequently operation was postponed until the following day. At that time an incision was made on the outer side of the arm, and the triceps muscle exposed. This muscle was found to be torn a good deal, and both fragments of the bone were protruding. The musculospiral nerve was finally found, and was not ruptured, so that the paralysis was apparently the result of stretching of this nerve. The bones were united by two sutures of forty-day chromic catgut, and the arm put up in extension for fourteen days. At the end of that time there was still wrist-drop. It was then put up in the flexed position for four weeks or more. At the end of two months he began to obtain slight use of the extensors of the hand. During the past month he had obtained complete use of the muscles. About six or seven weeks after the injury the reaction of degeneration was present, but was very slight.

Fracture of Tubercle of Tibia.—Dr. M. W. Ware presented a boy of fourteen years, who had fractured the tubercle of the tibia. He had first seen him about six hours after the injury, which had been produced by the boy's dropping suddenly from a ring swing and striking the floor with the feet as the body fell backward. The patella was found to be at a much higher level on the right than on the left side. The foot was kept in extension, and by means of zinc oxide plaster strips the tubercle was kept in connection with the shaft. A plaster-of-Paris bandage was applied from the foot to the middle of the thigh. The speaker said that strictly this should be called a separation of the epiphysis, because it was really such at the age of this lad. Of the ten reported cases all had occurred in gymnasts. Examination with the *x*-ray and the fluoroscope in the case presented showed a distinct epiphysis.

Neglected Fracture of the Patella.—Dr. Fréderic Griffith presented a woman, thirty-two years of age, who had fallen a short distance, striking upon the knee and fracturing it. This was about one year ago, but she refused proper treatment, and the injury repaired itself by fibrous union.

Persistent Dislocation of the Shoulder; Operation.—Dr Carl Beck presented a young man who had dislocated his right shoulder about one year ago, and it was reduced by a companion. The second dislocation took place some months later, and was reduced at the hospital. A third dislocation having taken place recently, the patient reduced it himself. Exploratory incision by Dr, Beck showed nothing but an unusual relaxation of the capsule. The capsule was accordingly narrowed by a purse-string suture, and a hole was drilled into the bones with the object of securing adhesions.

Appendicitis and Intestinal Obstruction.—Dr. C H. Peck reported this case. On October 4 the operation for appendicitis was done, and on November 9 intestinal obstruction developed. At the operation for the relief of this condition it was found that a double band of small intestine extended from the ileocæcal junction to the left upper lateral portion of the abdomen, and bound down the ileum. The obstruction was relieved, and the patient made a good recovery.

A Cured Carcinoma of the Breast.—Dr. Peck also presented a woman upon whom he had operated on September 12, 1889, for an extensive carcinoma of the breast. The axillary glands and breast were extirpated in the old way, but there had been no recurrence, though the case had passed the three-year limit.

An Operation for Epispadias.—Dr. Edward M. Foote presented a young boy upon whom he had done several operations for the relief of an epispadias. At the beginning there was about one-half of the pendulous portion of the urethra wanting. A point of interest in the case was the novel procedure adopted of freeing the foreskin and turning it down like the top of a buggy. It was utilized in completing the urethra.

Large Hernia after Kraske Operation.—Dr. Foote also presented a woman, forty-four years of age. Eight years ago she began to have great trouble with defecation, and subsequently was treated at the Presbyterian Hospital by dilatation of the rectum. Six years ago about six inches of the lower portion of the rectum were resected. Following this, two or three plastic operations were done. About six months after the resection a hernia appeared, and it was now of such great size as to give the woman much discomfort. It was not reducible. There was no history of syphilis, and he suspected the original trouble was tubercular.

Retroperitoneal Pelvic Abscess from Retrocæcal Appendicitis.—Dr. A. Ernest Gallant presented a paper reporting three cases of a heretofore undescribed form of appendicular abscess, first noticed when operating on a girl of fourteen years, with a retrocæcal, gangrenous appendicitis. Through a McBurney incision the index finger was being wormed between the caput coli and the pelvic wall when it entered a cavity which extended into the pelvis. Over a pint of foul-smelling pus was evacuated. The cul-de-sac of Douglas was free from any signs of peritonitis, and the uterus and appendages were normal. A finger introduced into the vagina came in contact with the finger from above, and demonstrated that the abscess had made its way behind the pelvic peritoneum, and was located between the posterior vaginal wall and the rectum. A large drainage tube was inserted through a vaginal puncture, and the region of the cæcum packed with sterile gauze. Recovery was uneventful. Two other cases were also reported. One was that of a girl of ten years, seen a few months later, who presented the same condition. On account of the smallness of the vagina no drain was used. This patient also recovered. The third case was that of a man of forty years, who for four years had been under antiluetic treatment to control early symptoms of locomotor ataxia. He was found to be suffering from a post-cæcal appendicitis, with a bulging of the post-pelvic peritoneal wall. On introducing the finger, eight or ten ounces of a clear, faintly yellowish fluid escaped, in which floated numerous white flocculi, such as are met with in tuberculous or gummatous collections. The patient failed to retain sufficient nourishment, gradually became exhausted, and died on the tenth day. At this time the wound manifested no signs of a reparative nature. Dr. Gallant said that these cases were characterized by a rather subacute onset; the patients were not ill enough to consult a physician until the eighth or tenth day, when in each of his cases there was found a tumefaction extending from the false pelvis toward the umbilicus. This was tympanitic on percussion, and proved to be the caput coli displaced upward against the rigid abdominal wall. In the first case the seat of most intense pain was in the left false pelvis. Rectal examination in the third case showed a mass bulging in front of the rectum, but not in the rectovesical pouch.

The Practical Value of a Detailed Diagnosis in Fracture.—Dr. Carl Beck read this paper, and illustrated it by cases and skiagraphs. He said that reduction meant immediate relief of pressure and improper reduction meant injury to the tissues. If the fracture were deeply seated, the experienced surgeon would sometimes guess rightly with regard to the nature of the fracture, but it was not until union had occurred that he knew whether he had guessed correctly or not. There was no occasion at the present day for such haphazard work, because of the valuable aid afforded by the Rontgen ray. In fractures of the forearm and leg, where there were two bones, the displacement might take place in different directions, as had been shown by the Rontgen ray. He was becoming very skeptical about the diagnosis of excessive callus formation, because the Rontgen ray had shown him that in many cases in which he had formerly made this diagnosis there was no such callus formation, but that he had mistaken for this an unreduced fragment. Nélaton had been ridiculed for asserting that, in fractures of the lower end of the radius, the styloid process of the ulna was often torn off, but the Röntgen ray in modern times had shown that this eminent surgeon was right, and that this occurred in from 30 to 40 per cent. of the cases. A man was presented with fracture of the arm. A large splinter of bone was not discovered until examined with the Rontgen ray, and thus it was easy to persuade the patient of the necessity of an operation. This was done and the splinter removed. If it had not been discovered early there would have been interference with the biceps and triceps muscles. For fractures of the metacarpal bones he had made use of a rubber tube to hold the fragments in better position, and he had also applied this same principle at times to certain fractures of the radius and ulna.

Dr C. A Elsberg said he was interested in Dr Griffith's case, and would suggest that the effort be made to freshen the edges of the fragments and suture them together. Within two weeks passive motion and massage should be begun, the fragments being kept in proper position. He thought there would be a very good chance of obtaining a good functional result, even in such an old case.

Dr John Rogers remarked that he did not remember to have seen an old fracture of the patella that was so reducible.

Dr. M. W Ware said that, as a rule, these fractures resulted from muscular contraction, and hence it was interesting to note that in this case the woman fell upon the patella. This also explained the occurrence of comminution. An open operation should be done, and the fragments brought together. He would like to ask if, in the case of ununited fracture, a trial had been given to Bier's treatment by constriction with the rubber bandage. The plaster splints employed by Dr Tilton he had found very useful.

Dr. C. Beck said he was much interested in the operation on the case of epispadias. In 1897 he had published a description of an original operation for this condition. In that operation he utilized the extensibility of the urethra, dislocating it forward. It was remarkable to what extent the urethra could be thus displaced. The advantages of this method were obvious, although in some cases of penile epispadias it failed. The urethra should be dissected free, and then pulled forward, and a roof made by tunneling the glans.

Dr. Joseph Wiener, Jr., said that last summer he had operated upon a boy of twelve years for epispadias by the method just described by Dr. Beck. The boy had had a conconstant dribbling from the epispadias for several weeks previously, and there was a fluctuating tumor that caused much doubt as to the correct diagnosis. On making a suprapubic incision the tumor was found to be a diverticulum of the bladder. The latter was opened and drained. Everything went well for a few days after the operation, and then the lad developed scarlet fever. The sutures had to be removed, and there was slight retraction of the urethra. He had seen the boy recently and his condition was practically normal. The boy was able now to hold the urine all night, and for three or four hours by day.

Dr. A. V. Moschcowitz, referring to the case of hernia after a Kraske operation, said that some years ago he had removed the coccyx from a man for intractable coccygodynia, and yet, following this operation, there developed a hernia about the size of the fist.

Dr. Joseph Wiener said that this interesting case seemed to him an excellent argument in favor of abandoning the Kraske operation. He did not think to-day one was justified in doing this operation according to the method laid down by its originator. There was no occasion, moreover, in a woman to excise any part of the scrotum; all that was necessary was to turn back a flap from the sacrum.

Dr. A. Ernest Gallant thought Dr. Beck was right in maintaining that fractures into the wrist-joint were not true Colles' fractures. They had been originally described by an Irish surgeon named Barton about the year 1863. Biers claimed that callus was formed much more rapidly under passive congestion. On the other hand, the opponents of the ambulatory treatment and massage had claimed that this resulted in an excess of callus formation. He was personally in favor of the early use of massage in fractures, even before the reduction of the same. Reference was made to a case in which he had made use of a spiral strip of adhesive plaster to prevent the inward rotation of the lower end of the radius.

Dr. Robert T. Morris remarked that by the firm application of a rubber bandage for a few minutes in a case of recent fracture it was sometimes possible to reduce the œdema to such an extent that one could examine the fracture with ease and satisfaction. He thought this would accomplish the same thing as the massage, only more easily and quickly.

Dr. Beck objected to this use of the rubber bandage, on the ground that the pressure of such a bandage upon the injured tissues was apt to prove injurious. Moreover, cases of paralysis had been repeatedly reported. He was quite aware that of what had been described as Barton's fracture, but the one he had alluded to in his paper was not this fracture, but an intraarticular fracture, a piece of the radius having been entirely separated and shifted upward. A great many fractures would heal in spite of treatment, as was well demonstrated by the records of the treatment fractures by quacks. Fractures having but little displacement would give good results from massage, yet he would very strongly advise against massage treatment as a regular therapeutic procedure, for he had seen very great deformity follow its use. He had had a very large experience in the treatment of fractures, and should have obtained the necessary expertness of touch, yet he was free to confess that in nearly half of his cases of fracture the Rontgen ray had shown him that his diagnosis by palpation was erroneous.

Book Reviews.

The Mattison Method in Morphinism. By J. B. Mattison, M.D., Medical Director, Brooklyn Home for Narcotic Inebriates. New York: E. B. Treat & Co., 1902.

This work is very small (40 pages). The author advocates continued full doses of bromides, and gradual decrease of the opiates. After sedation has been secured, codeine is given. Directions for meeting emergencies and complications are given.

Die Zunge und ihre Begleit-Erscheinungen bei Krankheiten. Von Dr. Carl Rosenthal. Berlin: August Hirschwald, 1902.

The author here presents, in well-arranged chapters, the various appearances and conditions of tongue attending different diseases, as well as the diseases proper of the organ itself. The work is based on scattered literature, and a rather wide experience in hospital and private practice. The work of 250 pages has not a single illustration. The reasons given for this is that, aside from pathological conditions of the tongue itself, the appearances are not readily reproduced, and for reproductions of the latter there are several atlases to which one can refer. The work is well written, and will aid in the diagnosis of a great variety of disorders.

Manual of Bacteriology. By Richard T. Hewlett, M.D., M.R.C.P.; D.P.H. (London). Second edition. Philadelphia: P. Blakiston's Son & Co., 1902.

The new, revised edition will be cordially welcomed by the busy practitioner who needs a ready guide for his laboratory work. The first portion of the book is devoted to general considerations of bacteria; their life history, their toxins, and antitoxins; and to the methods employed for their growth and clinical examination. In an excellent, terse fashion the author gives the essential characteristics of every bacterium, its toxin, antitoxin, and sera, and its agglutination reaction, and appended to each such description is a short sketch of the methods for its clinical examination. Short chapters on the bacteriology of the air, water, and soil on antiseptics and disinfectants, with an appendix on bacterial remedies (antitoxins and sera), are found at the end of the book. For those who need only the essentials of bacteriology, the volume will be especially valuable.

A Treatise on Diseases of the Anus, Rectum, and Pelvic Colon. By James P. Tuttle, A.M., M.D. Eight colored plates; 338 illustrations. New York: D. Appleton & Co., 1902.

The book forms a valuable contribution to the literature of these diseases. The author has embodied in this work the knowledge he has gained from a wide and extended practice in these affections, together with a most thorough study of the literature bearing upon this subject. In one respect only may he be criticized, to wit: he has made his book too large; terseness and conciseness are as important in descriptions as clearness, and add materially to the force of statements. The illustrations are good; the book-making fine; the subject matter is well classified. There is an excellent chapter on diagnosis and examination. Altogether the book is an excellent one, and should be read with interest and profit by all.

A Nurse's Guide for the Operating Room. By Nicholas Senn, M.D., Ph.D., L.L.D., Professor of Surgery, Rush Medical College, etc., etc. Chicago: W. T. Keener & Co., 1902.

This guide of 128 pages is published under the direction of the Sisters of Charity, St. Joseph's Hospital of Chicago. The feature of the work is the directions for preparing the operating room, instruments, etc. Made up largely of abstracts of lectures delivered by the author; evidences of wound complications are detailed so that the nurse may be on the lookout for early signs. Illustrations of many instruments are given.

The Treatment of Tabetic Ataxia by Means of Systematic Exercise. By Dr. H. S. Frenkel, Medical Superintendent of the Sanatorium "Freihof" in Heiden (Switzerland). Only authorized English edition, translated and edited by L. Freyberger, M.D., Vienna, M.R.C.P., London, M.R.C.S., England. With 132 illustrations. Philadelphia: P. Blakiston's Son & Co., 1902.

The subject is classified in two parts: (1) "General Part," in which is described the various types of tabetic ataxia; the causation of incoordination; the methods of examination for tabetic ataxia and disturbances of sensibility; and the influence of "hypotonia" (lack of muscular balance) on the attitude of the body, etc. (2) "Special Part," illustrating the different forms of exercises and apparatus utilized in this special method of treatment.

The writer gives a very clear and concise description of the pathology and mechanism of incoordination, which is deserving of careful perusal. He emphasizes the necessity of great care and watchfulness in carrying out this plan of systematic exercise, particularly in advanced cases. Its contraindications, however, are not sufficiently dwelt upon, neither is adequate expression given as to its inadaptability, in a large proportion of cases, on account of the absence of suitable facilities, nor is it clearly stated that the method is purely educational. As all tabetic patients are not ataxic, and as all ataxic tabetics are not suitable subjects for such exercises, this method will be found to have well-defined limitations. The author states that "the present edition is not a translation of Frenkel's book, but an adaptation of it to the requirements of the medical practitioner." It contains all the salient features of Frenkel's original treatise, but, being the first and only work of its kind in the English language, it will undoubtedly prove a welcome addition to the library of many American readers.

An Introduction to Dermatology. By Norman Walker, M.D., Fellow of the Royal College of Physicians of Edinburgh, etc. Second edition, revised and enlarged. New York: Wm. Wood & Company, 1902.

Dr. Walker has a true sense of the requirements of the student at large, and of the attributes of the successful teacher. This insight he has brought to bear upon his pen-point, and the resulting work proved so far successful that he has had again to become a scribe and record what has transpired of importance in dermatology since June, 1899. This task he has accomplished without greatly enlarging the original, or changing its character. The simplicity of make-up and avoidance of all unnecessary details was the feature of the book which made teachers recommend it to those of their students whom they knew had neither the time nor inclination to go to the root of dermatology, or to enter into the discussions of theories, or read the *pros* or *cons* of most questions. In scarcely any other work of recent years has one come nearer teaching dermatology as it should be taught to the average student than in that of which the author has just presented a new edition, with 43 full-page plates and 47 illustrations in the text.

It is by no means a faultless book, and some of the illustrations are open to criticism, but it gives so much by comparison with what it leaves out, that it deserves special mention.

Outlines of Physiology. By Edward Groves Jones, M.D. Philadelphia: P. Blakiston's Son & Co., 1902.

Within 416 pages the author has endeavored to compress the important facts of human physiology, together with enough notice of anatomical structures and relations to make these facts intelligible to the reader. On the whole, this task has been well done. The descriptions are clear, and the facts are well presented. We believe, however, that the book is too concise for use, except as a very elementary book, in the medical curriculum. It seems to us that physiology is too important a subject to be presented to the medical student in such elementary form. The medical practitioner should know fully as much of the present state of physiological science as he does of anatomy. In fact, the former subject should be ever present in his mind and his knowledge of it as exhaustive as possible. If the student does not have this impressed upon his mind in the medical college, he will experience greater difficulty in acquiring that knowledge in after life. We should regret, therefore, to see this work adopted as the only textbook on this subject placed in his hands. As an introduction to more detailed study, we believe the work can be highly commended.

Über die Behandlung der Kinderkrankheiten. Von Dr. H. Neumann. Berlin: Oscar Coblentz, 1902.

The third edition of this book, or compilation of letters, is intended to convey answers to questions which arise daily in the treatment of children. Many interesting features are described. The management of the newly born is written from a modern standpoint. The author insists on the application of a sterile cheese cloth bandage or roller around the umbilicus. He warns against septic infection through the umbilicus, and advises against "bathing until the cord drops off." The danger of infection from fæces and microorganisms in this region are considered—so the wisdom of the author's advice will be appreciated. "Wrapping the cord in cotton is wrong," says the author, unscientific, and one of the means of producing umbilical sepsis. He also maintains a distinct relationship between scrofulosis and tuberculosis, and points to a series of misleading symptoms—and then to positive symptoms identifying this disease. Very many serviceable formulæ are given. The careful attention to detail, the advice given from personal experience, the manner of prescribing, dosage of drugs, will be valuable to the busy practitioner, and especially so to the beginner in medicine.

The Diseases of Infancy and Childhood. By L. Emmett Holt, M.D., LL.D. Second Edition, revised and enlarged. New York: D. Appleton & Co., 1902.

The revision of this book has been carried out without any change in the general arrangement. The author has rewritten several chapters and many changes are noticeable. The value of pathology in the elucidation of symptoms and diagnosis is recognized. Many illustrations of post mortems, photographs of pathological conditions, will aid those seeking information regarding this important branch of pediatrics. Considerable space is given to all details regarding infant feeding. The diseases of the newly-born child are carefully described. Illustrations showing the technique of "stomach washing," also the proper method of "syringing the nose," always serve to impress the reader. The chapter on diphtheria is one that can be improved. More especially that portion relating to "nutrition in diphtheria." In speaking of extubation, page 499, the author mentions the value of a full dose of morphine prior to removing the tube. Antispasmodics, such as sodium bromide, might be mentioned. The dorsal method of intubation is also worth noting. The method is especially valuable when we are hampered in emergencies by lack of proper assistants. The first edition was so well received that we can safely predict a cordial reception for the second edition.

Mother and Child. By Edward P. Davis, A.M., M.D. Philadelphia: J. B. Lippincott Company, 1902.

The development of an infant depends upon its careful management. Attention to all details—of clothing, of bathing, of feeding, of room temperature, etc.—are so important that every book bearing on this subject must be welcome. The writer states that the book comprises experience gained in his own practice, hence all young physicians will welcome this book as a guide by one trained in this special branch of medicine. The prevention of disease can be commenced in the nursery, by giving nature and its requirements due consideration.

Books Received.

The Proceedings of the Charaka Club. 8vo. Vol. I. 97 pages, illustrated. William Wood & Company, New York. Price, $3.50 net.

A Textbook of Clinical Medicine. By Clarence Bartlett, M.D. 8vo. 976 pages. Illustrated. Boericke & Tafel, Philadelphia, Pa. Price, cloth, $7.00 net; half morocco, $8.00 net.

Recollections of the Old Quarter. By Wm. S. Gordon, M.D. 12mo. 142 pages. Illustrated. Moose Bros. & Company, Lynchburg, Va.

The Physician's Visiting List for 1903. P. Blakiston's Son & Co., Philadelphia. Price, $1.00 net.

Obstetrical Nursing for Nurses and Students. By Henry Enos Tuley, M.D. 12mo. 198 pages. Illustrated. G. P. Engelhard & Co., Chicago, Ill. Price, cloth, $1.00 net.

Flowers of Song from Many Lands. By Frederick Rowland Marvin. Royal octavo. 138 pages. Pafraets Book Co., Troy, N. Y.

A Textbook of Nursing. By Clara Weeks-Shaw. 8vo. 397 pages. Illustrated. Third edition. D. Appleton & Co., New York.

Cancer and Other Tumors of the Breast. By Charles Creighton, M.D. 8vo. 296 pages. Illustrated. Williams & Norgate, London, England. Price, 20 shillings net.

Manual of Antenatal Pathology and Hygiene. By J. W. Ballantyne, M.D. 527 pages. 8vo. Illustrated. William Wood & Co., New York. Price, $5.00 net.

Lessons and Laboratory Exercises in Bacteriology. By Allen J. Smith, M.D. 8vo. 298 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $1.50 net.

The Earth in Relation to the Preservation and Destruction of Contagia. 12mo. 257 pages. By George Vivian Poore, M.D. Longmans, Green & Co., New York.

Malarial Fever—Its Cause, Prevention, and Treatment. By Ronald Ross, F.R.C.S. Ninth edition. 8vo. 68 pages. Longmans, Green & Co., New York.

The Nursing Profession: How and Where to Train. By Sir Henry Burdett, K.C.B. 12mo. 373 pages. The Scientific Press, Ltd., London. Price, 2 shillings.

Thirty-third Annual Report of the State Board of Health of Massachusetts. 8vo. 615 pages. Wright & Potter Printing Co., Boston, Mass.

Die Erkrankungen der Nieren. By Prof. Dr. H. Senator. Royal octavo. 525 pages. Alfred Holder, Berlin, Germany.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 20, 1902:

	Cases.	Deaths.
Measles	145	7
Diphtheria and croup	383	44
Scarlet fever	178	11
Smallpox	1	..
Varicella	105	..
Tuberculosis	202	139
Typhoid fever	99	18
Cerebrospinal meningitis	..	..

Some Parasites Found in Syphilis.—Max Schüller has been studying the tissues of syphilitics in various stages of the disease and has found present certain structures which have much in common with those he has already described as being the causative agents of carcinoma. The organisms found in the luetic tissues he considers may, like those of carcinoma, be held to be members of some group of hitherto unknown protozoa. The author describes in great detail the various staining methods, etc., necessary to demonstrate the organisms, and gives numerous illustrations of them *in situ* in the tissues. They consist mainly of two forms which may easily be obtained in fresh smears from primary lesions. The first form, which the author names "large capsules," when well preserved usually appear as somewhat pyriform or three-cornered bodies of brownish yellow color. Their contents are of a darker shade, while the shell is of a glistening yellowish tinge. Under a high power small knob-like elevations are distinctly to be seen. Nucleated masses are also to be seen which apparently are the extruded protoplasmic contents of the capsules. The second form consists of much smaller rounded bodies somewhat lighter in color, having a double contour, and which exhibit distinct radial striations. These are termed by the author "young organisms," as in his culture experiments they appeared to develop partly in the interior of the larger capsules and partly by fission. The author's investigations embraced studies of smears and sections from chancres, enlarged glands, condylomata, gummata, joint tissues, etc., taken from patients in the three stages of the disease and from those suffering from hereditary lues. In all of these, structures similar to those described, and also many modified forms, were discovered. Some culture and inoculation experiments on animals are also detailed, though these are still incomplete and do not offer conclusive evidence.—*Centralblatt fur Bakteriologie, etc*

Actinomycosis Hominis in America, with Report of Six Cases.—William G. Erving gives an interesting review of six cases, which are now reported for the first time. He presents several conclusions: The cases are scattered widely throughout the country, though most of them are reported from the large medical centers. Of ninety-six cases reported in this country, less than 20 per cent. came from Southern States. As to the sex, seventy-two were males, twenty-three females, while in five the sex was not mentioned. The youngest patient was a child of six years, the oldest a man of seventy years. There was a wide range of occupation. In twenty-four cases, or 36 per cent., the patients had had much to do with live stock and grain. In one instance the disease continued but four weeks, in another, thirteen years. Usually there is no definite history of infection. As the disease occurs in man, it is probably in a large majority of cases contracted from animals, especially cattle, in which actinomycosis is not uncommon; or, in common with cattle, from grain. The clinical characteristics vary greatly with the region of the body involved. Diagnosis should never be positive without the finding of the organism—the ray fungus. As to location, the primary lesion occurred in the cervico-facial region in fifty-three cases. Although the course of the disease is sluggish, extension is prone to follow. The prognosis depends largely upon the location of the disease, the pulmonary cases showing the highest mortality, the cervico-facial the lowest. From results, it seems advisable to excise completely the affected tissues wherever possible. —*Bulletin of the Johns Hopkins Hospital.*

A Case of Non-Surgical Premature Menopause.—Josephine Walter describes a case, and says that her aim has been to point out that (1) Premature menopause can occur without any previous or subsequent disease; (2) It is not necessarily preceded by any change in generative organs; (3) Any changes found in these organs are probably postmenopastic or due to disease, not at all related to the menopause; (4) Premature, as well as normal, menopause is due chiefly to atrophy, inhibition, or disease of a local menstrual ganglion and nerve plexus, rather than disease or atrophy of generative organs.—*The American Journal of Obstetrics.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending December 20, 1902:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Sacramento	Nov. 29-Dec. 6	3	..
San Francisco	Nov. 30-Dec. 7	3	..
Colorado, Denver	Dec. 6-13	9	.
Florida, Jacksonville	Dec. 6-13	1	..
Georgia, Atlanta	Dec. 3-10	2	
Illinois, Belleville	Dec. 6-13	1	
Chicago	Dec. 6-13	4	
Freeport	Nov. 29-Dec. 13	3	
Indiana, Indianapolis	Dec. 6-13	22	2
Maine, Biddeford	Dec. 6-13	4	
Portland	Dec. 6-13	1	
Massachusetts, Boston	Dec. 6-13	21	2
Chelsea	Dec. 6-13	1	
Lawrence	Dec. 6-13	2	
Malden	Dec. 5-13	1	
Newton	Dec. 6-13	..	1
Taunton	Dec. 6-13	3	
Michigan, Detroit	Nov. 29-Dec. 13	68	
Grand Rapids	Dec. 6-13	9	
Missouri, St. Louis	Nov. 30-Dec. 7	40	
Nebraska, Omaha	Dec. 6-13	3	
New Hampshire, Nashua	Dec. 6-13	20	
New Jersey, Newark	Dec. 6-13	1	
New York, Binghamton	Dec. 6-13	1	
Buffalo	Dec. 6-13	1	
New York	Dec. 6-13	7	
Ohio, Cincinnati	Dec. 5-12	2	
Cleveland	Dec. 6-13	11	[illegible]
Pennsylvania, Altoona	Dec. 6-13	14	
Erie	Dec. 6-13	3	
Johnstown	Nov. 22-Dec. 13	12	2
McKeesport	Dec. 6-13	1	
Philadelphia	Dec. 6-13	4	2
Pittsburg	Dec. 6-13	20	0
Utah, Salt Lake City	Nov. 29-Dec. 13	12 (Three cases imported)	
Washington, Tacoma	Nov. 30-Dec. 7	1	..

SMALLPOX—FOREIGN.

		CASES.	DEATHS.
Canada, Quebec	Dec. 6-13	1	..
France, Rheims	Nov. 23-30	..	1
Great Britain, Bradford	Nov. 15-20	38	..
Dundee	Nov. 22-29	2	..
Manchester	Nov. 22-29	1	
Sheffield	Nov. 15-29	9	..
India, Bombay	Nov. 11-18	.	1
Italy, Naples	Nov. 24-Dec. 1	2	..
Palermo	Nov. 15-22	3	..
Mexico, Mexico	Nov. 23-30	1	1
Russia, Odessa	Nov. 15-22	2	1
St. Petersburg	Nov. 15-22	7	2
Straits Settlements, Singapore	Oct. 25-Nov. 1	..	2
Uruguay, Montevideo	Oct. 23-30	11	.

YELLOW FEVER.

		CASES.	DEATHS.
Brazil, Rio de Janeiro	Nov. 1-8	..	4
Colombia, Panama	Dec. 1-8	5	2
Costa Rica, Port Limon	Nov. 29-Dec. 6	4	3
Mexico, Tampico	Nov. 30-Dec. 7		18
Vera Cruz	Nov. 29-Dec. 6	12	3

CHOLERA.

		CASES.	DEATHS.
China, Hongkong	Oct. 18-25	1	1
Egypt, Alexandria	Nov. 8-22	39	35
India, Calcutta	Nov. 8-15	..	24
Straits Settlements, Singapore	Oct. 24-Nov. 1	..	10

PLAGUE.

		CASES.	DEATHS.
Brazil, Rio de Janeiro	Nov. 1-8	..	5
China, Hongkong	Oct. 18-25	1	1
Egypt, Alexandria	Nov. 8-22	1	
India, Bombay	Nov. 11-18	..	134
Calcutta	Nov. 8-15	..	6

PLAGUE.

		CASES.	DEATHS.
India, Karachi	Nov. 9-16	10	6
Straits Settlements, Singapore	Oct. 25-Nov. 1	1	1

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